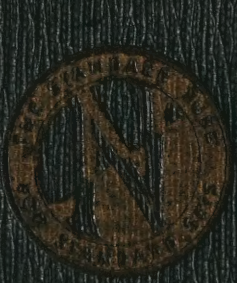
NATIONAL UNION

RADIO SERVICE MANUAL

VOLUME I



COURTESY OF
NATIONAL UNION RADIO CORPORATION
400 MADISON AVENUE · NEW YORK CITY

1026

NATIONAL UNION
RADIO TUBES
X-RAY
REVEALS
ACCURACY
SUPERIORITY

PERPETUAL

TROUBLE SHOOTER'S MANUAL

VOLUME I

by

JOHN F. RIDER

Sold by More Service Men Than Any Other Make

NATIONAL UNION RADIO
CORPORATION OF NEW YORK

400 MADISON AVE.
NEW YORK CITY, N. Y.

NATIONAL UNION MEANS MORE THAN RADIO TUBES

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AUTHOR'S FOREWORD

This issue of Volume I is slightly different than earlier printings. One of the changes is to be found in the method of indexing. You will note that it is the same as used in Volumes II and III as recently issued.

The reason for this change is that the method of indexing as originally introduced in Volume III proved so much more popular than that previously employed in Volumes I and II, that it was deemed most advantageous to establish a uniform index which would serve best over the years to come.

Present owners of Volumes II and III, that is, owners of these manuals purchased prior to November 15, may find that index which accompanies Volume III and the index in Volume II does not conform with the pages in Volume I. We regret the slight inconvenience caused, but feel that it is all for the better.

The complete index mentioned above and the Volume II index mentioned above can be used to determine if the service information desired is to be found in Volume I. Reference to the individual index in Volume I will then indicate the correct page.

Another change in this revised issue is that the text matter contained in the front of the earlier printings has been removed. This is the result of requests from service men who found very little occasion at this date to refer to text originally prepared years ago.

In every other respect this Volume I is fully the equal of the earlier issues and in very many cases, has additional information not contained in earlier issues.

The pages in this revised issue have been printed from engravings and we trust that the increased legibility of type, the increased number of cases where electrical values are included, the increased number of socket layouts—in general more data—will be received with favor and will perhaps offset the slight inconvenience with respect to the indexing.

JOHN F. RIDER.

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WESTERN ELECTRIC CO.

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9-A	Schematic	1-2
10-A	Schematic	1-2
17-B	Schematic	1-2
25-B	Schematic	1-3
32-A	Schematic	1-4
41-A	Schematic	1-3
42-A	Schematic	1-4
43-A	Schematic	1-4
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46-A	Schematic	1-4

WESTINGHOUSE ELECTRIC & MFG. CO.

WR-4	See RCA Victor 48
WR-5	See RCA Victor R-80
WR-6	See RCA Victor R-82
WR-7	See RCA Victor R-86
WR-10	See RCA Victor R-7
WR-12	See RCA Victor R-9
WR-14	See RCA Victor R-5

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WHOLESALE RADIO SERVICE CO., INC.

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17	Schematic, socket	1-4
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ZE-15 for 392, 392-A	Schematic	1-12
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ZE-60	Schematic	1-17
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70	Tone control, installation	1-19
80 Hypermetron	Schematic, socket	1-20
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80 Hypermetron	Parts list	1-22
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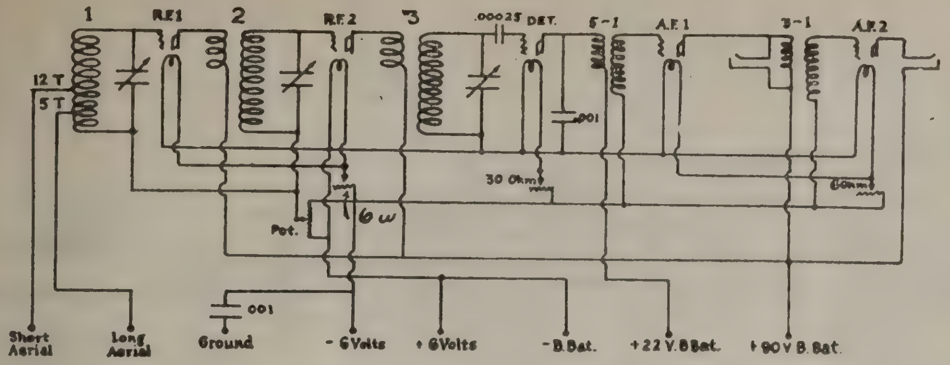
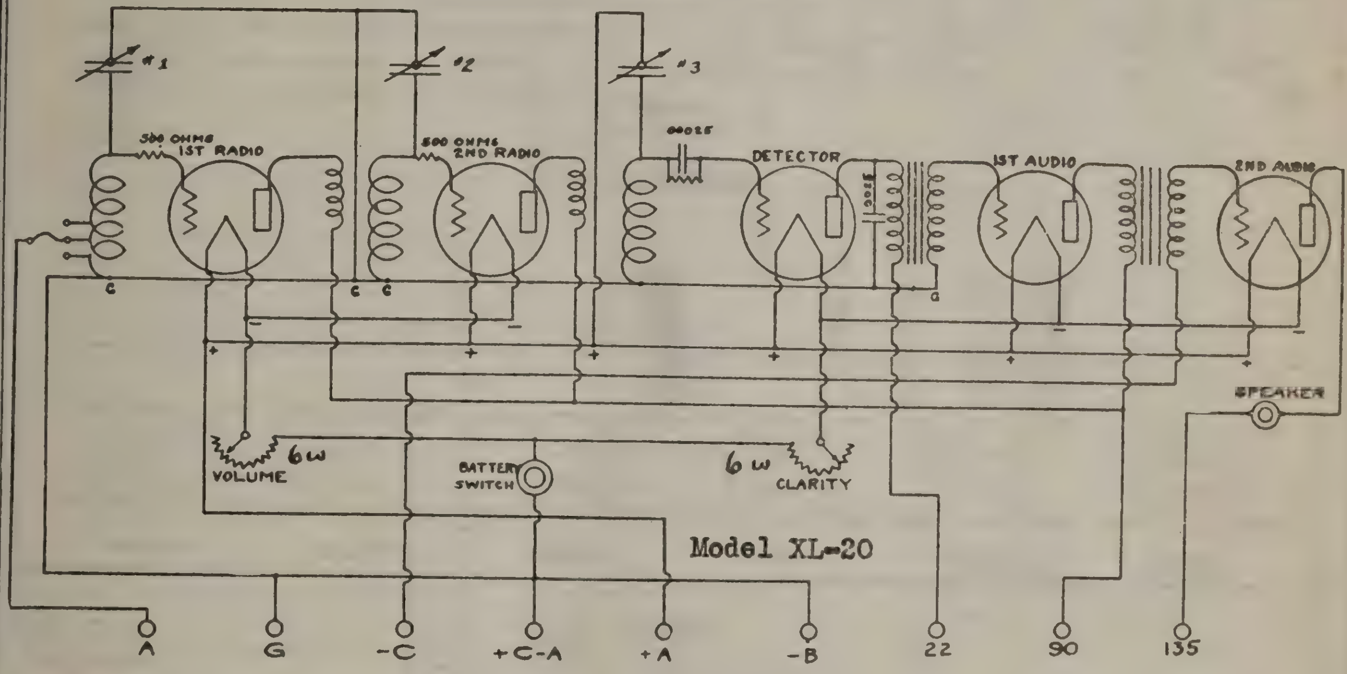
LP	Schematic, socket, parts list	1-25
6 Tube Zenette, Chassis A, B, C, D (2004)	Schematic, socket, parts list	1-26
5 Tube Zenette, Type 2009-C	Schematic, parts list	1-27
563 DC	Schematic, socket	1-28
333, 353-A DC	Schematic, socket	1-29
ZE-17	Schematic	1-29
27 Super Zenith	Schematic	1-30

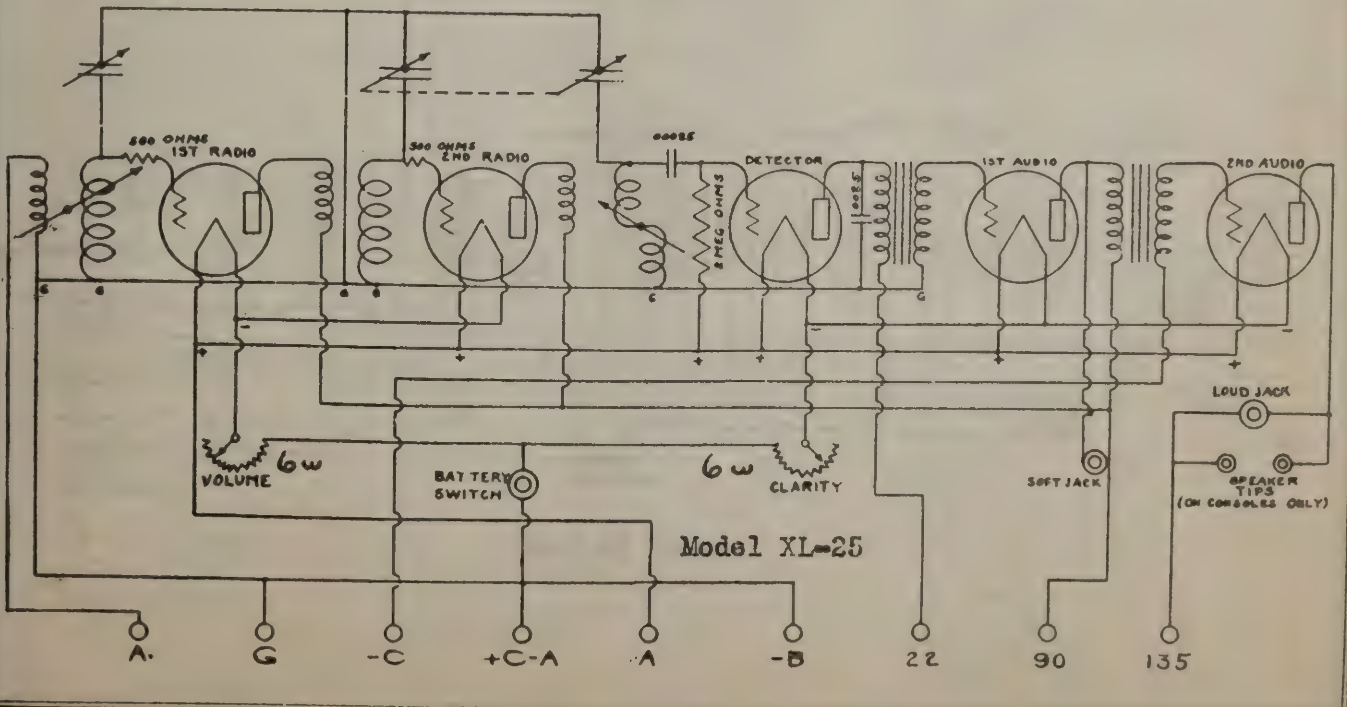
THE A-C DAYTON CO.

MODEL XL-5
XL-20
XL-25


1
RF1
2
RF2
3
.00025 DET.
5-1
A.F.1
3-1
A.F.2
12 T
5 T
.001
30 Ohms
Pot.
6 w
6 ohms
.001
Short Aerial
Long Aerial
Ground
- 6 Volts
+ 6 Volts
- B.Bat.
+ 22 V. B Bat.
+ 90 V B. Bat.


#1
#2
#3
500 OHMS
1ST RADIO
500 OHMS
2ND RADIO
.00025
DETECTOR
.001
1ST AUDIO
2ND AUDIO
G
C
C G
G
+
-
SPEAKER
6 w
VOLUME
BATTERY SWITCH
6 w
CLARITY
A
G
-C
+C-A
+A
-B
22
90
135

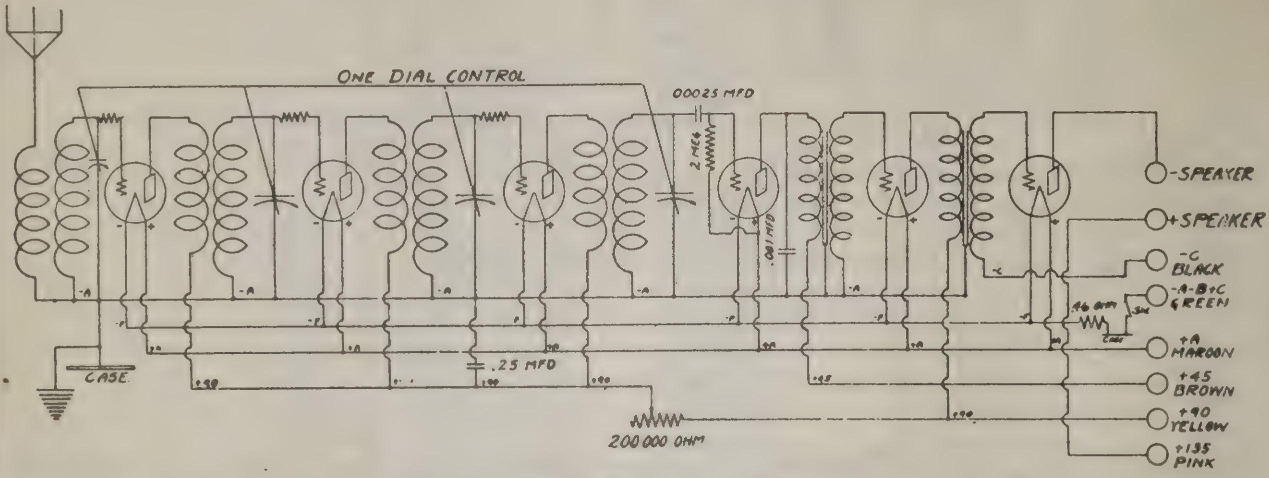
Model XL-20


500 OHMS
1ST RADIO
500 OHMS
2ND RADIO
.00025
DETECTOR
2 MEG OHMS
.001
1ST AUDIO
2ND AUDIO
G
+
-
LOUD JACK
SOFT JACK
SPEAKER TIPS (ON CONSOLES ONLY)
VOLUME
6 w
BATTERY SWITCH
6 w
CLARITY
A.
G
-C
+C-A
A
-B
22
90
135

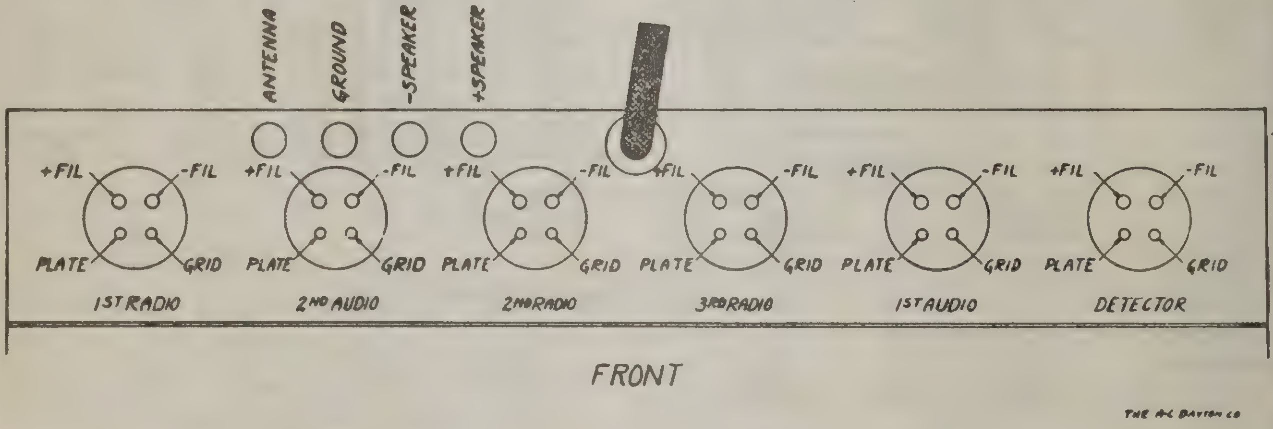
Model XL-25

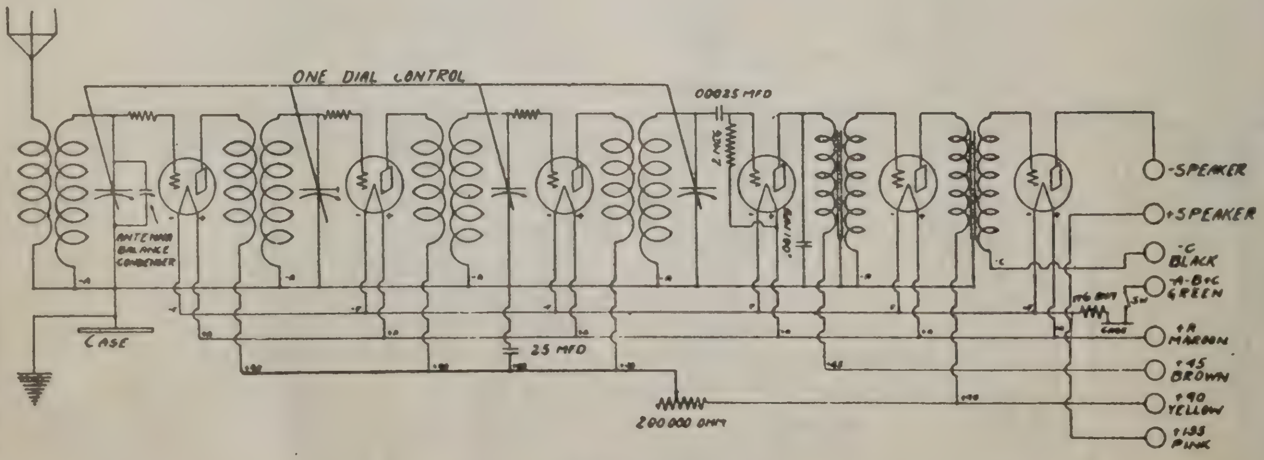
MODEL XL - 50
XL - 60

THE A-C DAYTON CO.


ONE DIAL CONTROL
00025 MFD
2 MEG
.001 MFD
-A
-F
+A
+90
+45
.25 MFD
CASE
200 000 OHM
-SPEAKER
+SPEAKER
-C BLACK
-A-B+C GREEN
.46 OHM
SW
+A MAROON
+45 BROWN
+90 YELLOW
+135 PINK

Model XL - 50

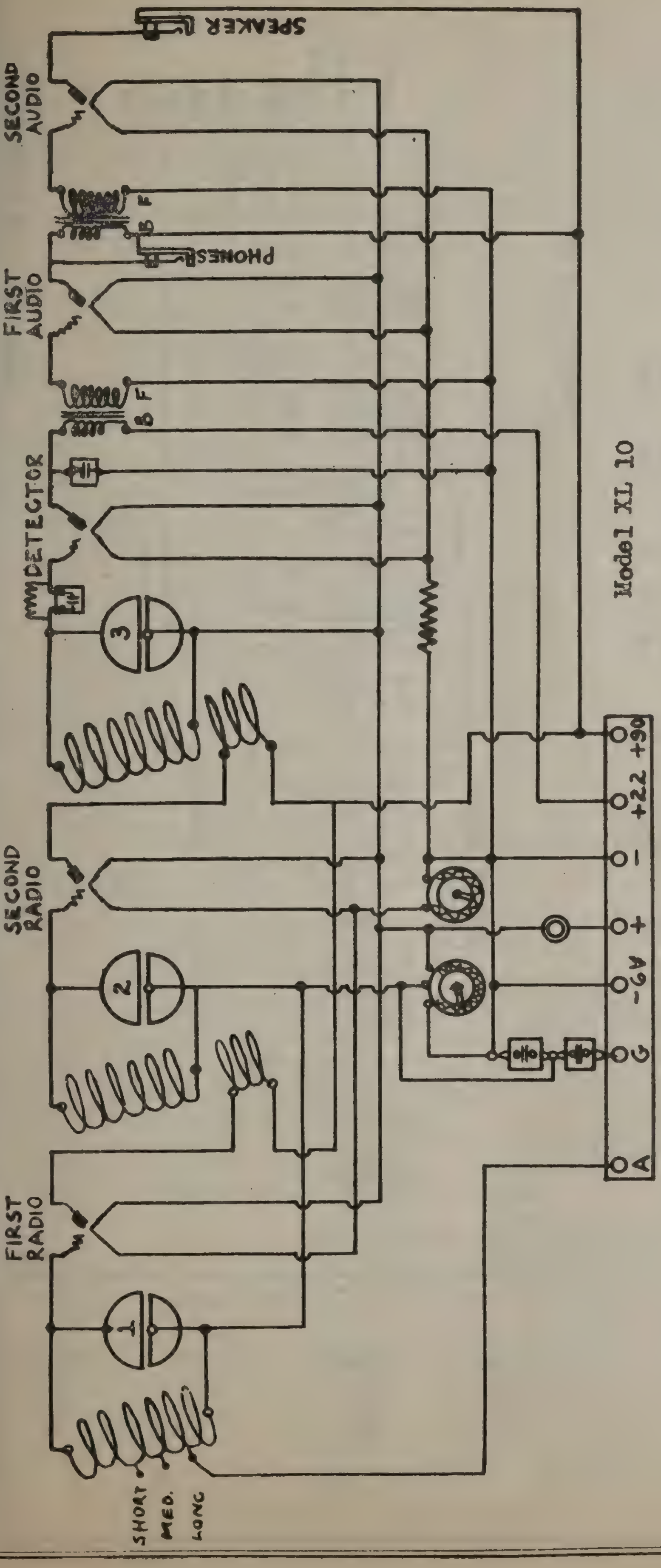

ANTENNA
GROUND
-SPEAKER
+SPEAKER
+FIL
-FIL
PLATE
GRID
1ST RADIO
2ND AUDIO
2ND RADIO
3RD RADIO
1ST AUDIO
DETECTOR
FRONT
THE A-C DAYTON CO


ONE DIAL CONTROL
00025 MFD
2 MEG
.001 MFD
ANTENNA BALANCE CONDENSER
CASE
25 MFD
200 000 OHM
-SPEAKER
+SPEAKER
-C BLACK
-A-B+C GREEN
.46 OHM
SW
+A MAROON
+45 BROWN
+90 YELLOW
+135 PINK

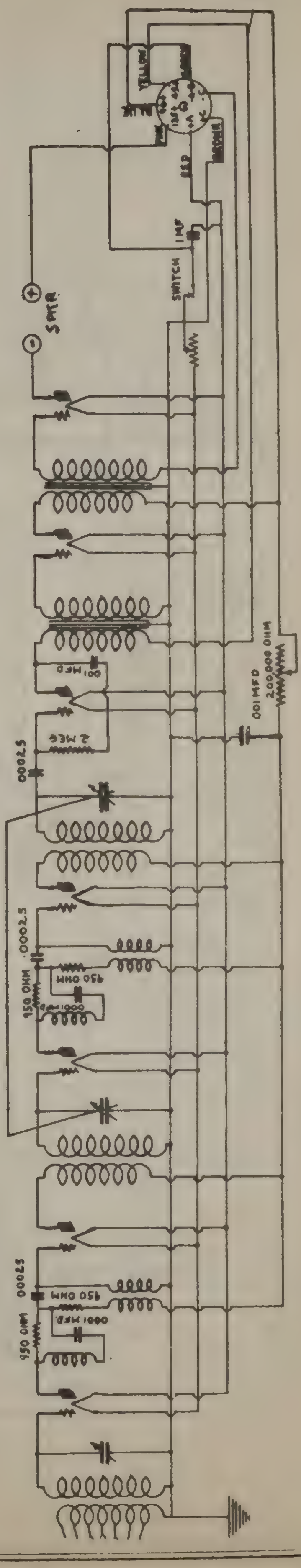
Model XL - 60

THE A-C DAYTON CO.

MODEL XL - 10
XL - 70


SPEAKER
SECOND AUDIO
B F
PHONES
FIRST AUDIO
B F
DETECTOR
3
SECOND RADIO
2
FIRST RADIO
1
SHORT
MED.
LONG
+90
+22.5
-
+
-6V
G
A

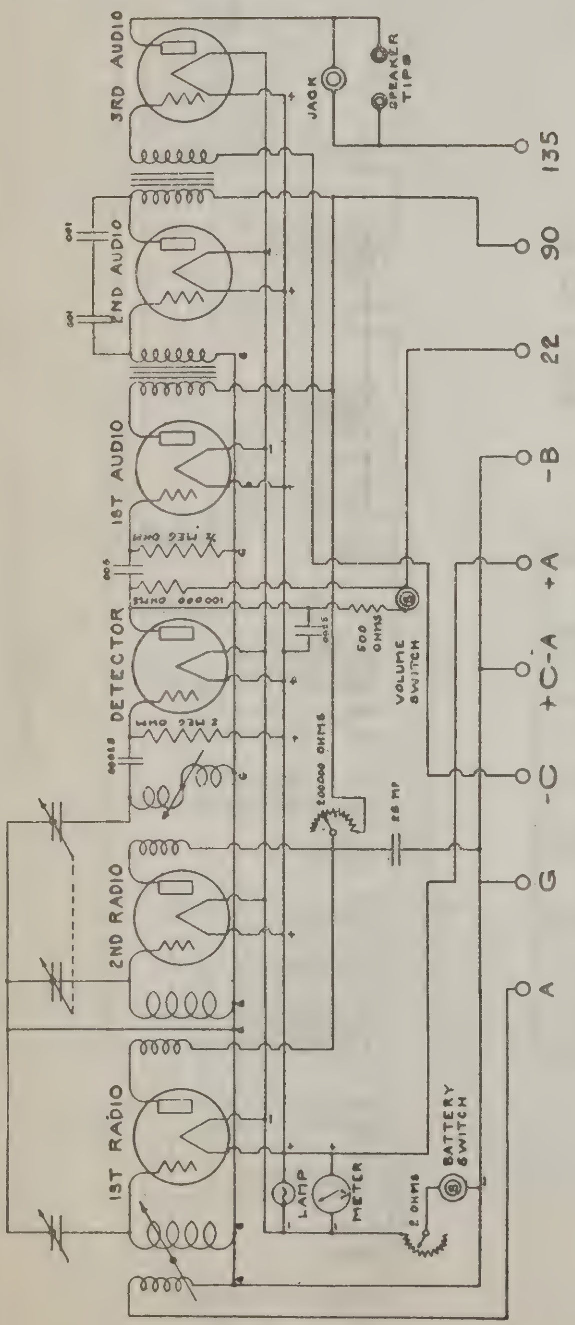
Model XL 10


YELLOW
RED
SWITCH
IMP
SPKR
.001 MFD
200,000 OHM
.001 MFD
2 MEG
.00025
.00025
950 OHM
450 OHM
.001 MFD
.00025
450 OHM
950 OHM
.001 MFD

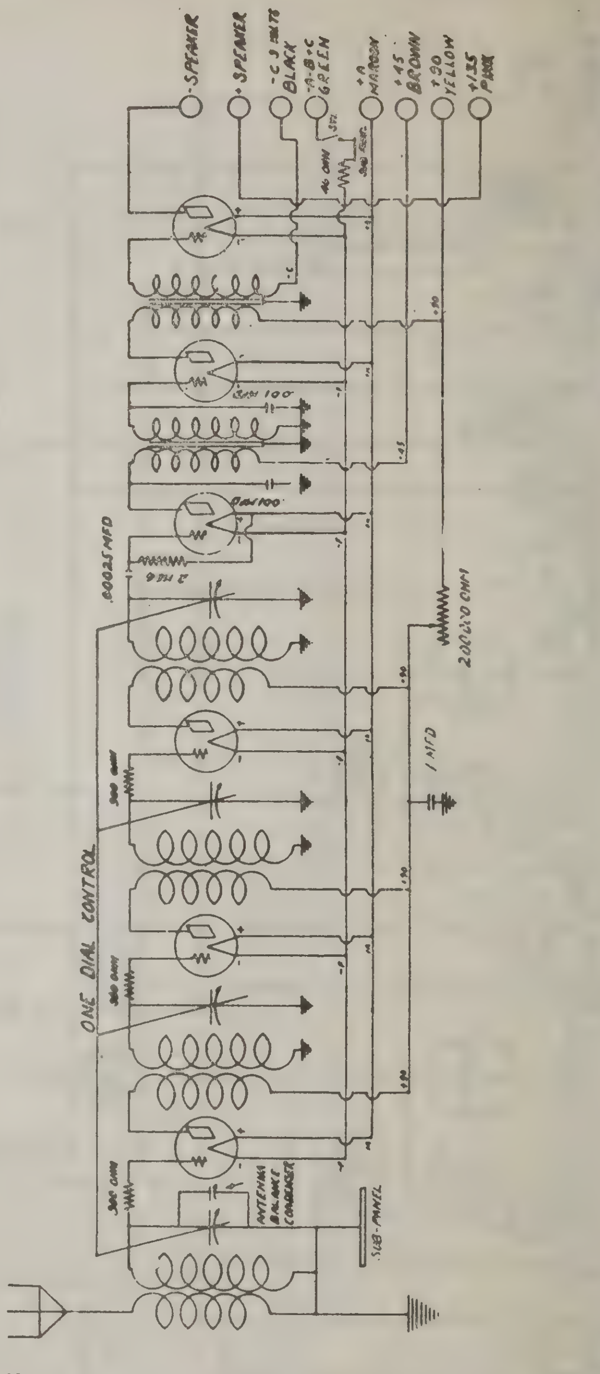
Model XL 70

MODEL XL - 30
XL - 61

THE A-C DAYTON CO

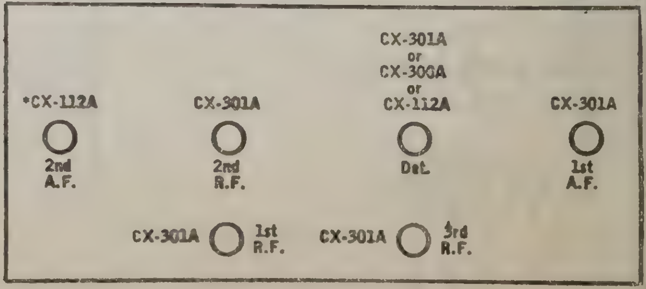

3RD AUDIO
2ND AUDIO
1ST AUDIO
DETECTOR
2ND RADIO
1ST RADIO
JACK
SPEAKER TIPS
135
90
22
-B
+A
+C-A
-C
G
A
½ MEG OHM
100000 OHMS
2 MEG OHM
500 OHMS
VOLUME SWITCH
200000 OHMS
BATTERY SWITCH
2 OHMS
LAMP
METER

Model XL - 30


-SPEAKER
+SPEAKER
-C 3 VOLTS BLACK
-A+B+C GREEN
+A MAROON
+45 BROWN
+90 YELLOW
+135 PINK
.00025 MFD
2 MEG
200000 OHM
1 MFD
300 OHM
ONE DIAL CONTROL
ANTENNA BALANCE CONDENSER
SUB-PANEL

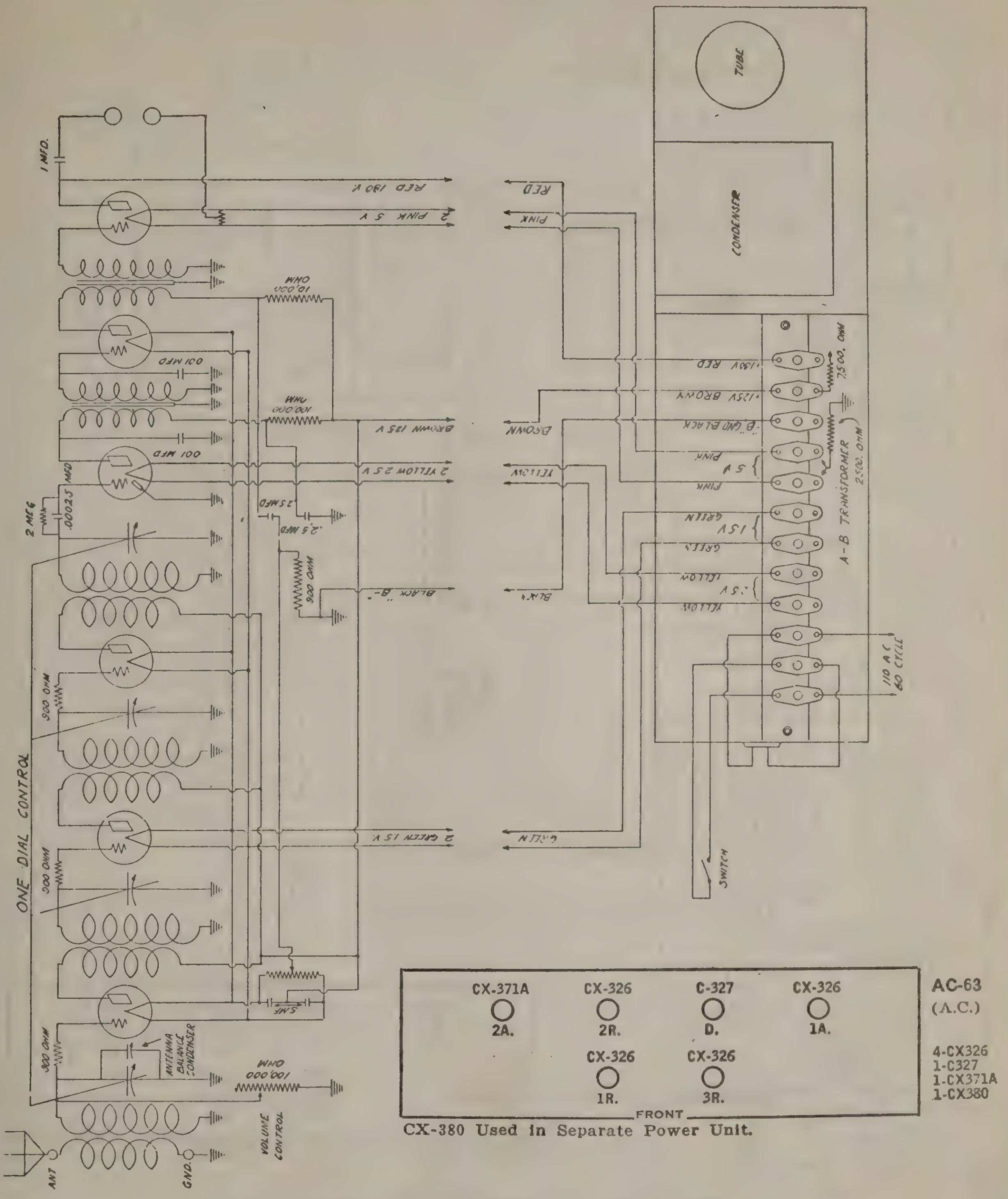
Model XL - 61 Battery

XL 61 (Batt.)


*CX-112A
2nd A.F.
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
CX-301A
1st R.F.
CX-301A
3rd R.F.

MODEL AC - 63

THE A-C DAYTON CO


1 MFD.
RED 180 V
2 PINK 5 V
10,000 OHM
.001 MFD
100,000 OHM
BROWN 135 V
.001 MFD
2 YELLOW 2.5 V
2 MEG
.00025 MFD
.25 MFD
.25 MFD
900 OHM
BLACK "B"-
900 OHM
900 OHM
2 GREEN 1.5 V
ONE DIAL CONTROL
5 MF
900 OHM
ANTENNA BALANCE CONDENSER
100,000 OHM
VOLUME CONTROL
ANT
GND.
RED
PINK
BROWN
YELLOW
BLK
GREEN
TUBE
CONDENSER
180 V RED
125 V BROWN
B GND BLACK
PINK
5 V
PINK
GREEN
1.5 V
GREEN
YELLOW
2.5 V
YELLOW
7500. OHM
2500. OHM
A-B TRANSFORMER
110 A C 60 CYCLE
SWITCH
CX-371A
2A.
CX-326
2R.
C-327
D.
CX-326
1A.
CX-326
1R.
CX-326
3R.
FRONT
AC-63
(A.C.)
4-CX326
1-C327
1-CX371A
1-CX380

CX-380 Used in Separate Power Unit.

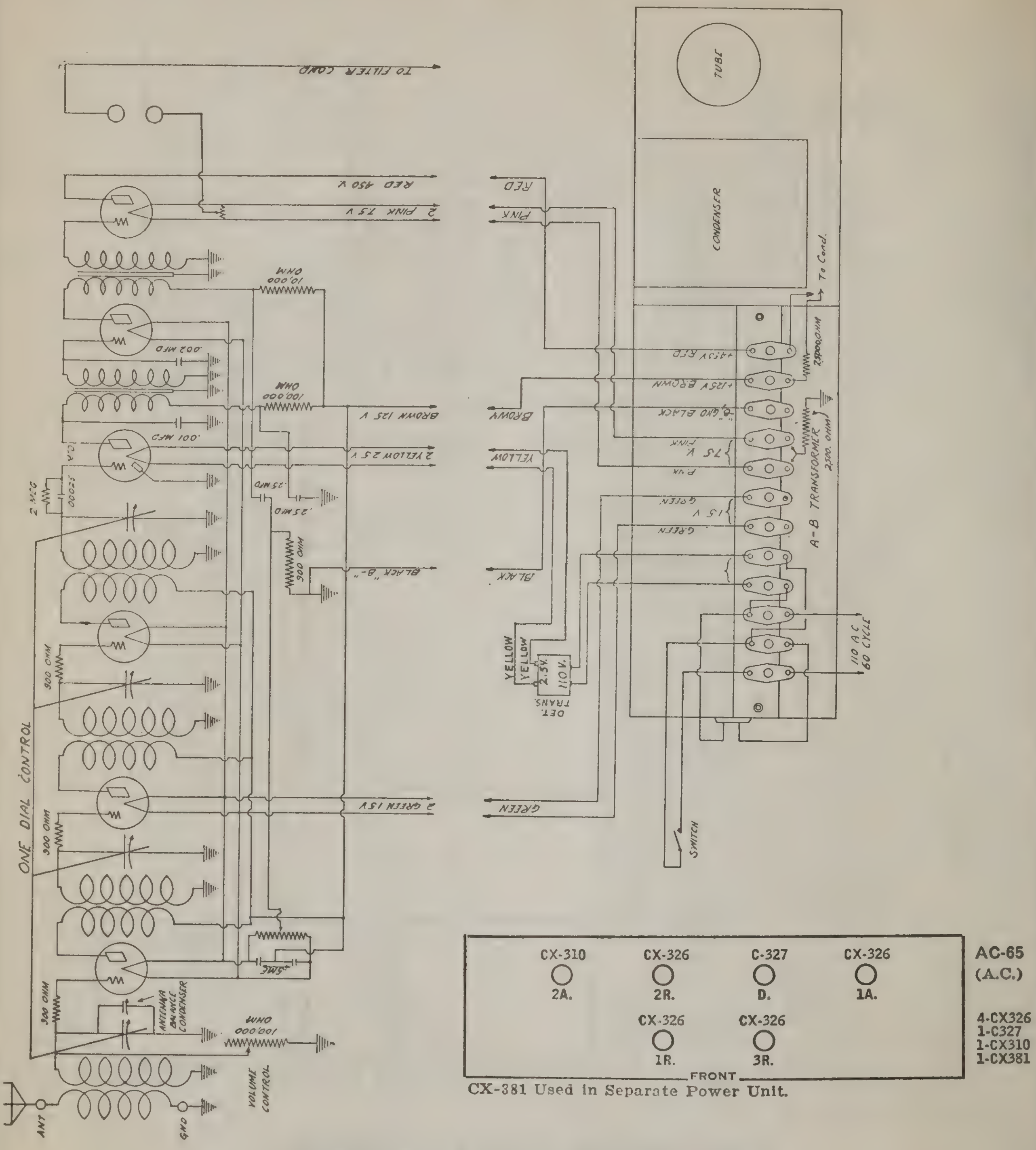
VOLTAGES OF VARIOUS CIRCUITS

Tube Socket	Plate Volts	Plate Current	Filament Volts	"C" Bias
1st R. F.	150 V.	4 mils	1.5 V.	11 V.
2nd R. F.	150 V.	4 mils	1.5 V.	11 V.
3rd R. F.	150 V.	4 mils	1.5 V.	11 V.
Detector	25 V.	1.5 mils	2.5 V.	0 V.
1st A. F.	120 V.	2 mils	1.5 V.	11 V.
2nd A. F.	160 V.	16 mils	5.00 V.	40 V.

The above readings are taken at 120 Volt line voltage. These readings may vary 5% plus or minus.

MODEL AC - 65

THE A-C DAYTON CO.


TO FILTER COND
RED 450 V
2 PINK 7.5 V
10,000 OHM
.002 MFD
100,000 OHM
BROWN 125 V
.001 MFD
2 YELLOW 2.5 V
2 MEG
.00025
.25 MFD
.25 MFD
900 OHM
BLACK "B-"
900 OHM
2 GREEN 1.5 V
900 OHM
ONE DIAL CONTROL
.5MF
900 OHM
ANTENNA BALANCE CONDENSER
100,000 OHM
VOLUME CONTROL
ANT
GND
TUBE
CONDENSER
To Cond.
RED
PINK
BROWN
YELLOW
BLACK
GREEN
+450 V RED
+125 V BROWN
-B GND BLACK
PINK
7.5 V
PINK
GREEN
1.5 V
GREEN
2500 OHM
2500 OHM
A-B TRANSFORMER
110 AC 60 CYCLE
YELLOW
YELLOW
2.5V
110 V.
DET. TRANS.
SWITCH
CX-310
2A.
CX-326
2R.
C-327
D.
CX-326
1A.
CX-326
1R.
CX-326
3R.
FRONT

AC-65
(A.C.)

4-CX326
1-C327
1-CX310
1-CX381

CX-381 Used in Separate Power Unit.

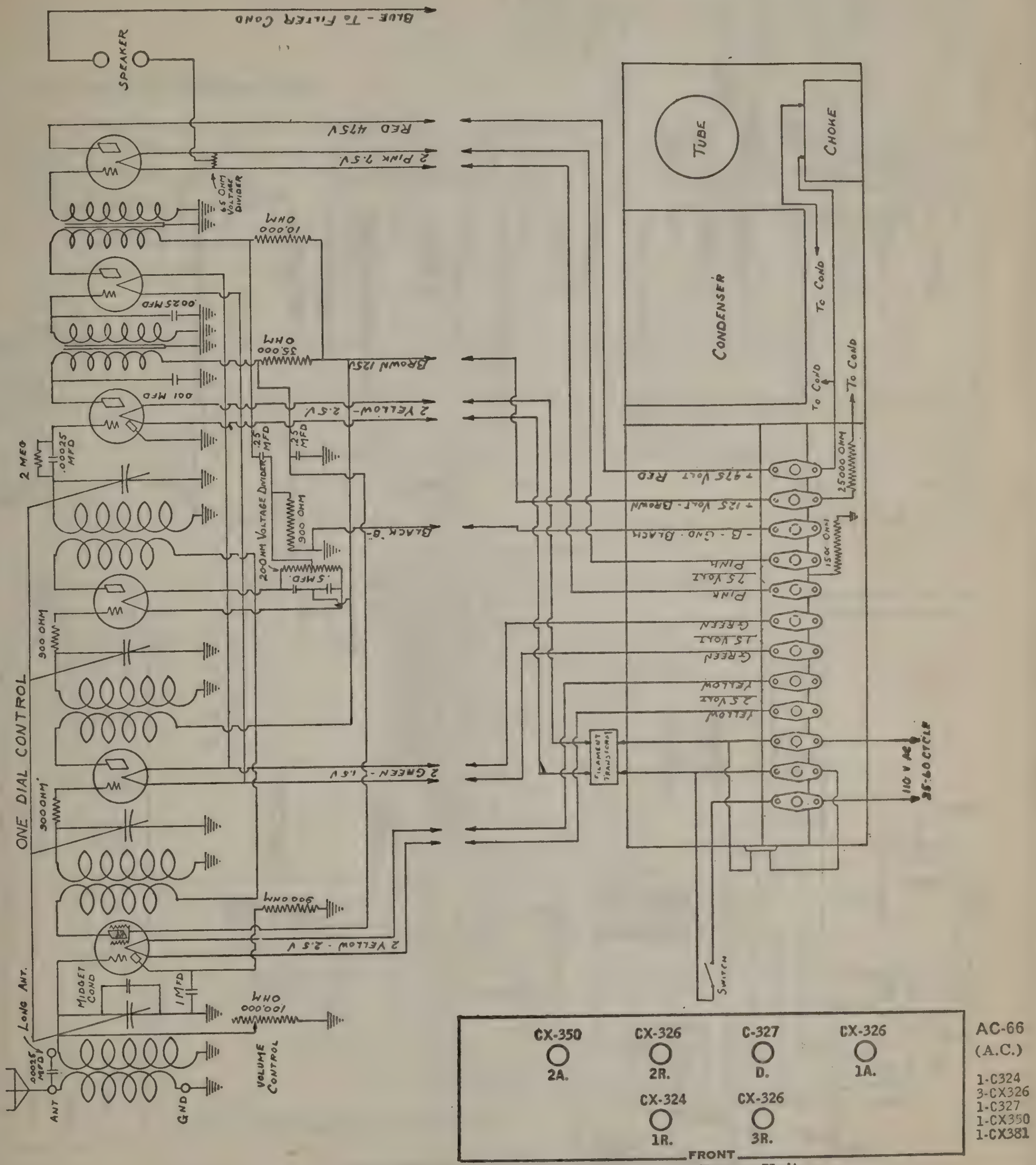
VOLTAGES OF VARIOUS CIRCUITS

Tube Socket	Plate Volts	Plate Current	Filament Volts	"C" Bias
1st R. F.	145 V.	4 mils	1.5 V.	11 V.
2nd R. F.	145 V.	4 mils	1.5 V.	11 V.
3rd R. F.	145 V.	4 mils	1.5 V.	11 V.
Detector	25 V.	1.3 mils	2.45 V.	0 V.
1st A. F.	120 V.	2 mils	1.5 V.	11 V.
2nd A. F.	430 V.	18 mils	6.75 V.	42 V.

The above readings are taken at 120 Volt line voltage. Readings may vary 5% plus or minus.

MODEL AC - 66

THE A-C DAYTON CO.


BLUE - TO FILTER COND
SPEAKER
RED 475V
2 PINK 7.5V
65 OHM VOLTAGE DIVIDER
10,000 OHM
.0025 MFD
35,000 OHM
BROWN 125V
.001 MFD
2 YELLOW - 2.5V
2 MEG
.00025 MFD
.25 MFD
.25 MFD
200 OHM VOLTAGE DIVIDER
900 OHM
BLACK 'B'-
.5 MFD
900 OHM
ONE DIAL CONTROL
900 OHM
2 GREEN - 1.5V
900 OHM
2 YELLOW - 2.5V
LONG ANT.
MIDGET COND
1 MFD
100,000 OHM
VOLUME CONTROL
.00025 MFD
ANT
GND
TUBE
CHOKE
CONDENSER
TO COND
TO COND
TO COND
25000 OHM
15000 OHM
+ 475 VOLT RED
+ 125 VOLT - BROWN
- B - GND - BLACK
PINK
7.5 VOLT
PINK
GREEN
1.5 VOLT
GREEN
YELLOW
2.5 VOLT
YELLOW
FILAMENT TRANSFORMER
110 V AC
25-60 CYCLE
SWITCH
CX-350
2A.
CX-326
2R.
C-327
D.
CX-326
1A.
CX-324
1R.
CX-326
3R.
FRONT
AC-66
(A.C.)
1-C324
3-CX326
1-C327
1-CX350
1-CX381

*CX-381 Used in Separate Power Unit.

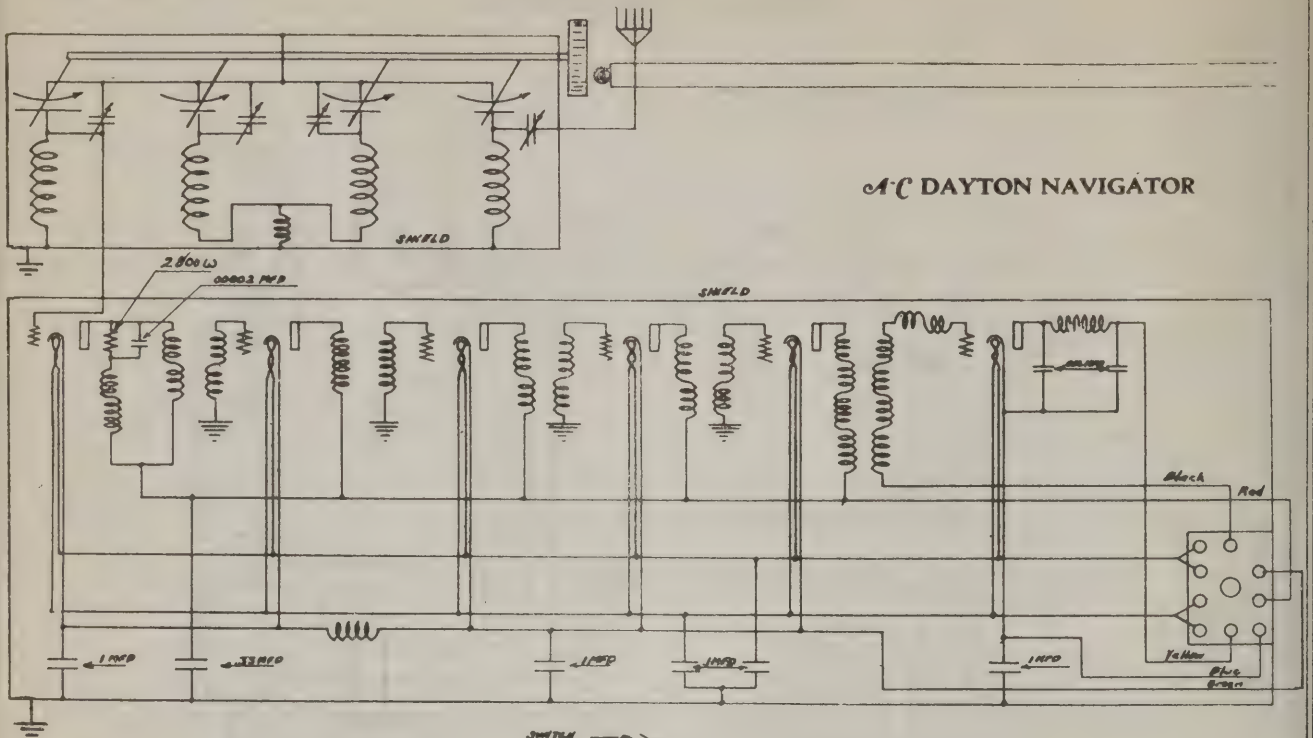
VOLTAGES AT THE VARIOUS SOCKETS

Tube Socket	Plate Volts	Plate Current	Filament Volt	C Bias
1st R. F.	130 V.	1 mil.	2.4 V.	1.5 V.
2nd R. F.	130 V.	4 mils.	1.4 V.	9 V.
3rd R. F.	130 V.	4 mils.	1.4 V.	9 V.
Detector	38 V.	2 mils.	2.4 V.	0 V.
1st A. F.	110 V.	2 mils.	1.4 V.	9 V.
2nd A. F.	350 V.	40 mils.	6.75 V.	63 V.

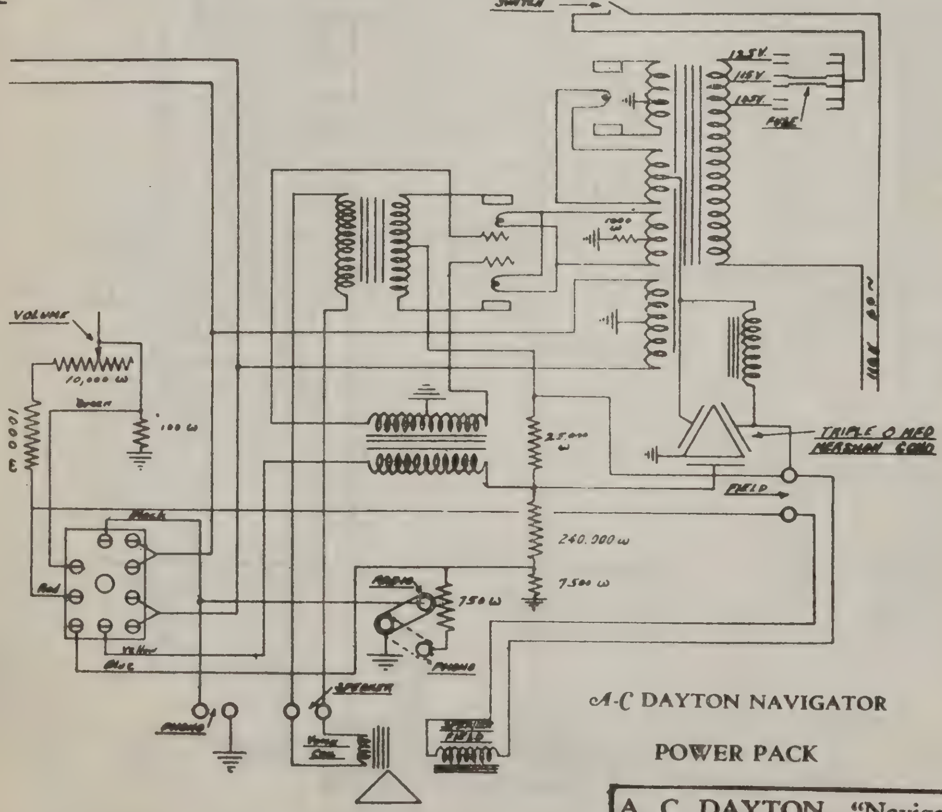
The above readings can only be taken on a Set Analyzer. They may vary 5% depending on tubes and line voltage.

MODEL
"Navigator"

THE A-C DAYTON CO.

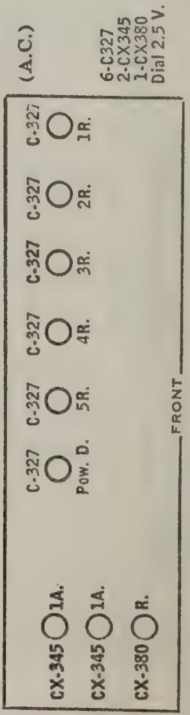

SHIELD
2800 ω
.00002 MFD
SHIELD
Black
Red
Yellow
Blue
Green
1 MFD
.33 MFD
1 MFD
1 MFD
1 MFD

A-C DAYTON NAVIGATOR


SWITCH
125 V.
115 V.
105 V.
FUSE
1000 ω
110 V. 60 ~
VOLUME
10,000 ω
1000 ω
Green
100 ω
25,000 ω
TRIPLE 0 MFD
MERSHON COND
FIELD
Black
Red
Yellow
Blue
240.000 ω
7500 ω
RADIO
750 ω
PHONO
PHONO
SPEAKER
Voice Coil
SPEAKER FIELD

A-C DAYTON NAVIGATOR

POWER PACK

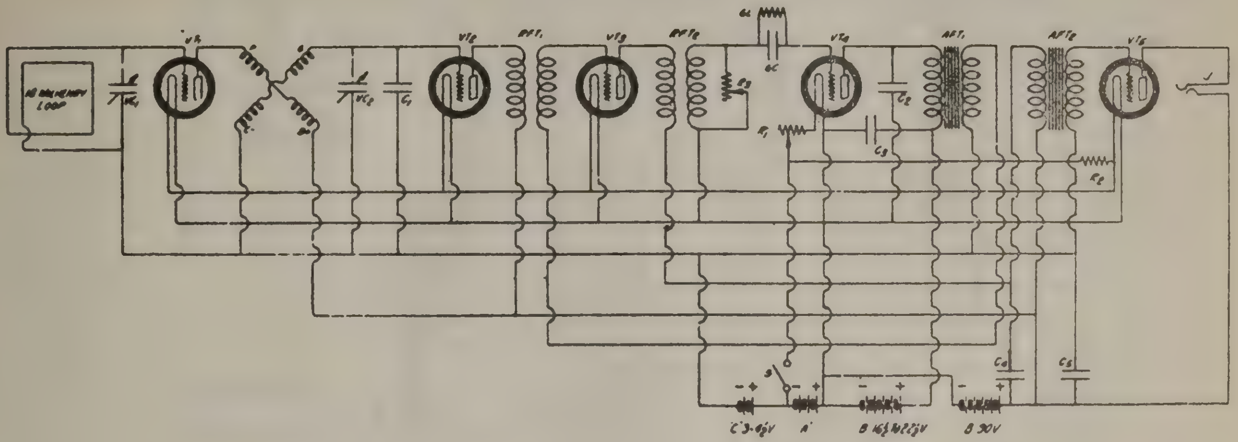

(A.C.)
6-C327
2-CX345
1-CX380
Dial 2.5 V.
C-327 1R.
C-327 2R.
C-327 3R.
C-327 4R.
C-327 5R.
C-327 Pow. D.
CX-345 1A.
CX-345 1A.
CX-380 R.
FRONT

A. C. DAYTON—"Navigator" Line Voltage—115

Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det. etc ③	Readings, Plug in Socket of Set: Tube Out: A Volts ④	B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate MA ⑩	Plate MA Grid Test ⑪	Plate Change MA ⑫	Screen Grid Volts ⑬
1	227	1st RF	2.5	111	2.4	110	3.5	3.5	5	9	4	-
2	227	2nd RF	2.5	111	2.4	110	3.5	3.5	5	9	4	-
3	227	3rd RF	2.5	111	2.4	110	3.5	3.5	5	9	4	-
4	227	4th RF	2.5	111	2.4	110	3.5	3.5	5	9	4	-
5	227	5th RF	2.5	111	2.4	110	3.5	3.5	5	9	4	-
6	227	Det.	2.5	185	2.4	185	15.0	0	1	-	-	-
7	245	Audio	2.5	235	2.4	230	50	-	22	26	4	-
8	245	Audio	2.5	235	2.4	230	50	-	28	26	4	-
9	280	Rect.	4.9	-	4.75	-	-	-	85	-	-	-

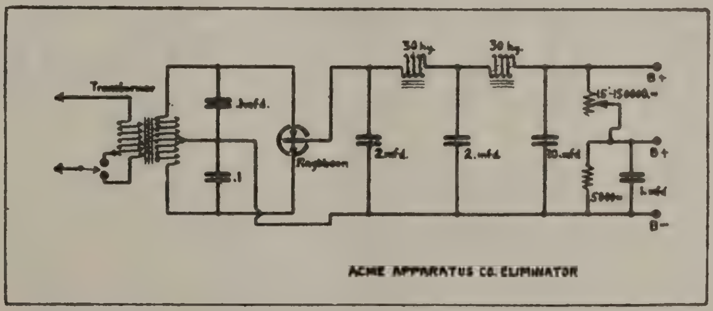
ACME APPARATUS CO.

MODEL 5 Tube Reflex
"B" Unit


VT1
VT2
RFT1
VT3
RFT2
GL
GC
VT4
AFT1
AFT2
VT5
VC1
VC2
C1
R3
R1
C2
C3
R2
C4
C5
S
J
C 3-4½V
A
B 16½ to 22½V
B 90V

CONSTANTS FOR ACME 5 TUBE REFLEX (1926)

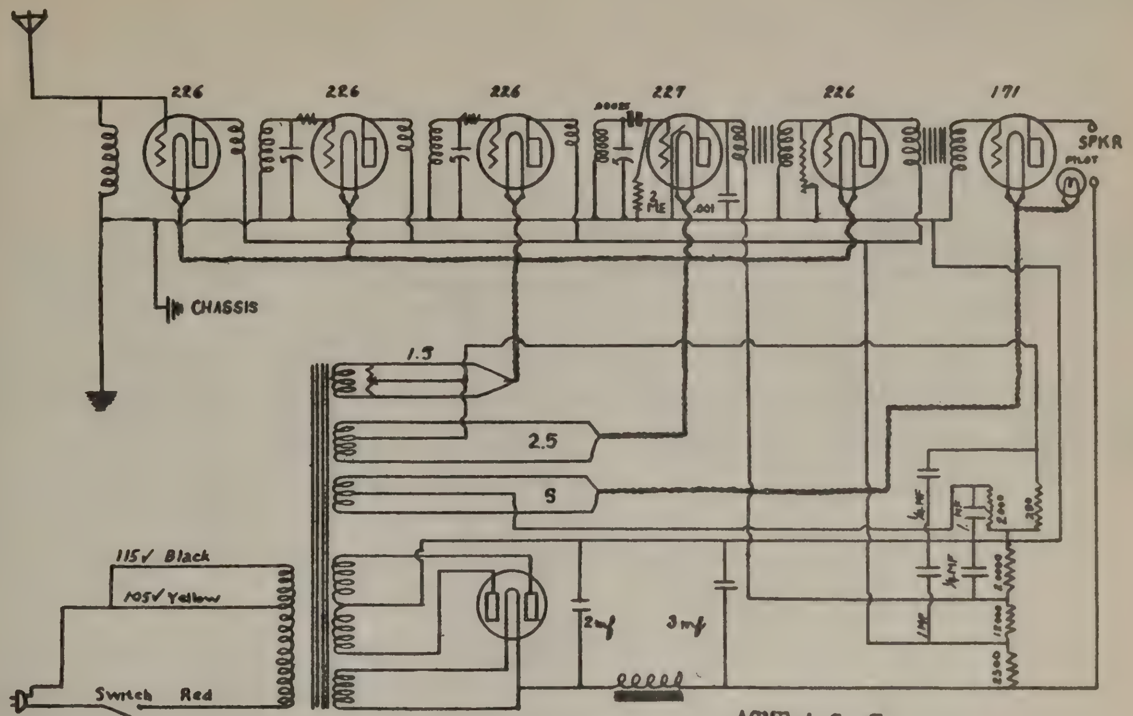
C1	.0004 mfd.	GC	.00025 mfd.
C2	.002 mfd.	GL	.5 to 2 meg
C4	.002 mfd.	R1	6 ohms
C5	1. mfd.	R2	1 ohm
C3	2. mfd.	R3	2000 ohms


Transformer
.1 mfd.
.1
Raytheon
30 hy.
30 hy.
2 mfd.
2. mfd.
10. mfd
15-15000Ω
5000Ω
1 mfd
B+
B+
B-
ACME APPARATUS CO. ELIMINATOR

ACME APPARATUS CO. "B" ELIMINATOR (1926)

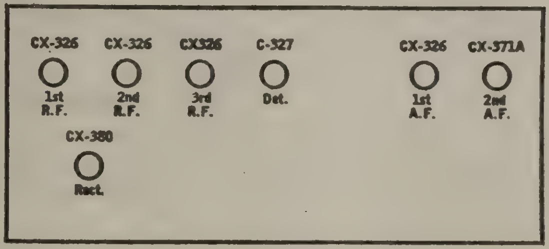
MODEL AC-7
SG-88

ACME ELECTRIC & MFG. CO.

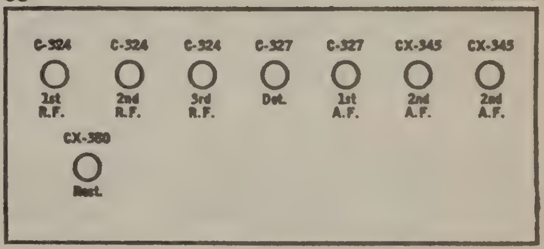

226
226
226
227
226
171
SPKR
PILOT
.00025
2 ME
.001
CHASSIS
1.5
2.5
5
115V Black
105V Yellow
Switch
Red
2mf
3mf
2000
300

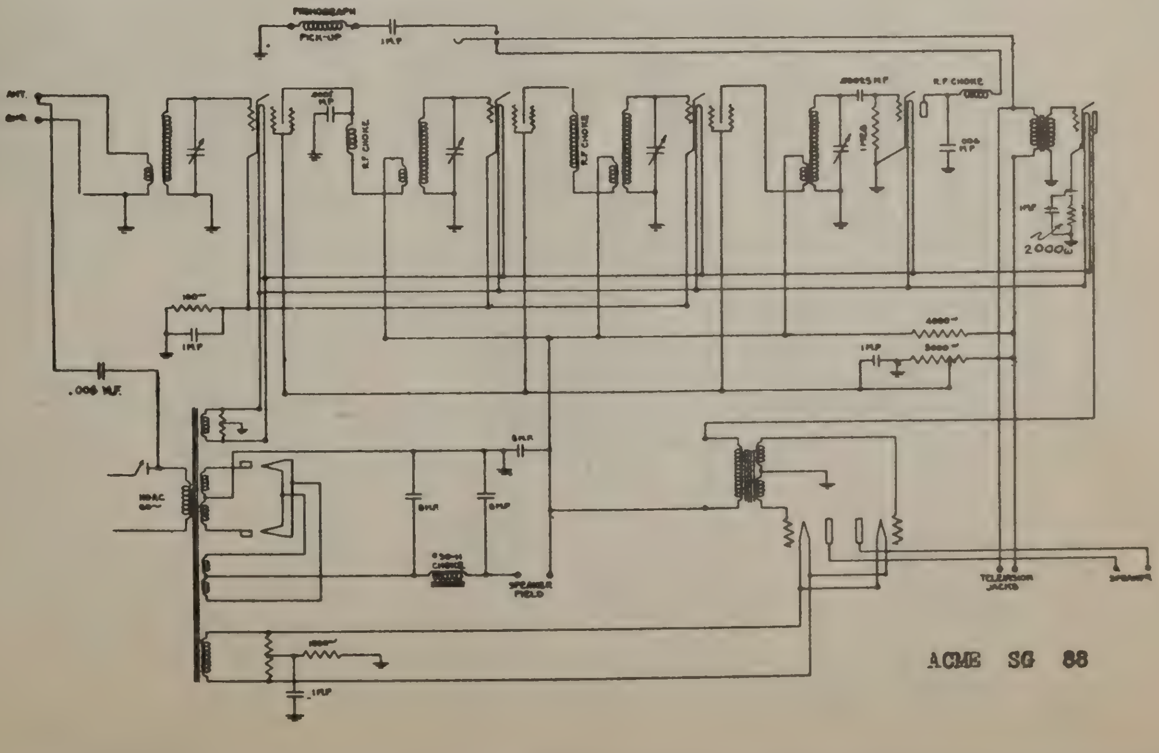
ACME A.C. 7

AC7


CX-326
1st R.F.
CX-326
2nd R.F.
CX326
3rd R.F.
C-327
Det.
CX-326
1st A.F.
CX-371A
2nd A.F.
CX-380
Rect.

88 (A.C.)

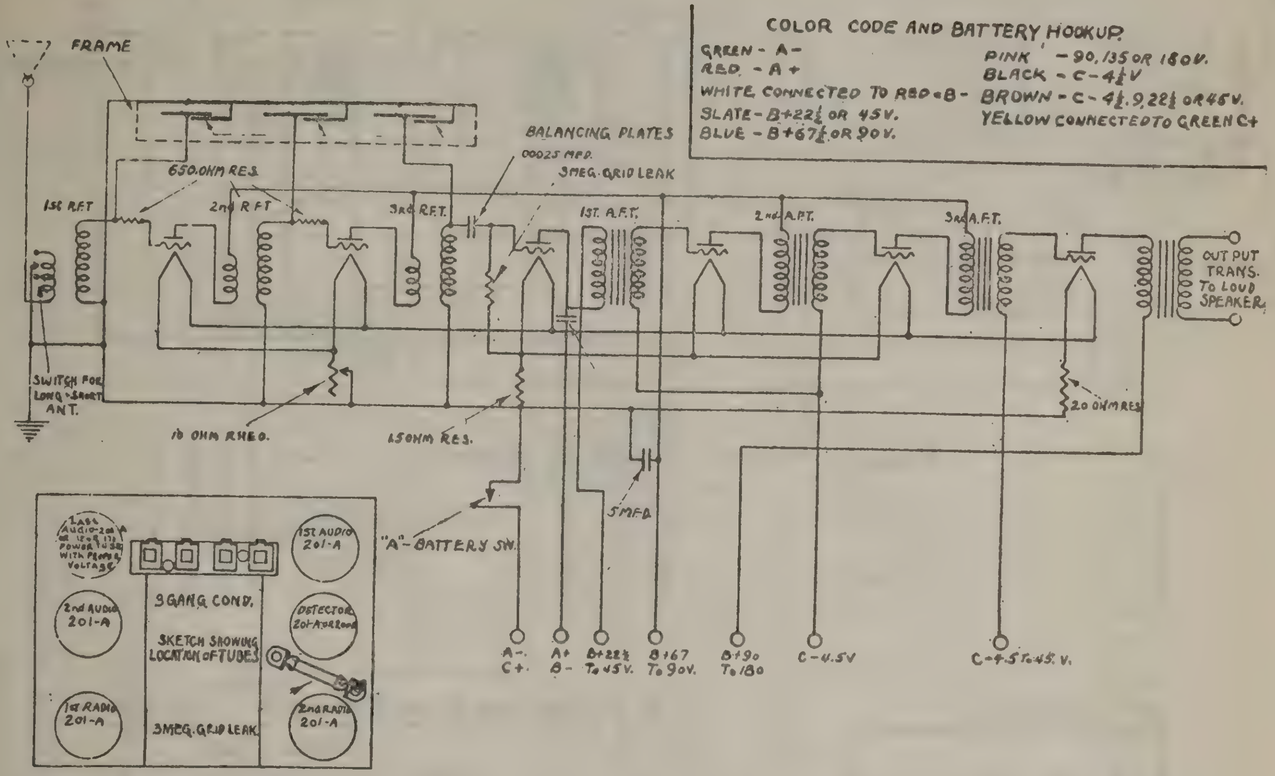

C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-327
Det.
C-327
1st A.F.
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-380
Rect.


PHONOGRAPH
PICK-UP
1MF
ANT.
GND.
.0005 MF
R.F. CHOKE
.00025 MF
R.F. CHOKE
.006 MF
1MF
2000Ω
100~
1MF
4000~
1MF
3000~
.006 MF.
110AC 60~
8MF
8MF
6MF
30 H CHOKE
SPEAKER FIELD
TELEPHONE JACKS
SPEAKER
1000~
.1MF

ACME SG 88

ALL-AMERICAN MOHAWK CORP.

**MODEL Navajo
VA
Battery Operated**

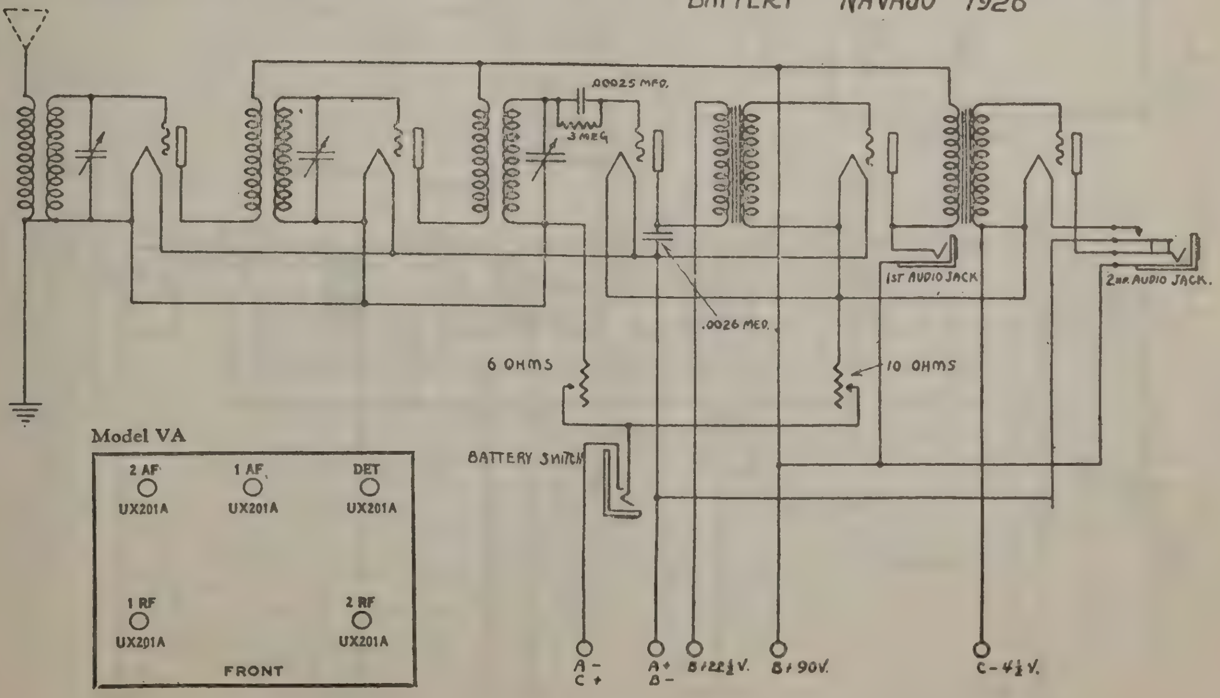

FRAME
BALANCING PLATES
.00025 MFD.
3MEG. GRID LEAK
650 OHM RES.
1st R.F.T.
2nd R.F.T.
3rd R.F.T.
1ST. A.F.T.
2nd A.F.T.
3rd A.F.T.
OUT PUT TRANS. TO LOUD SPEAKER
SWITCH FOR LONG & SHORT ANT.
10 OHM RHEO.
15 OHM RES.
20 OHM RES.
5 MFD.
"A"-BATTERY SW.
A- C+
A+ B-
B+22½ To 45V.
B+67 To 90V.
B+90 To 180
C-4.5V
C-4.5 To 45 V.
LAST AUDIO-201A OR 112 OR 171 POWER TUBE WITH PROPER VOLTAGE
1st AUDIO 201-A
3 GANG COND.
2nd AUDIO 201-A
DETECTOR 201-A OR 200A
SKETCH SHOWING LOCATION OF TUBES
1st RADIO 201-A
3MEG. GRID LEAK
2nd RADIO 201-A

COLOR CODE AND BATTERY HOOKUP.

GREEN - A-
RED - A+
WHITE CONNECTED TO RED = B-
SLATE - B+22½ OR 45V.
BLUE - B+67½ OR 90V.
PINK - 90, 135 OR 180V.
BLACK - C-4½V
BROWN - C-4½, 9, 22½ OR 45V.
YELLOW CONNECTED TO GREEN C+

NOTE:
R.F. TRANSFORMERS ARE ENCLOSED IN A COPPER SHIELD AND SHIELDED TO EACH OTHER.

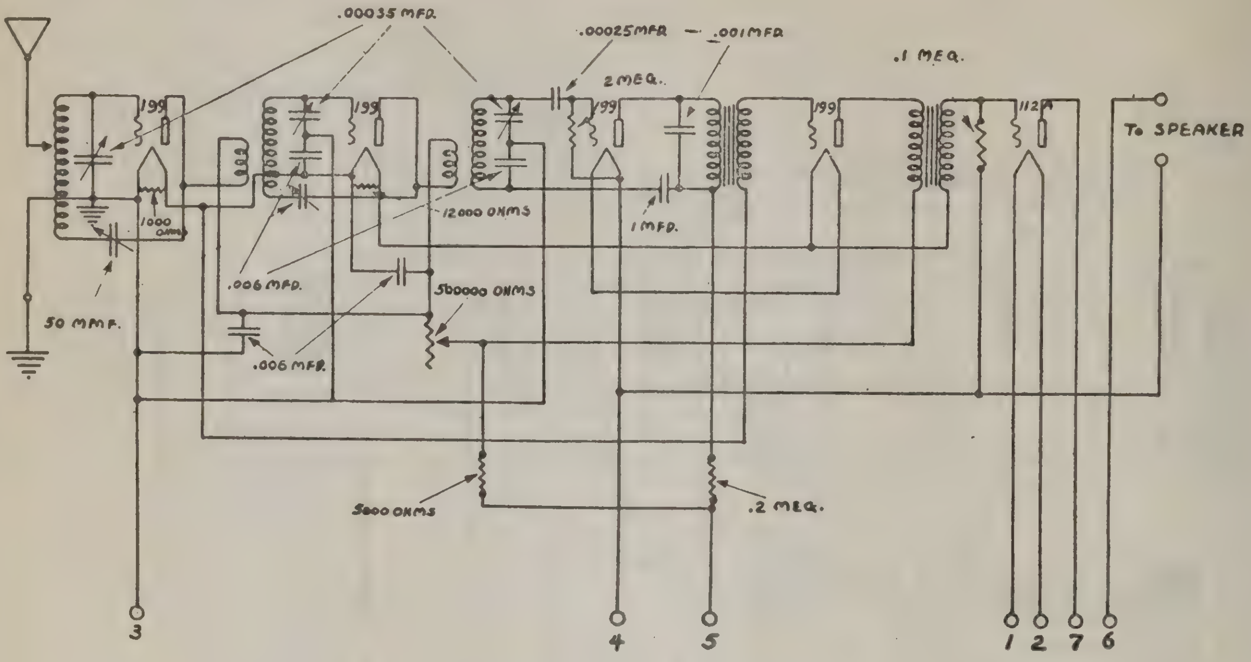
SCHEMATIC CIRCUIT of MOHAWK RECEIVER.
BATTERY NAVAJO 1926


.00025 MFD.
3 MEG
.0026 MFD.
1ST AUDIO JACK
2ND AUDIO JACK
6 OHMS
10 OHMS
BATTERY SWITCH
A- C+
A+ B-
B+22½V.
B+90V.
C-4½V.
Model VA
2 AF UX201A
1 AF UX201A
DET UX201A
1 RF UX201A
2 RF UX201A
FRONT

5 TUBE VA CIRCUIT -1925-26-

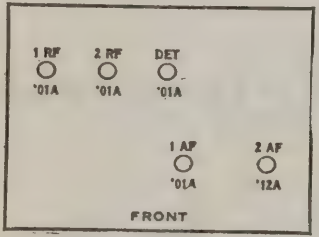
MODEL 115 -1926
5 Tube All-Electric
MODEL 115- 1926
5 Tube All-Battery

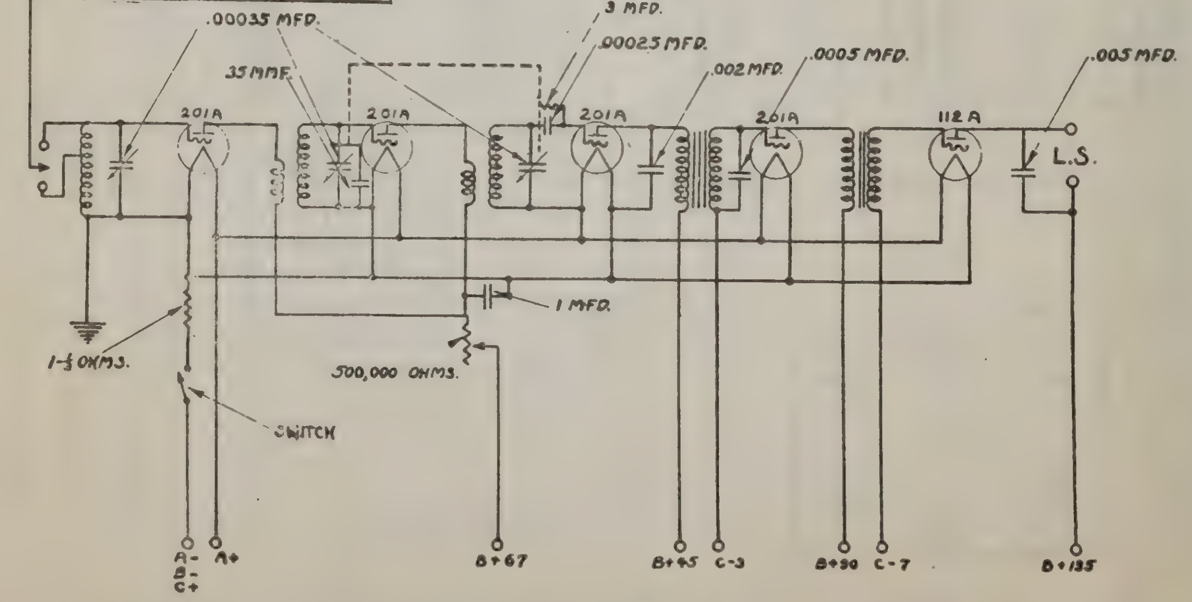
ALL-AMERICAN MOHAWK CORP.


.00035 MFD.
.00025 MFD
.001 MFD
.1 MEG.
2 MEG.
199
199
199
199
112A
To SPEAKER
1000 OHMS
12000 OHMS
1 MFD.
.006 MFD.
50 MMF.
500000 OHMS
.006 MFD.
5000 OHMS
.2 MEG.
3
4
5
1
2
7
6

5 TUBE ALL ELECTRIC - 1926.
MODEL -115

Model 115-BO (1926)

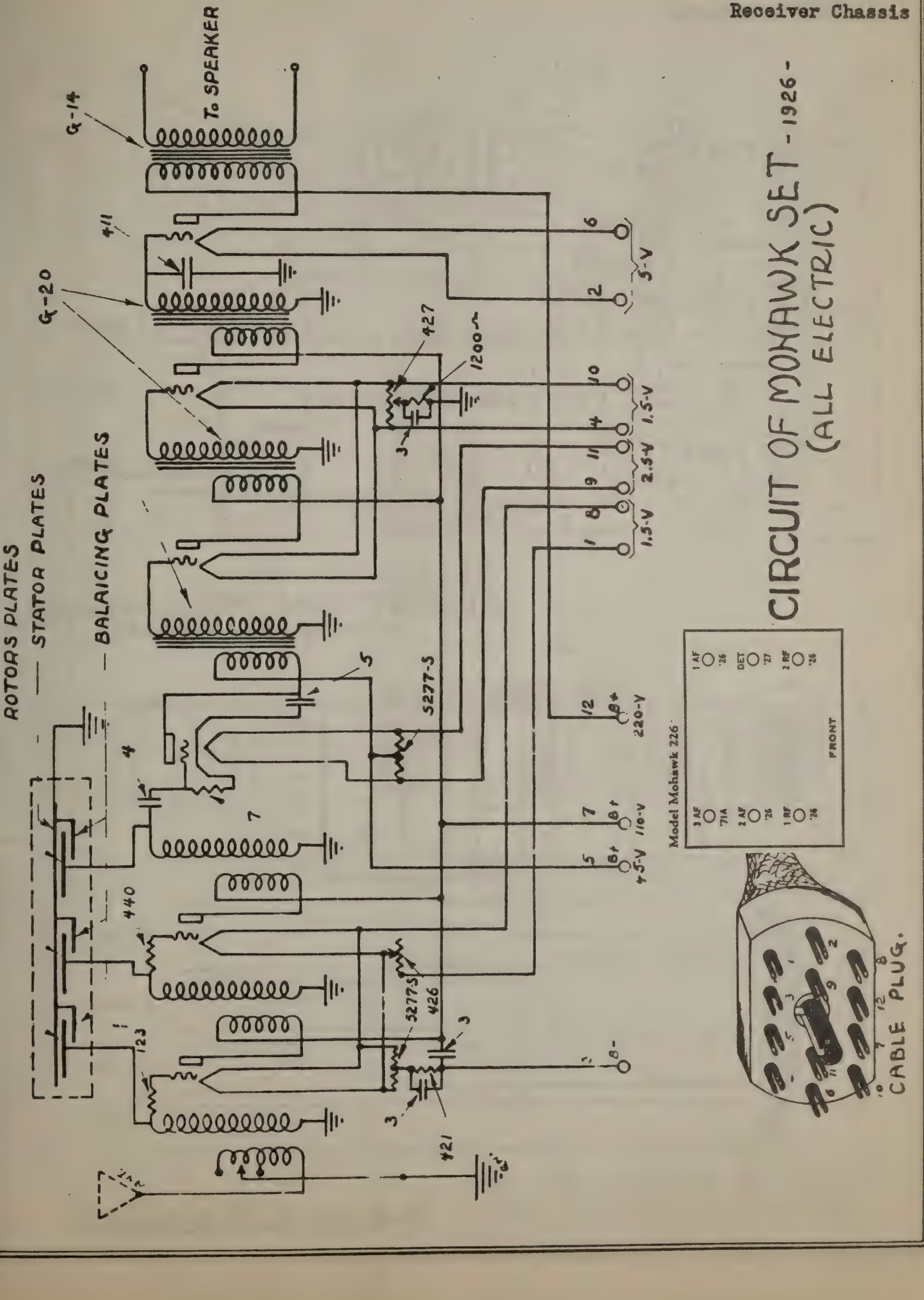

1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'12A
FRONT


ANT.
.00035 MFD.
35 MMF.
3 MFD.
.00025 MFD.
.002 MFD.
.0005 MFD.
.005 MFD.
201A
201A
201A
201A
112 A
L.S.
1 MFD.
1-½ OHMS.
500,000 OHMS.
SWITCH
A-
B-
C+
A+
B+67
B+45
C-3
B+90
C-7
B+135

5 TUBE ALL AMERICAN BATTERY SET.
MODEL 115 - 1926-27.

ALL-AMERICAN MOHAWK CORP.

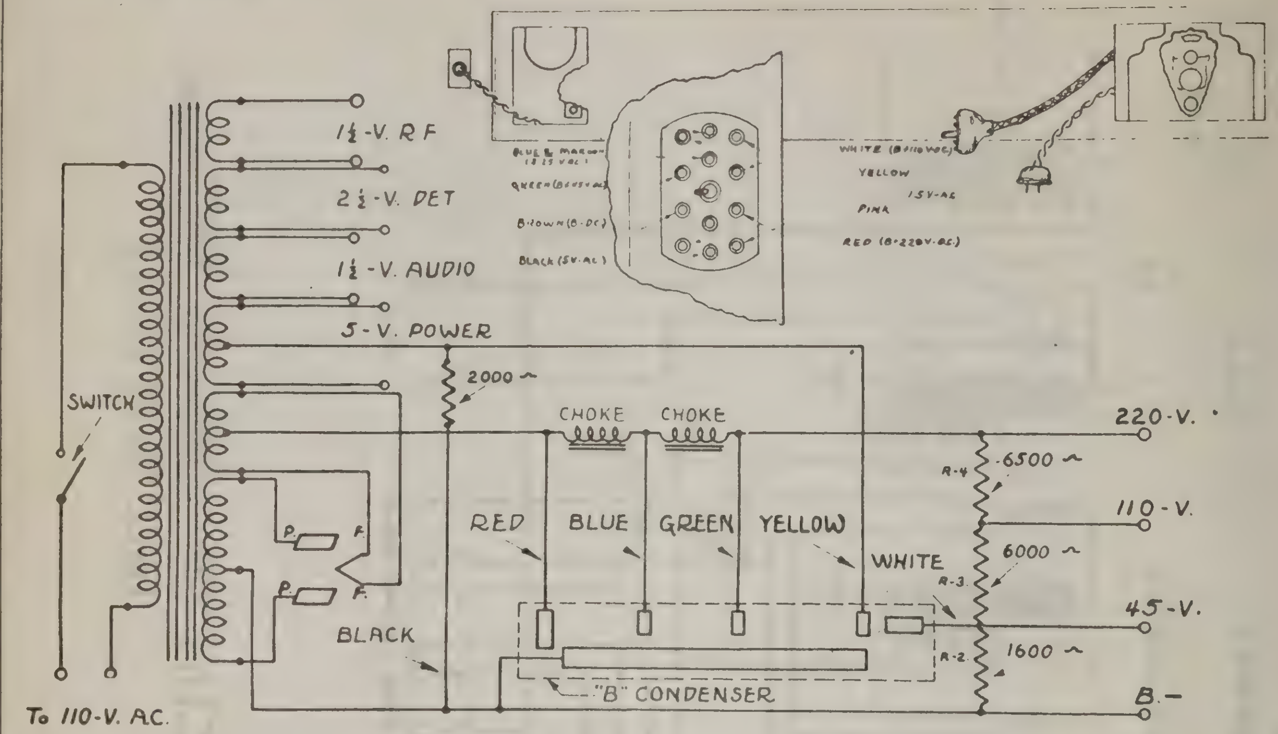
MODEL Mohawk 1926
All-Electric
226 Type
Receiver Chassis


G-14
To SPEAKER
411
G-20
427
1200~
6
2
5-V
10
4
11
9
8
1
1.5-V
2.5-V
1.5-V
3
ROTORS PLATES
— STATOR PLATES
— BALAICING PLATES
5
5277-S
4
7
12
B+
220-V
7
B+
110-V
5
B+
45-V
440
5277-S
426
3
123
3
421
B-
Model Mohawk 226
1 AF '26
DET '27
2 RF '26
3 AF '71A
2 AF '26
1 RF '26
FRONT
CABLE PLUG.

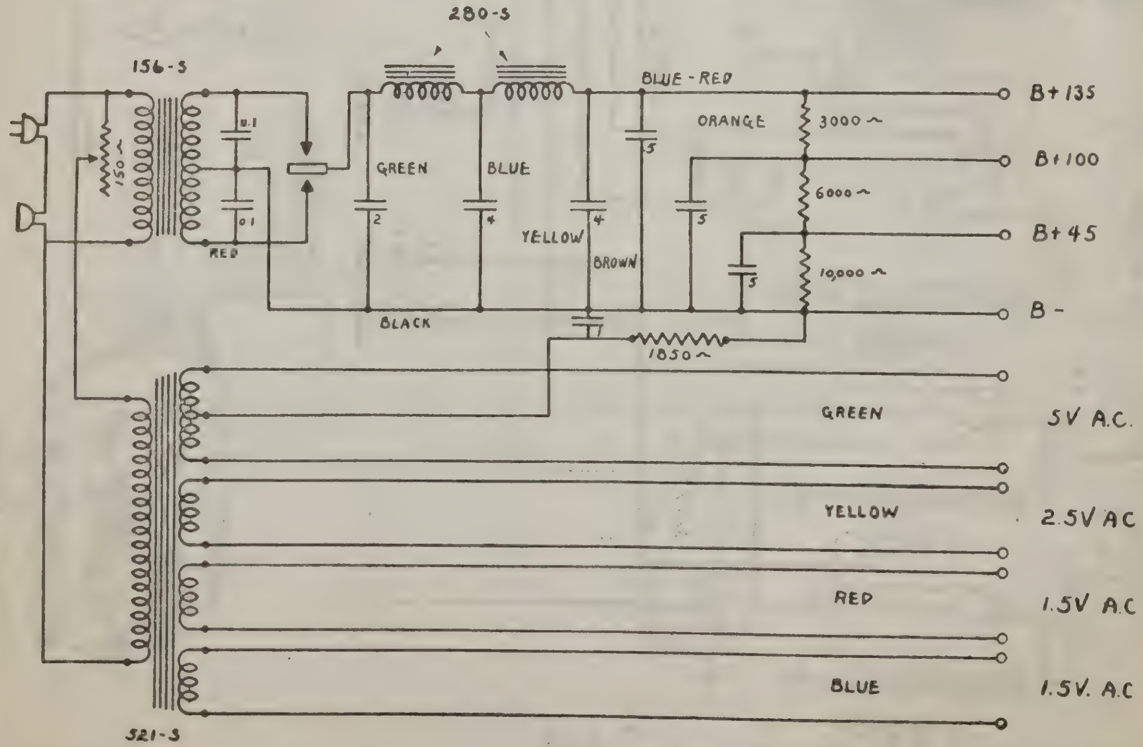
CIRCUIT OF MOHAWK SET -1926-
(ALL ELECTRIC)

MODEL Mohawk 226
12 Contact
Power Pack
A-10 Eliminator

ALL-AMERICAN MOHAWK CORP.


1½-V. RF
2½-V. DET
1½-V. AUDIO
5-V. POWER
SWITCH
To 110-V. AC.
2000 ~
CHOKE
CHOKE
RED
BLUE
GREEN
YELLOW
WHITE
BLACK
P
F
P
F
"B" CONDENSER
220-V.
110-V.
45-V.
B.−
R-4
6500 ~
R-3
6000 ~
R-2
1600 ~
BLUE & MAROON (1.5 V AC)
GREEN (B+45V-AC)
BROWN (B-DC)
BLACK (5V-AC)
WHITE (B+110VDC)
YELLOW
1.5V-AC
PINK
RED (B+220V-DC)

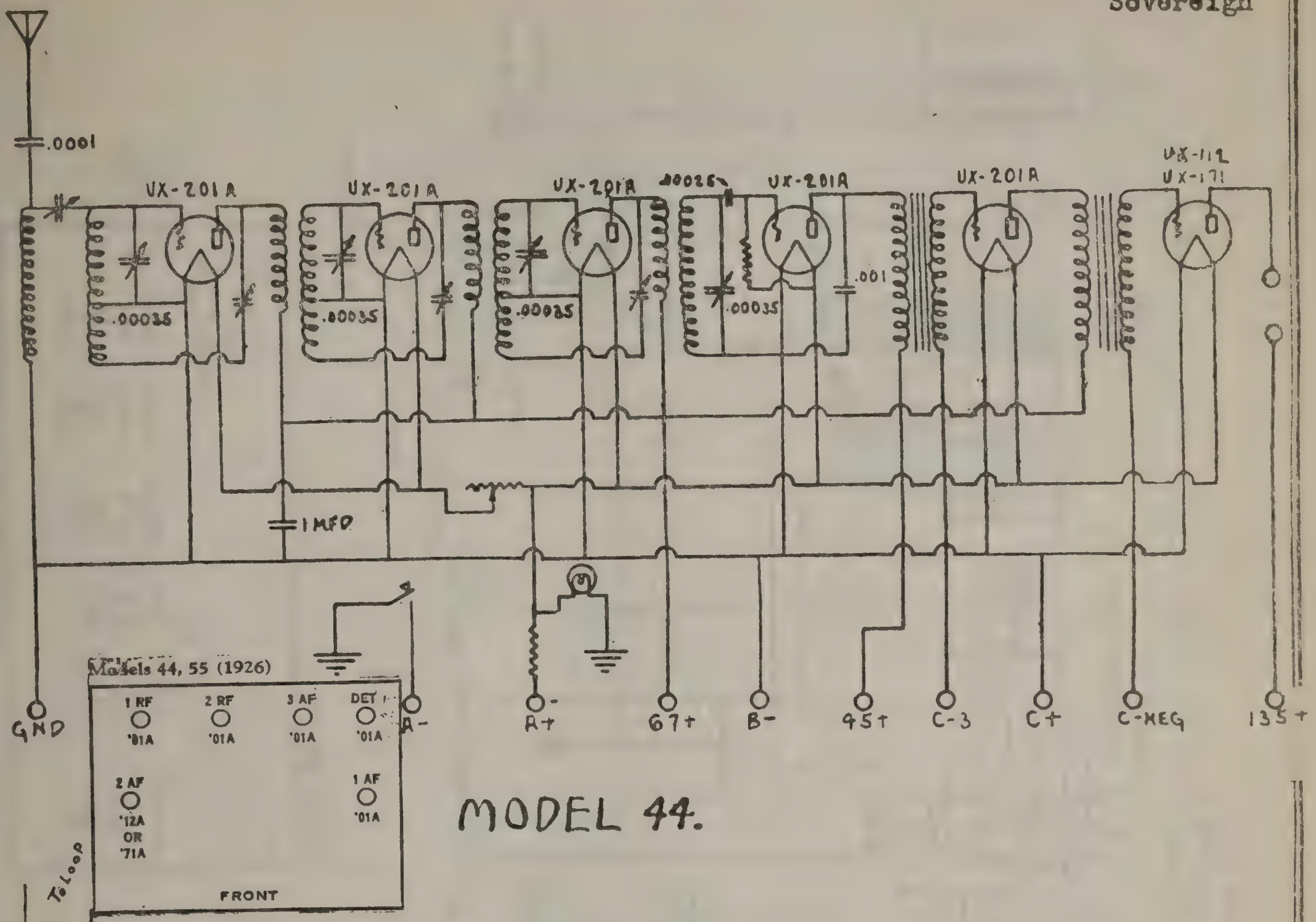
12 CONTACT POWER PACK *for* Mohawk 226
WITH NEW TYPE CONDENSER


280-S
156-S
150 ~
.1
.1
RED
GREEN
2
BLUE
4
YELLOW
4
BROWN
BLUE-RED
5
ORANGE
5
5
3000 ~
6000 ~
10,000 ~
B+135
B+100
B+45
B −
BLACK
1
1850 ~
GREEN
5V A.C.
YELLOW
2.5V AC
RED
1.5V A.C
BLUE
1.5V. A.C
521-S

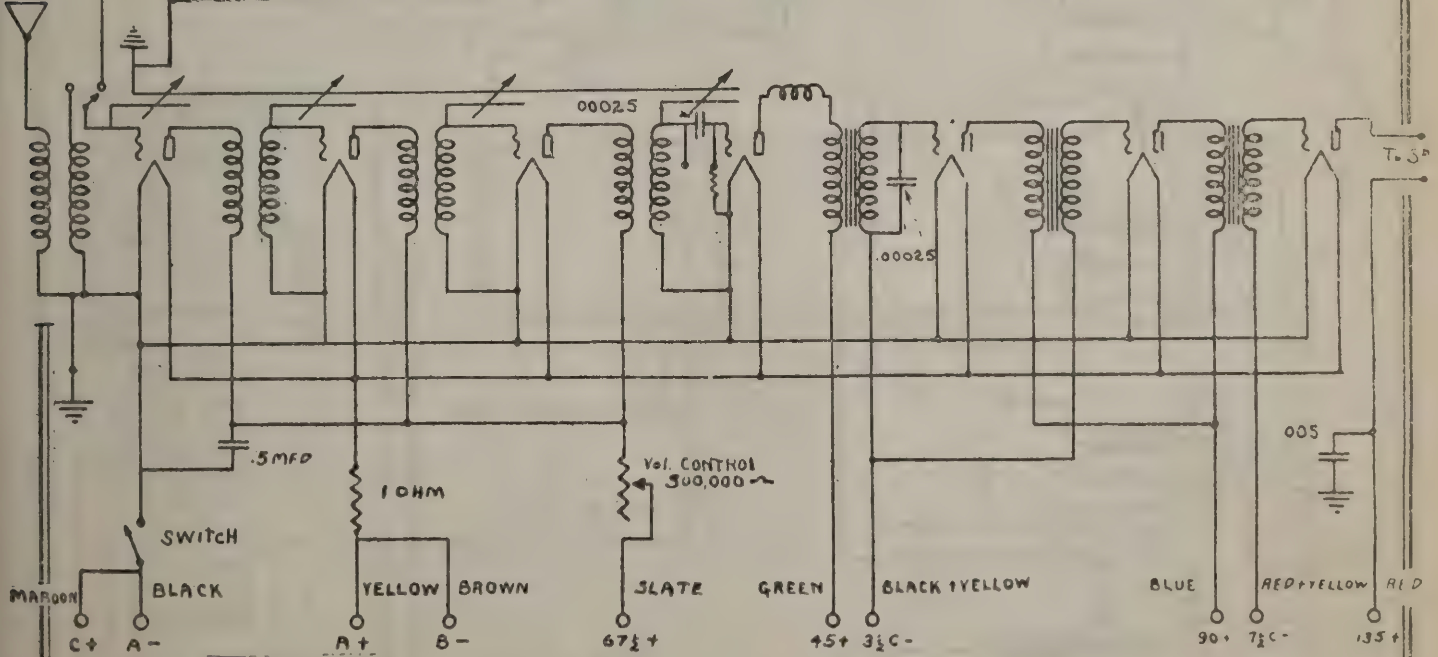
A-10 MOHAWK ELIMINATOR

ALL-AMERICAN MOHAWK CORP.

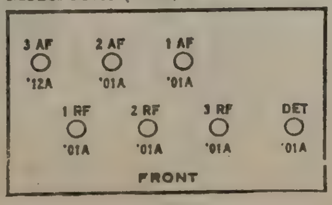
MODEL 44
7 Tube Forte
Lorraine
Sovereign


.0001
UX-201A
UX-201A
UX-201A
.00025
UX-201A
UX-201A
UX-112
UX-171
.00035
.00035
.00035
.00035
.001
1 MFD
GND
A-
A+
67+
B-
45+
C-3
C+
C-NEG
135+
Models 44, 55 (1926)
1 RF '01A
2 RF '01A
3 AF '01A
DET '01A
2 AF '12A OR '71A
1 AF '01A
FRONT
To Loop

MODEL 44.


00025
.00025
T. 3P
.5 MFD
1 OHM
Vol. CONTROL 500,000 ~
005
SWITCH
MAROON
BLACK
YELLOW
BROWN
SLATE
GREEN
BLACK + YELLOW
BLUE
RED + YELLOW
RED
C+
A-
A+
B-
67½+
45+
3½C-
90+
7½C-
135+

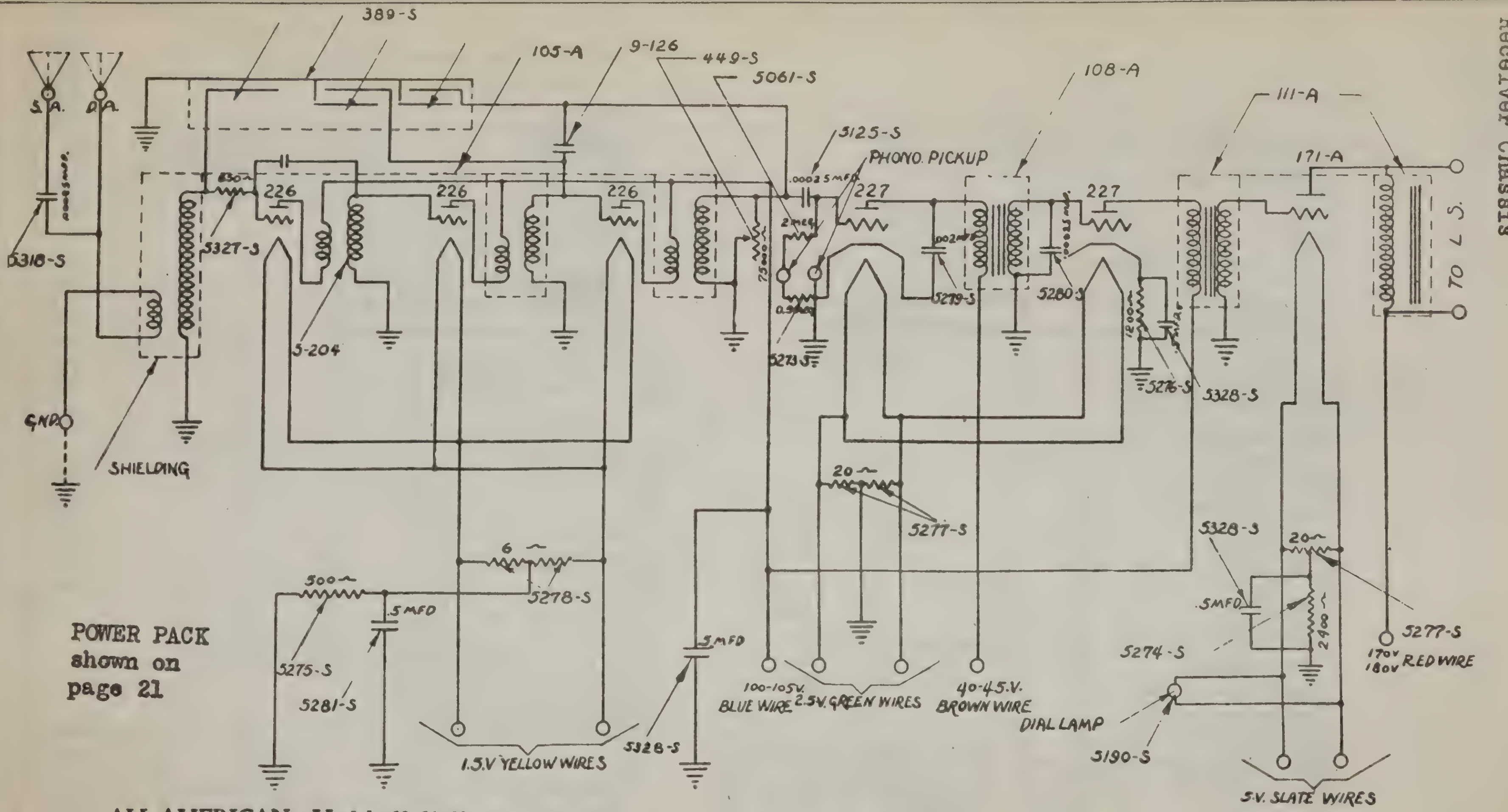
Model Forte (1926)


3 AF '12A
2 AF '01A
1 AF '01A
1 RF '01A
2 RF '01A
3 RF '01A
DET '01A
FRONT

7 TUBE BATTERY OPERATED
1927 FORTE, LORRAINE AND SOVEREIGN

MODEL 60,61,62,
65,66
Receiver Chassis

ALL-AMERICAN MOHAWK CORP.

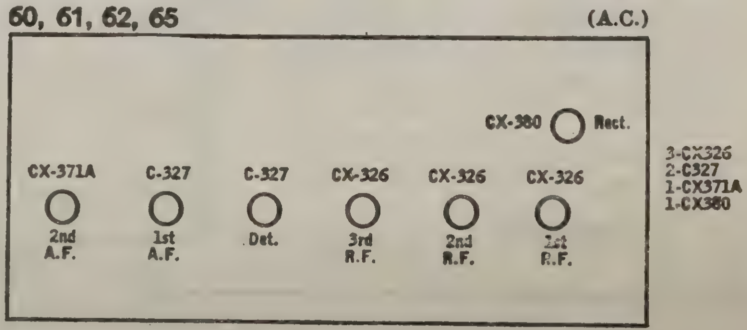

389-S
105-A
9-126
449-S
5061-S
108-A
111-A
171-A
TO L.S.
S.A.
D.A.
5318-S
226
226
226
830~
5327-S
5-204
GND
SHIELDING
3125-S
.0002 5 MFD
PHONO. PICKUP
227
227
2 MEG
75000
0.5 MEG
5273-S
.002 MFD
5279-S
5280-S
12000
5276-S
5328-S
20~
5277-S
6~
5278-S
500~
.5 MFD
5275-S
5281-S
1.5.V YELLOW WIRES
.5 MFD
5328-S
100-105V. BLUE WIRE
2.5V. GREEN WIRES
40-45.V. BROWN WIRE
5328-S
20~
.5 MFD
2400~
5274-S
5277-S
170V 180V RED WIRE
DIAL LAMP
5190-S
5.V. SLATE WIRES

POWER PACK
shown on
page 21

ALL AMERICAN—Models 60-61-62-65-66
Line Voltage 110:—95-115 Volt Tap:—Volume Control Full

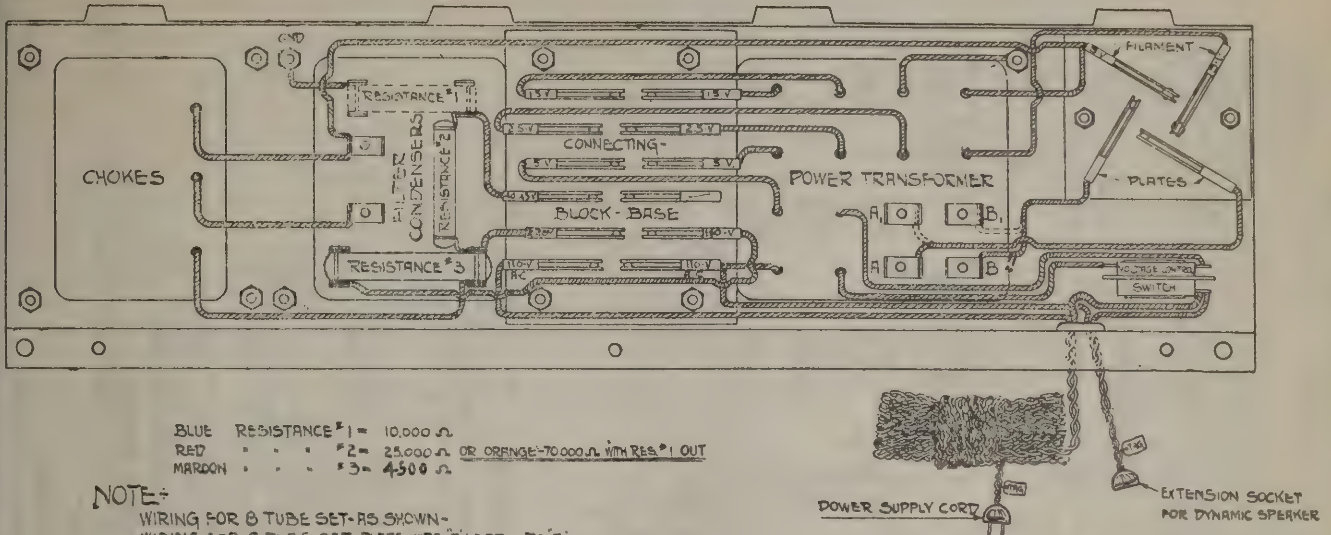
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET. ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	226	1st.R.F.	1.4	120	1.25	112	8	-	3.2	6.6	3.4
2	226	2nd.R.F.	1.4	120	1.25	112	8	-	3.2	6.6	3.4
3	226	3rd.R.F.	1.4	120	1.25	112	8	-	3.2	6.6	3.4
4	227	Detector	2.4	110	2.20	40	0	0	2.2	2.2	0.0
5	227	1st.A.F.	2.4	120	2.20	112	8	6	3.0	6.4	3.4
6	171A	2nd.A.F.	4.7	180	4.50	155	40	-	15.0	16.5	1.5
7	280	Rectifier	-	-	4.70	-	-	-	19.0	-	-
8											
9											
10											

60, 61, 62, 65 (A.C.)


CX-380
Rect.
CX-371A
2nd A.F.
C-327
1st A.F.
C-327
Det.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.
3-CX326
2-C327
1-CX371A
1-CX380

ALL-AMERICAN MOHAWK CORP.

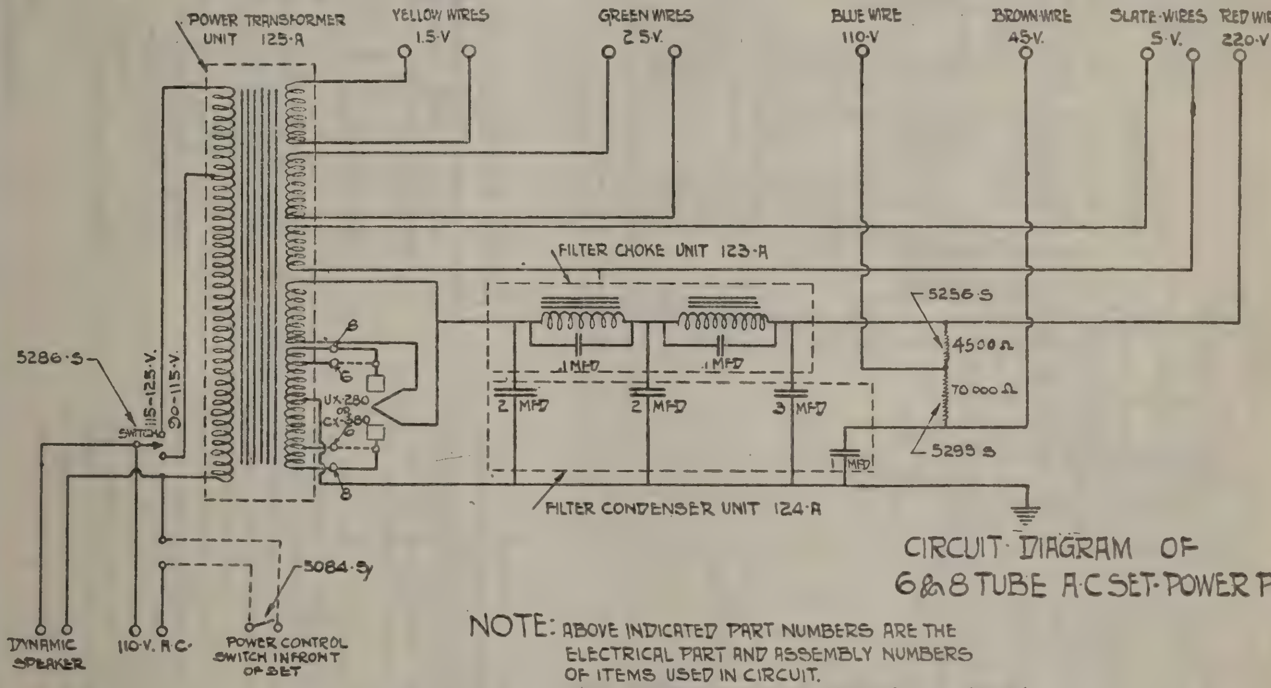
MODEL 60,61,62,
65,66
Power Pack



GND
CHOKES
RESISTANCE #1
RESISTANCE #2
FILTER CONDENSERS
RESISTANCE #3
1.5 V
2.5 V
CONNECTING-
5 V
45 V
BLOCK - BASE
110-V
110-V AC
POWER TRANSFORMER
FILAMENT
PLATES
A,
B,
A
B
VOLTAGE CONTROL SWITCH
POWER SUPPLY CORD
EXTENSION SOCKET FOR DYNAMIC SPEAKER

BLUE RESISTANCE #1 = 10.000 Ω
RED " " #2 = 25.000 Ω OR ORANGE-70.000 Ω WITH RES. #1 OUT
MAROON " " #3 = 4500 Ω

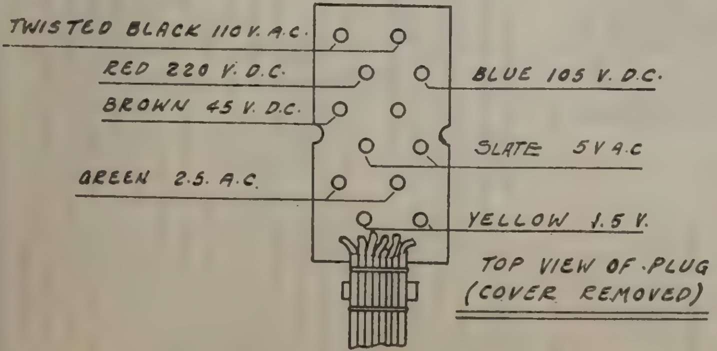
NOTE:-
WIRING FOR 8 TUBE SET-AS SHOWN-
WIRING FOR 6 TUBE SET-PLATE WIRE "A" LEAD TO "A,
AND PLATE WIRE "B" LEAD TO "B,



POWER TRANSFORMER UNIT 125-A
YELLOW WIRES 1.5-V
GREEN WIRES 2.5-V.
BLUE WIRE 110-V
BROWN WIRE 45-V.
SLATE WIRES 5-V.
RED WIRE 220-V
FILTER CHOKE UNIT 123-A
.1 MFD
.1 MFD
2 MFD
2 MFD
3 MFD
1 MFD
5256-S
4500 Ω
70 000 Ω
5299 S
FILTER CONDENSER UNIT 124-A
5286-S
SWITCH
115-125-V.
90-115-V.
8
6
UX-280 OR CX-380
6
8
5084-Sy
DYNAMIC SPEAKER
110-V. A.C.
POWER CONTROL SWITCH IN FRONT OF SET

CIRCUIT DIAGRAM OF
6 & 8 TUBE A-C SET-POWER PACK

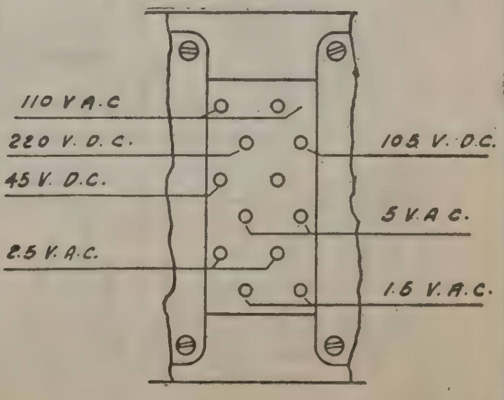
NOTE: ABOVE INDICATED PART NUMBERS ARE THE ELECTRICAL PART AND ASSEMBLY NUMBERS OF ITEMS USED IN CIRCUIT. WHEN ORDERING PARTS OR ASSEMBLIES SPECIFY THIS NUMBER AS WELL AS NAME OF ITEM



TWISTED BLACK 110 V. A.C.
RED 220 V. D.C.
BLUE 105 V. D.C.
BROWN 45 V. D.C.
SLATE 5 V A.C
GREEN 2.5. A.C.
YELLOW 1.5 V.

TOP VIEW OF PLUG
(COVER REMOVED)

TOP VIEW OF PLUG
(COVER REMOVED)

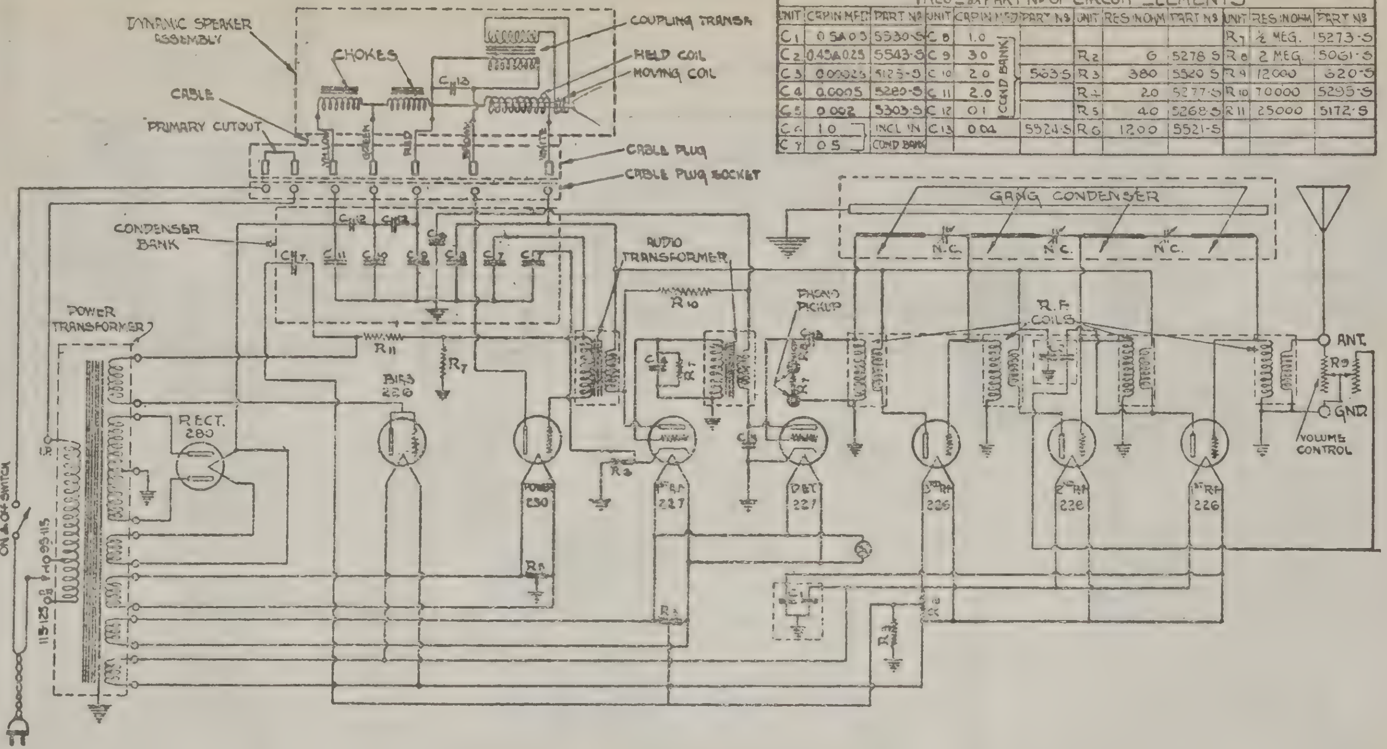


110 V A.C
220 V. D.C.
105 V. D.C.
45 V. D.C.
5 V A C.
2.5 V. A.C.
1.5 V. A.C.

TOP VIEW OF CONNECTING
PLUG SOCKET IN POWER PACK

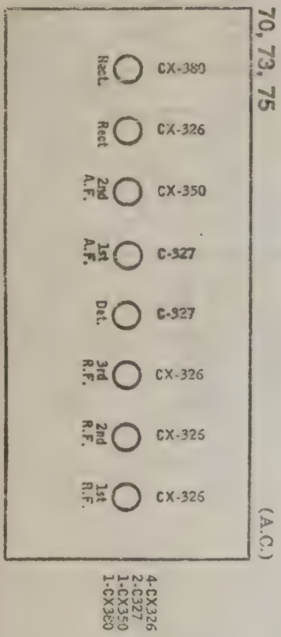
ALL-AMERICAN MOHAWK CORP.

MODEL 70,73,75


DYNAMIC SPEAKER ASSEMBLY
CHOKES
CABLE
PRIMARY CUTOUT
COUPLING TRANSF.
FIELD COIL
MOVING COIL
CABLE PLUG
CABLE PLUG SOCKET
CONDENSER BANK
POWER TRANSFORMER
AUDIO TRANSFORMER
PHONO PICKUP
R.F. COILS
GANG CONDENSER
N.C.
ANT.
GND
VOLUME CONTROL
RECT. 280
BIAS 226
POWER 250
1st R.F. 227
DET 227
3rd R.F. 226
2nd R.F. 226
1st R.F. 226
R10
R11
R7
R9
ON & OFF SWITCH
95-115
115-125

VALUE & PART No OF CIRCUIT ELEMENTS											
UNIT	CAP IN MFD	PART No	UNIT	CAP IN MFD	PART No	UNIT	RES IN OHM	PART No	UNIT	RES IN OHM	PART No
C1	0.5 & 0.5	5530-S	C8	1.0	COND BANK 5635-S				R7	½ MEG.	5273-S
C2	0.45 & 0.25	5543-S	C9	3.0		R2	6	5278-S	R8	2 MEG.	5061-S
C3	0.00025	5125-S	C10	2.0		R3	380	5520-S	R9	12000	620-S
C4	0.0005	5280-S	C11	2.0		R4	2.0	5277-S	R10	70000	5295-S
C5	0.002	5303-S	C12	0.1		R5	4.0	5268-S	R11	25000	5172-S
C6	1.0	INCL IN COND BANK	C13	0.04	5524-S	R6	1200	5521-S			
C7	0.5										

70, 73, 75 (A.C.)


Rect. CX-380
Rect CX-326
2nd A.F. CX-350
1st A.F. C-327
Det. C-327
3rd R.F. CX-326
2nd R.F. CX-326
1st R.F. CX-326

4-CX326
2-C327
1-CX350
1-CX380

HUM— If an undue amount of hum is experienced it may be caused by any of the following:—Defective tube in either the detector or first a.f. stage. Center tapped resistors open on one side of filament or heater connection or one-half of center tapped resistor shorted out. Center tap of 20 ohm resistor across 227 heater terminals open. A grounded 226 filament or short circuited grid bias resistor.

The hum will also be increased by a defective 226 bias tube for the 250 power tube, filter or load resistor, or by-pass condensers short circuited or open. The adjustable center tapped resistor on the 250 tubes filament being out of adjustment will likewise cause an increase in the hum level. As the filter circuit is a part of the loud speaker assembly it may be checked for hum trouble by substituting another speaker assembly. The condenser bank and power transformer may be substituted in checking for defects in these units which may cause hum. Generally most causes of hum are defective 227 tubes and improper adjustment of the 250 tube filament center tapped resistor.

Possible causes of hum in the power supply and their remedy will be taken up in the paragraph "Power Unit Servicing". It is important that a good ground connection be employed with this receiver as sometimes the hum level will increase where a poor ground connection is used.

TUBE VOLTAGE READINGS— The following gives the values of the various tube readings which should be obtained: When line voltage is = 110 V. A.C., and the line voltage control switch on power pack is in the 95-115 position: (Note these values will vary slightly.)

R. F. tubes 226-326 type
Filament voltage—1.45 to 1.50, "B" voltage—100 to 120,
"C" voltage—7 to 9.

Detector 227-327 type
Heater voltage—2.40 to 2.50, "B" voltage—35 to 50,
Cathode Bias, 0., Heater Bias 6-9 plus.

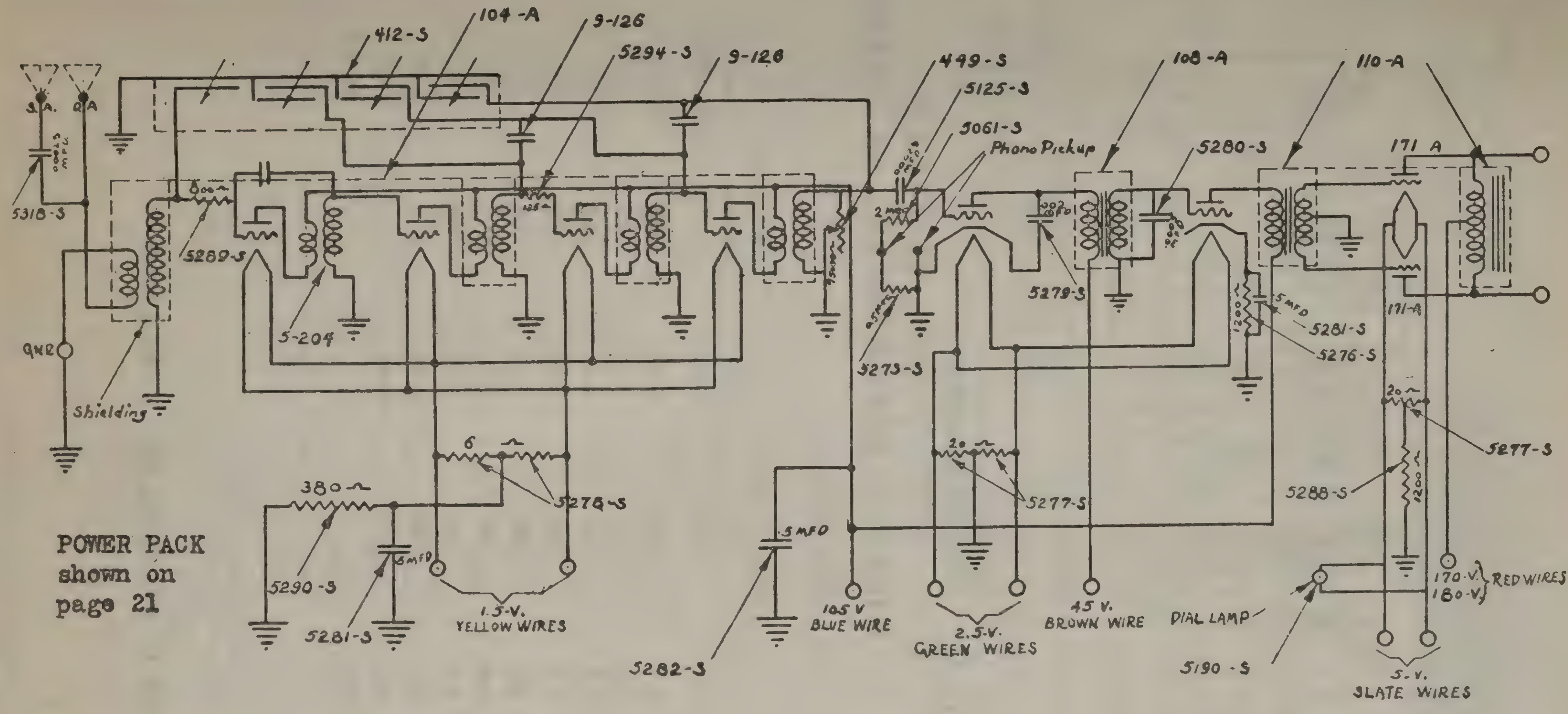
First A.F. Amplifier 227-327 type
Heater voltage—2.40 to 2.50, "B" voltage—100 to 120,
Cathode bias—6 to 9, Heater Bias 6-9 plus.

Power Amplfier 250-350
Filament voltage—7.30 to 7.40, "B" voltage—300 to 325
"C" voltage—52 to 56.

Bias Tube
Filament voltage 1.4 to 1.50.

ALL-AMERICAN MOHAWK CORP.

**MODEL 80, 83, 84,
85, 86, 88
Receiver Chassis**

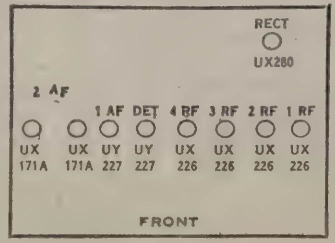

412-S
104-A
9-126
5294-S
9-128
449-S
5125-S
5061-S
Phono Pickup
108-A
5280-S
110-A
171 A
171-A
5318-S
.00025 MFD
S.A.
Q.A.
QWR
Shielding
5289-S
5-204
5273-S
5279-S
5281-S
5276-S
5277-S
5288-S
6
380
5276-S
5290-S
5281-S
.5 MFD
1.5-V.
YELLOW WIRES
.5 MFD
5282-S
105 V
BLUE WIRE
2.5-V.
GREEN WIRES
45 V.
BROWN WIRE
DIAL LAMP
5190-S
170-V.
180-V.
RED WIRES
5-V.
SLATE WIRES

**POWER PACK
shown on
page 21**

ALL AMERICAN—Models 80-83-84-85-86-88
Line Voltage 110:—95-115 Volt Tap:—Volume Control Full—2nd A. F. Stage—2 Tubes Push Pull

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st.R.F.	1.4	120	1.25	112	9	-	3.5	7.3	3.8
2	226	2nd.R.F.	1.4	120	1.25	112	9	-	3.5	7.3	3.8
3	226	3rd.R.F.	1.4	120	1.25	112	9	-	3.5	7.3	3.8
4	226	4th.R.F.	1.4	120	1.25	112	9	-	3.5	7.3	3.8
5	227	Detector	2.4	110	2.20	40	0	-	2.2	2.2	0
6	227	1st A.F.	2.4	120	2.20	112	0	7	4.4	6.4	2.0
7	171A	2nd.A.F.	4.7	180	4.50	162	42	-	16.0	18.0	2.0
8	171A	2nd.A.F.	4.7	180	4.50	162	42	-	16.0	18.0	2.0
9	280	Rectifier	-	-	4.70	-	-	-	20.0	-	-
10											

Models 80, 83, 84, 85, 86


RECT
UX280
2 AF
1 AF
DET
4 RF
3 RF
2 RF
1 RF
UX 171A
UX 171A
UY 227
UY 227
UX 226
UX 226
UX 226
UX 226
FRONT

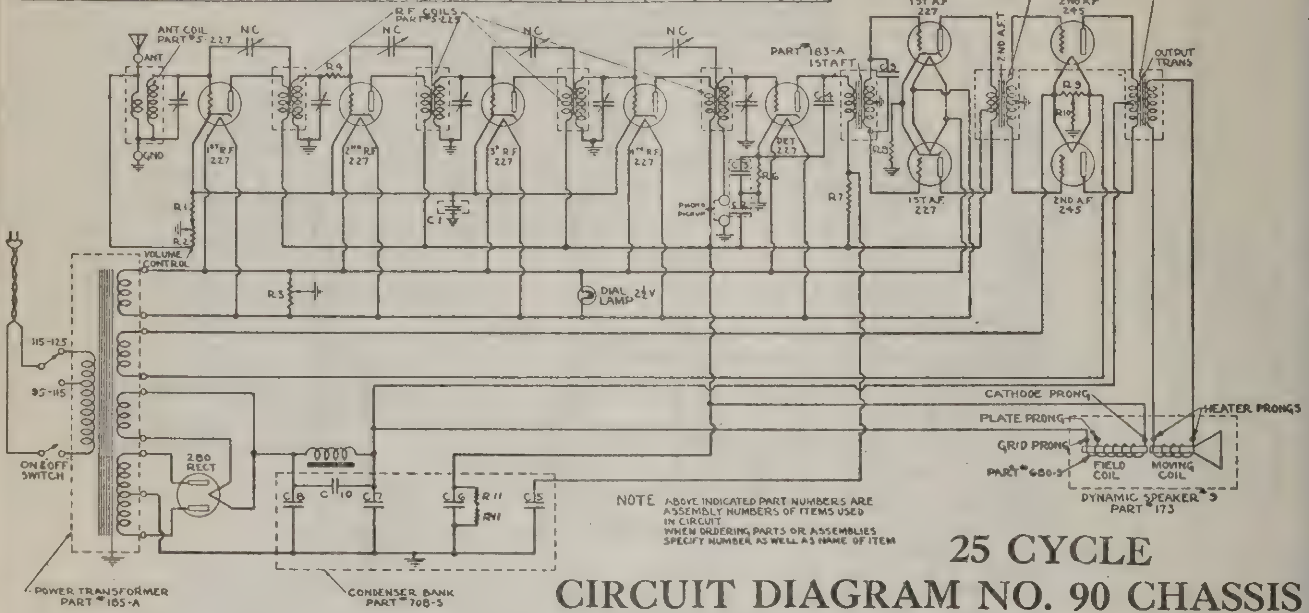
MODEL 90
25 Cycle

ALL-AMERICAN MOHAWK CORP.

182-W

VALUE AND PART Nº OF CIRCUIT ELEMENTS

UNIT	CAP IN MFD	PART Nº	UNIT	CAP IN MFD	PART Nº	UNIT	CAP IN MFD	PART Nº	UNIT	RES IN OHMS	PART Nº	UNIT	RES IN OHMS	PART Nº	UNIT	RES IN OHMS	PART Nº
C1	0 1	5593 5	C5	1 0		C9	0 00025	5125 5	R1	380	5520 5	R5	100	5594 5	R9	20	5277-5
C2	0 5 ONE	5592 5	C6	1 0	708-5	C10	0 5	5612-5	R2	10000	731 5	R6	10000	5170 5	R10	1000	5559-5
C3	0 5 UNIT	5592 5	C7	1 0					R3	20	5277-5	R7	70000	5295 5	R11	6000	5568-5
C4	0 002	5596 5	C8	2 0					R4	1500	6004-5	R8	1000	6005 5			


ANT COIL PART #5-227
ANT
GND
NC
RF COILS PART #5-229
R9
1ST RF 227
2ND RF 227
3RD RF 227
4TH RF 227
PART #183-A 1ST AFT
DET 227
C1
C3
R6
C4
PHONO PICKUP
R7
R8
1ST AF 227
2ND AFT
2ND AF 245
UNIT PART #184-A
OUTPUT TRANS
R9
R10
R1
R2
VOLUME CONTROL
R3
DIAL LAMP 2½V
115-125
95-115
ON & OFF SWITCH
280 RECT
C8
C10
C7
C6
R11
C5
CATHODE PRONG
PLATE PRONG
GRID PRONG
PART #680-5
FIELD COIL
MOVING COIL
HEATER PRONGS
DYNAMIC SPEAKER'S PART #173
POWER TRANSFORMER PART #185-A
CONDENSER BANK PART #708-5

NOTE ABOVE INDICATED PART NUMBERS ARE ASSEMBLY NUMBERS OF ITEMS USED IN CIRCUIT WHEN ORDERING PARTS OR ASSEMBLIES SPECIFY NUMBER AS WELL AS NAME OF ITEM

25 CYCLE
CIRCUIT DIAGRAM NO. 90 CHASSIS

VOLTAGE READINGS.

Type of Tube	Position of Tube	Tube in Tester A Volts	B Volts	C Volts	Cathode-Heater Volts	Normal Plate M. A.
227	1 R. F.	2.3	100	6.25	6.0	3.5
227	2 R. F.	2.4	100	5.50	5.5	3.5
227	3 R. F.	2.3	95	6.25	5.5	3.5
227	4 R. F.	2.4	100	6.25	5.5	3.5
227	DET.	2.3	56	5.00	5.0	0.5
227	1 P. P.	2.4	90	5.00	5.0	3.5
227	1 P. P.	2.4	90	5.00	6.0	3.5
245	2 P. P.	2.2	210	42.00		24.0
245	2 P. P.	2.2	210	42.00		24.0
280	RECT.	4.5				38 x 2

SOCKET LAYOUT SAME AS NO. MODEL 90 - 60 CYCLE

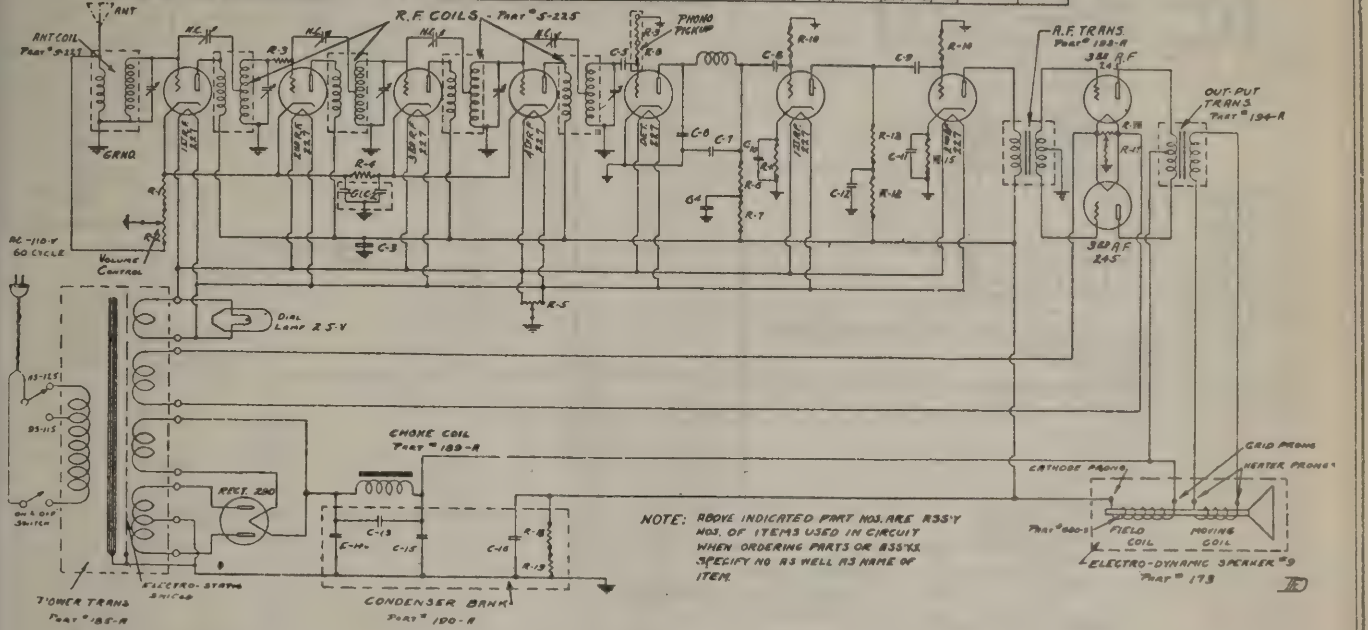
MODEL 90
60 Cycle

ALL-AMERICAN MOHAWK CORP.

180-W

VALUE AND PART NUMBER OF CIRCUIT ELEMENTS

UNIT	CAP IN MFD	PART No	UNIT	CAP IN MFD	PART No	UNIT	CAP MFD	PART No	UNIT	RES IN OHMS	PART No	UNIT	RES IN OHMS	PART No	UNIT	RES IN OHMS	PART No	UNIT	RES IN OHMS	PART No
C-1	0.1 ONE	5593-5	C-7	0.001	5124-5	C-13	0.1 COND BANK	190-A	R-1	380	5520-5	R-7	70,000	5295-5	R-13	25,000	5172-5	R-19	6,000	5407-5
C-2	01 UNIT	5593-5	C-8	0.01	5603-5	C-14	2 0		R-2	10,000	731-5	R-8	2 Megohms	5061-5	R-14	0.5 Megohm	5221-5			
C-3	0.5 ONE	5582-5	C-9	0.01	5603-5	C-15	2 0		R-3	1,500	6004-5	R-9	0.5 -	5221-5	R-15	2,400	5274-5			
C-4	0.5 UNIT	5552-5	C-10	0.5		C-16	2 0		R-4	100	5594-5	R-10	0.5 -	5221-5	R-16	20	5277-5			
C-5	0.00025	5125-5	C-11	0.5					R-5	20	5277-5	R-11	2,400	5274-5	R-17	1,000	5559-5			
C-6	0.001	5124-5	C-12	1.0 COND BANK					R-6	70,000	5295-5	R-12	70,000	5295-5	R-18	6,000	5407-5			


ANT
ANT COIL Part # 5-227
GRND
R.F. COILS - Part # 5-225
N.C.
R-3
R-4
C-1 C-2
C-3
R-1
R-2
Volume Control
AC-110-V 60 CYCLE
1ST R.F. 227
2ND R.F. 227
3RD R.F. 227
4TH R.F. 227
DET. 227
1ST A.F. 227
2ND A.F. 227
PHONO PICKUP
R-8
C-5
C-6
C-7
C-4
C-10
R-5
R-6
R-7
C-8
R-10
C-9
R-14
R-13
C-11
R-15
C-12
R-12
R.F. TRANS. Part # 193-A
3RD A.F. 245
R-16
R-17
OUT-PUT TRANS Part # 194-A
DIAL LAMP 2.5-V
85-125
95-115
ON & OFF SWITCH
RECT. 280
CHOKE COIL Part # 189-A
C-13
C-14
C-15
C-16
R-18
R-19
POWER TRANS Part # 185-A
ELECTRO-STATIC SHIELD
CONDENSER BANK Part # 190-A
CATHODE PRONG
GRID PRONG
HEATER PRONG
Part # 660-5
FIELD COIL
MOVING COIL
ELECTRO-DYNAMIC SPEAKER # 9 Part # 173

NOTE: ABOVE INDICATED PART NOS. ARE ASS'Y NOS. OF ITEMS USED IN CIRCUIT WHEN ORDERING PARTS OR ASS'YS. SPECIFY NO AS WELL AS NAME OF ITEM.

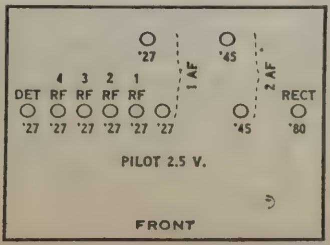
Lyric No. 90 A. C. receiver
—60 CYCLE

TUBE VOLTAGE AND CURRENT READINGS.

Below is given a standard set of readings for the tubes of the Lyric A. C. No. 90 receiver, which will serve as a reference in tube voltage and plate current readings:

Type of Tube	Position of Tube	Tube Out A Volts	Tube Out B Volts	Tube in Tester A Volts	Tube in Tester B Volts	Tube in Tester C Volts	Cathode-Heater Volts	Normal Plate
227	1 R. F.	2.45	120	2.40	114	6.5	6.5	5.3
227	2 R. F.	2.45	120	2.40	115	6.5	6.5	4.6
227	3 R. F.	2.45	120	2.40	113	7.5	7.5	5.8
227	4 R. F.	2.45	120	2.40	113	7.5	7.5	5.9
227	DET.	2.45	84	2.40	16	.5	.0	.7
227	1 A. F.	2.45	94	2.40	30	.5	2.5	1.0
227	2 A. F.	2.45	128	2.40	106	1.5	7.0	3.6
245	P. P.	2.55	256	2.45	232	45.0		23.0
245	P. P.	2.55	256	2.45	232	45.0		23.0
280	RECT.	5.30		4.90				78.0

Models 90, 93, 94, 95 (1929)

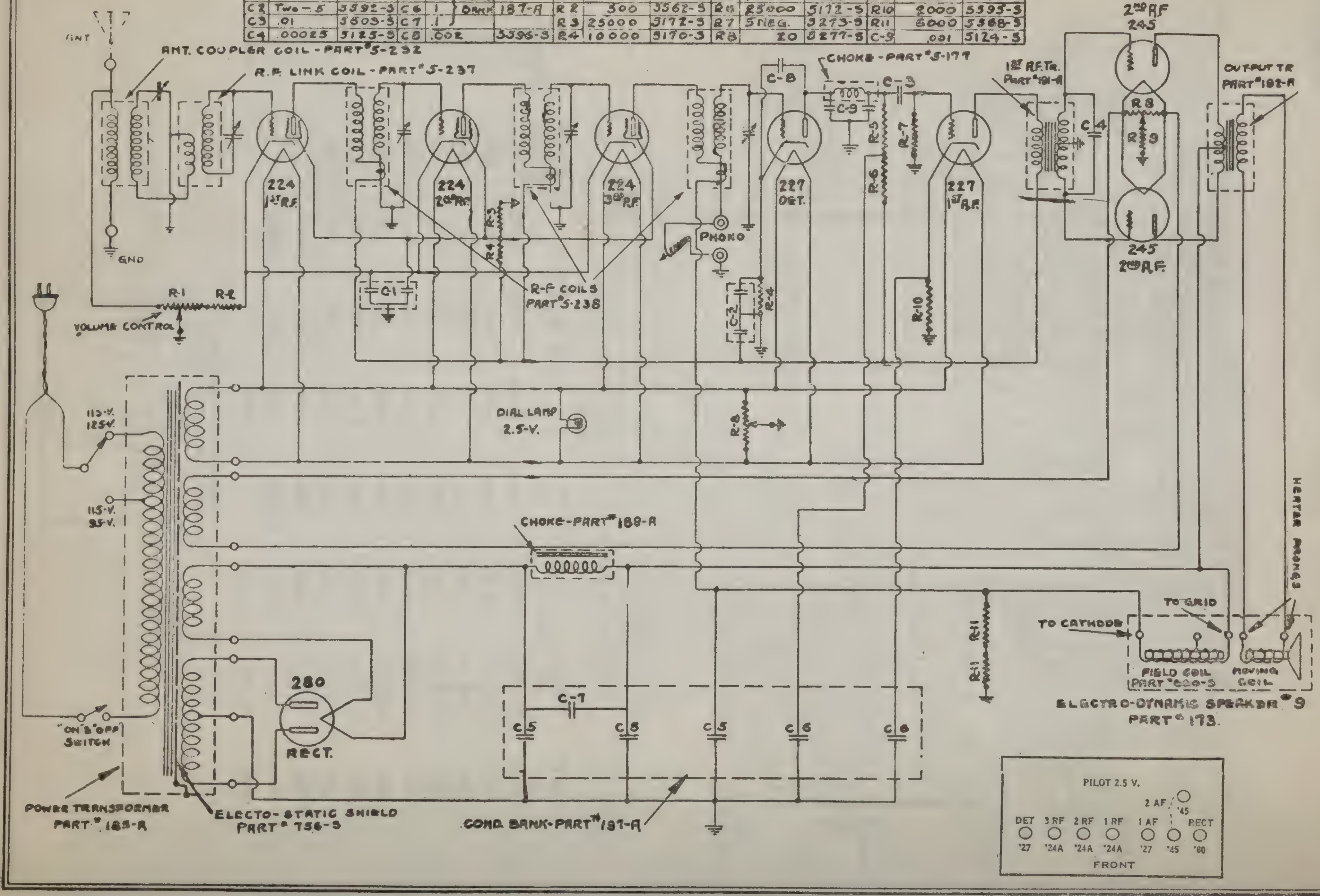

'27
'45
1 AF
2 AF
4 3 2 1
DET RF RF RF RF
RECT
'27 '27 '27 '27 '27 '27
'45
'80
PILOT 2.5 V.
FRONT

MODEL 96
60 Cycle

ALL-AMERICAN MOHAWK CORP.

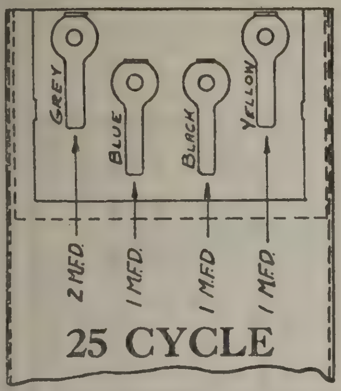
VALUE AND PART No OF CIRCUIT ELEMENTS

UNIT	CAP IN MFD	PART No	UNIT	CAP IN MFD.	PART No	UNIT	RES. IN OHM	PART No	UNIT	RES. IN OHM	PART No	UNIT	RES. IN OHM	PART No
C1	Two-.5	5328-S	C5	2 } Cond		R1	10000	731-S	R5	70000	3295-S	R9	1000	5559-S
C2	Two-.5	5592-S	C6	1 } Bank	187-A	R2	500	5562-S	R6	25000	5172-S	R10	2000	5595-S
C3	.01	5503-S	C7	.1 }		R3	25000	5172-S	R7	5 MEG.	5273-S	R11	6000	5368-S
C4	.00025	5125-S	C8	.002	5596-S	R4	10000	5170-S	R8	20	5277-S	C-9	.001	5124-S

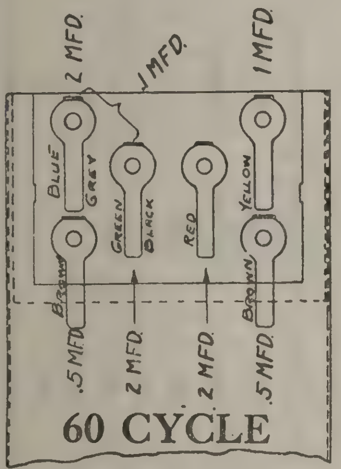

ANT
GND
ANT. COUPLER COIL - PART No 5-232
R.F. LINK COIL - PART No 5-237
224 1st R.F.
224 2nd R.F.
224 3rd R.F.
227 DET.
227 1st A.F.
2nd A.F. 245
245 2nd A.F.
R-F COILS PART No 5-238
PHONO
C-1
C-2
C-3
C-4
C-8
C-9
R-1
R-2
R-3
R-4
R-5
R-6
R-7
R-8
R-9
R-10
R-11
VOLUME CONTROL
CHOKE - PART No 5-177
1st A.F. TR. PART No 191-A
OUTPUT TR PART No 192-A
DIAL LAMP 2.5-V.
CHOKE-PART No 188-A
115-V. 125-V.
115-V. 95-V.
"ON" & "OFF" SWITCH
POWER TRANSFORMER PART No 185-A
ELECTO-STATIC SHIELD PART No 756-S
280 RECT.
C-5
C-6
C-7
COND. BANK-PART No 187-A
TO CATHODE
TO GRID
HEATER PRONGS
FIELD COIL PART No 620-S
MOVING COIL
ELECTRO-DYNAMIC SPEAKER No 9 PART No 173.
PILOT 2.5 V.
2 AF '45
DET '27
3 RF '24A
2 RF '24A
1 RF '24A
1 AF '27
'45
RECT '80
FRONT

ALL-AMERICAN MOHAWK CORP.

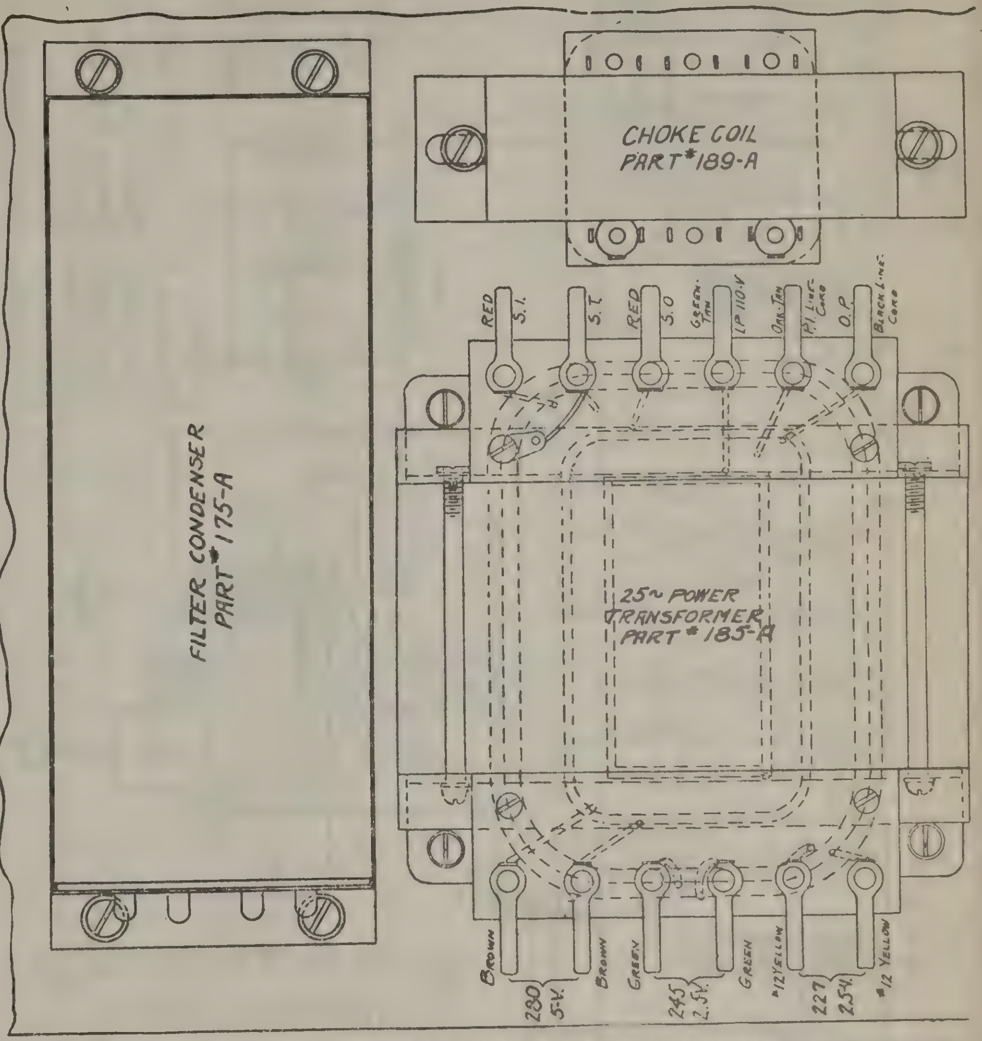
MODEL 90
Data


GREY
BLUE
BLACK
YELLOW
2 M.F.D.
1 M.F.D.
1 M.F.D.
1 M.F.D.
25 CYCLE

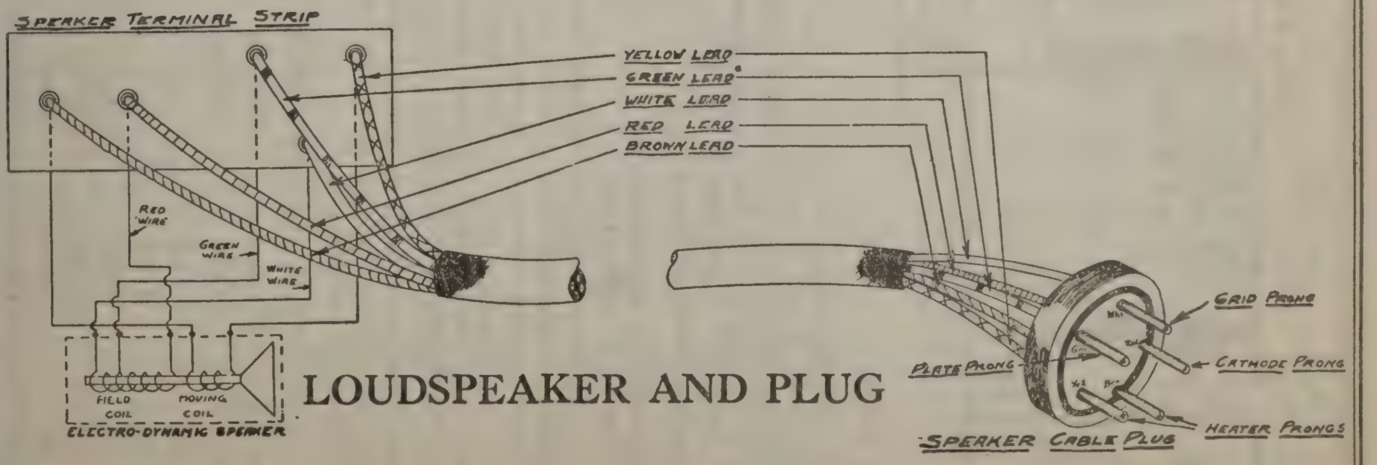
FRONT VIEW OF CONDENSER TERMINALS


2 MFD.
1 MFD.
1 MFD.
BLUE
GREY
GREEN
BLACK
RED
YELLOW
BROWN
BROWN
.5 MFD.
2 MFD.
2 MFD.
.5 MFD.
60 CYCLE

FRONT VIEW OF CONDENSER TERMINALS


FILTER CONDENSER
PART* 175-A
CHOKE COIL
PART*189-A
RED
S.I.
S.T.
RED
S.O
GREEN-TAN
LP 110-V
ORR-TAN
P.I. LINE CORD
O.P.
BLACK LINE CORD
25~ POWER
TRANSFORMER
PART* 185-A
BROWN
BROWN
GREEN
GREEN
*12 YELLOW
*12 YELLOW
280
5-V.
245
2.5V.
227
2.5V.

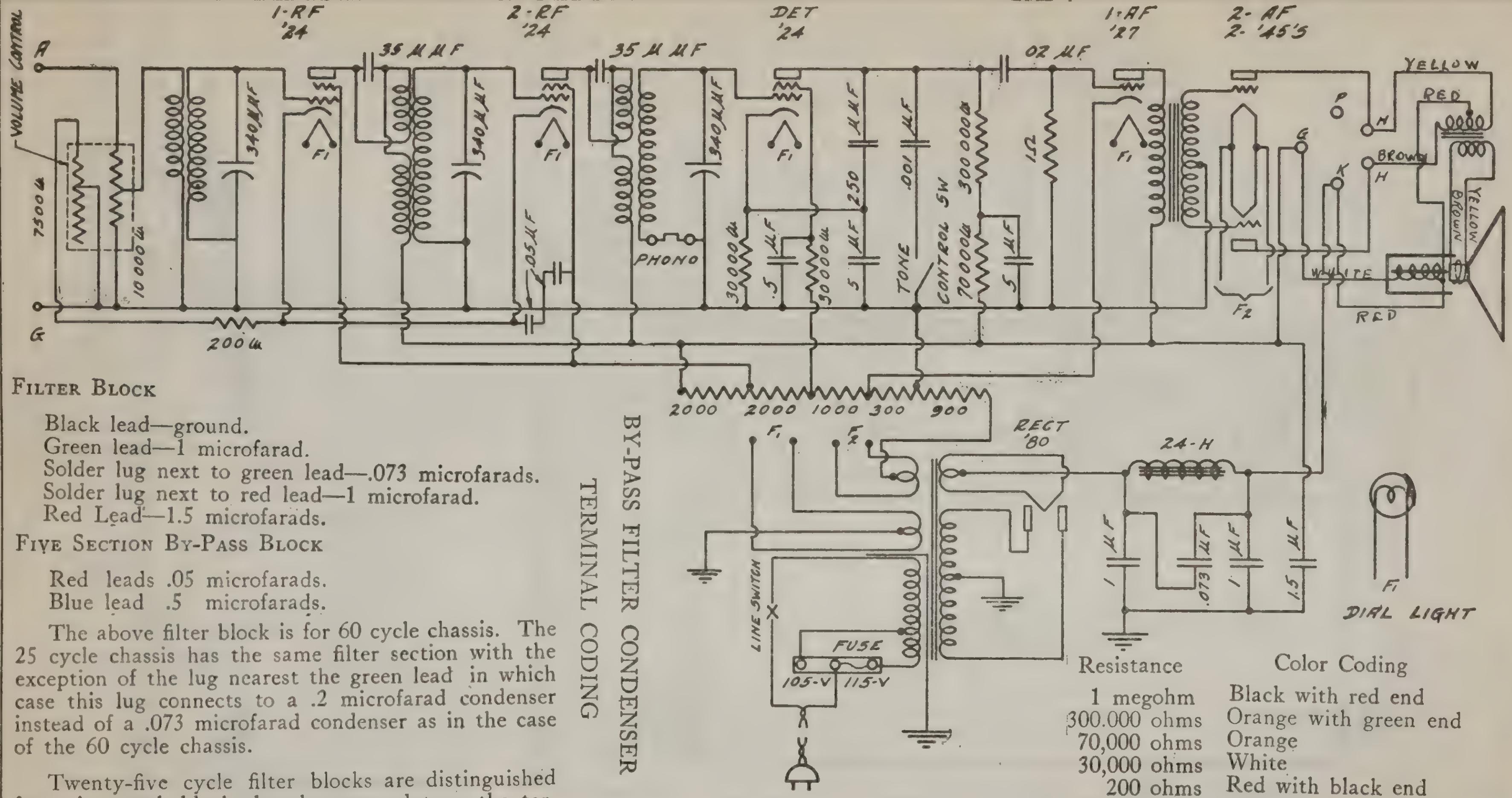
POWER PACK TERMINALS NO. 90 CHASSIS


SPEAKER TERMINAL STRIP
YELLOW LEAD
GREEN LEAD*
WHITE LEAD
RED LEAD
BROWN LEAD
RED WIRE
GREEN WIRE
WHITE WIRE
FIELD COIL
MOVING COIL
ELECTRO-DYNAMIC SPEAKER
GRID PRONG
CATHODE PRONG
PLATE PRONG
HEATER PRONGS
SPEAKER CABLE PLUG

LOUDSPEAKER AND PLUG

MODEL LYRIC D

ALL-AMERICAN MOHAWK CORP.


VOLUME CONTROL
A
G
7500Ω
10 000Ω
200Ω
1-RF '24
35 MMF
340MMF
F1
2-RF '24
.05MF
DET '24
PHONO
30000Ω
.5 MF
50000Ω
250 MMF
.5 MF
.001 MF
TONE
CONTROL SW
300 000Ω
70000Ω
.02 MF
1Ω
1-AF '27
2-AF 2-'45'S
F2
G
P
H
K
H
YELLOW
RED
BROWN
YELLOW
BROWN
WHITE
RED
2000
2000
1000
300
900
F1
F2
RECT '80
24-H
1 MF
.073 MF
1 MF
1.5 MF
LINE SWITCH
FUSE
105-V
115-V
F1
DIAL LIGHT

Resistance	Color Coding
1 megohm	Black with red end
300.000 ohms	Orange with green end
70,000 ohms	Orange
30,000 ohms	White
200 ohms	Red with black end

Filter Block

Black lead—ground.
Green lead—1 microfarad.
Solder lug next to green lead—.073 microfarads.
Solder lug next to red lead—1 microfarad.
Red Lead—1.5 microfarads.

Five Section By-Pass Block

Red leads .05 microfarads.
Blue lead .5 microfarads.

The above filter block is for 60 cycle chassis. The 25 cycle chassis has the same filter section with the exception of the lug nearest the green lead in which case this lug connects to a .2 microfarad condenser instead of a .073 microfarad condenser as in the case of the 60 cycle chassis.

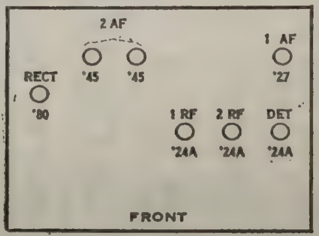
Twenty-five cycle filter blocks are distinguished from sixty cycle blocks by the green dot on the terminal strip at the bottom.

BY-PASS FILTER CONDENSER
TERMINAL CODING

Below is a standard list of voltage readings for the tubes of the LYRIC AC Model D receiver:.

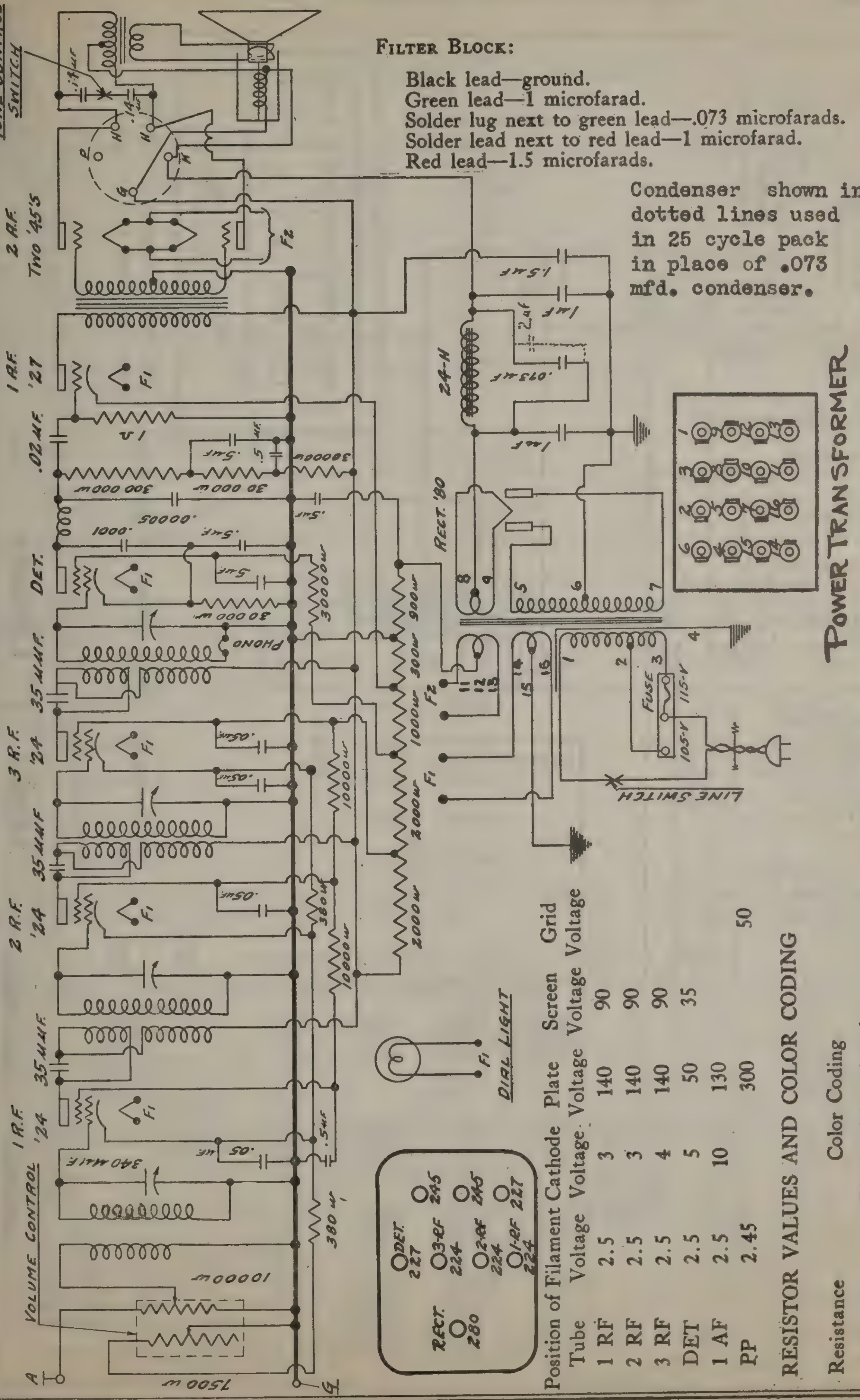
Type of Tube	Position of Tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
224	1 RF	2.5	1.6	140	90	
224	2 RF	2.5	1.6	140	90	
224	DET	2.5	5	50	35	
227	1 AF	2.5	10	130		
245	PP	2.45		300		50
245	PP	2.45		300		50

Model D (1929)


2 AF
'45
'45
1 AF
'27
RECT
'80
1 RF
'24A
2 RF
'24A
DET
'24A
FRONT

ALL-AMERICAN MOHAWK CORP.

MODEL H


TONE CONTROL SWITCH
VOLUME CONTROL
A
G
1500 w
10000 w
340 μμf
.05 μf
.5 μf
380 w
1 R.F. '24
35 μμf
2 R.F. '24
3 R.F. '24
DET. '27
1 A.F. '27
2 A.F. Two '45's
F1
F2
PHONO
.02 μf
1 M
300 000 w
30 000 w
30000 w
.00005
.0001
10000 w
380 w
2000 w
1000 w
300 w
900 w
24-H
1.5 μf
1 μf
.073 μf
2.4 f
RECT. '80
POWER TRANSFORMER
FUSE
115-V
105-V
LINE SWITCH
DIAL LIGHT
RECT. 280
DET. 227
3-RF 224
2-RF 224
1-RF 224
245
245
227

FILTER BLOCK:

Black lead—ground.
Green lead—1 microfarad.
Solder lug next to green lead—.073 microfarads.
Solder lead next to red lead—1 microfarad.
Red lead—1.5 microfarads.

Condenser shown in dotted lines used in 25 cycle pack in place of .073 mfd. condenser.

Position of Tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
1 RF	2.5	3	140	90	
2 RF	2.5	3	140	90	
3 RF	2.5	4	140	90	
DET	2.5	5	50	35	
1 AF	2.5	10	130		
PP	2.45		300		50

RESISTOR VALUES AND COLOR CODING

Resistance	Color Coding
1 megohm	Black with red end
300,000 ohms	Orange with green end
30,000 ohms	White
10,000 ohms	Blue
380 ohms	Blue with black end

FIXED CONDENSER VALUES AND COLOR CODING

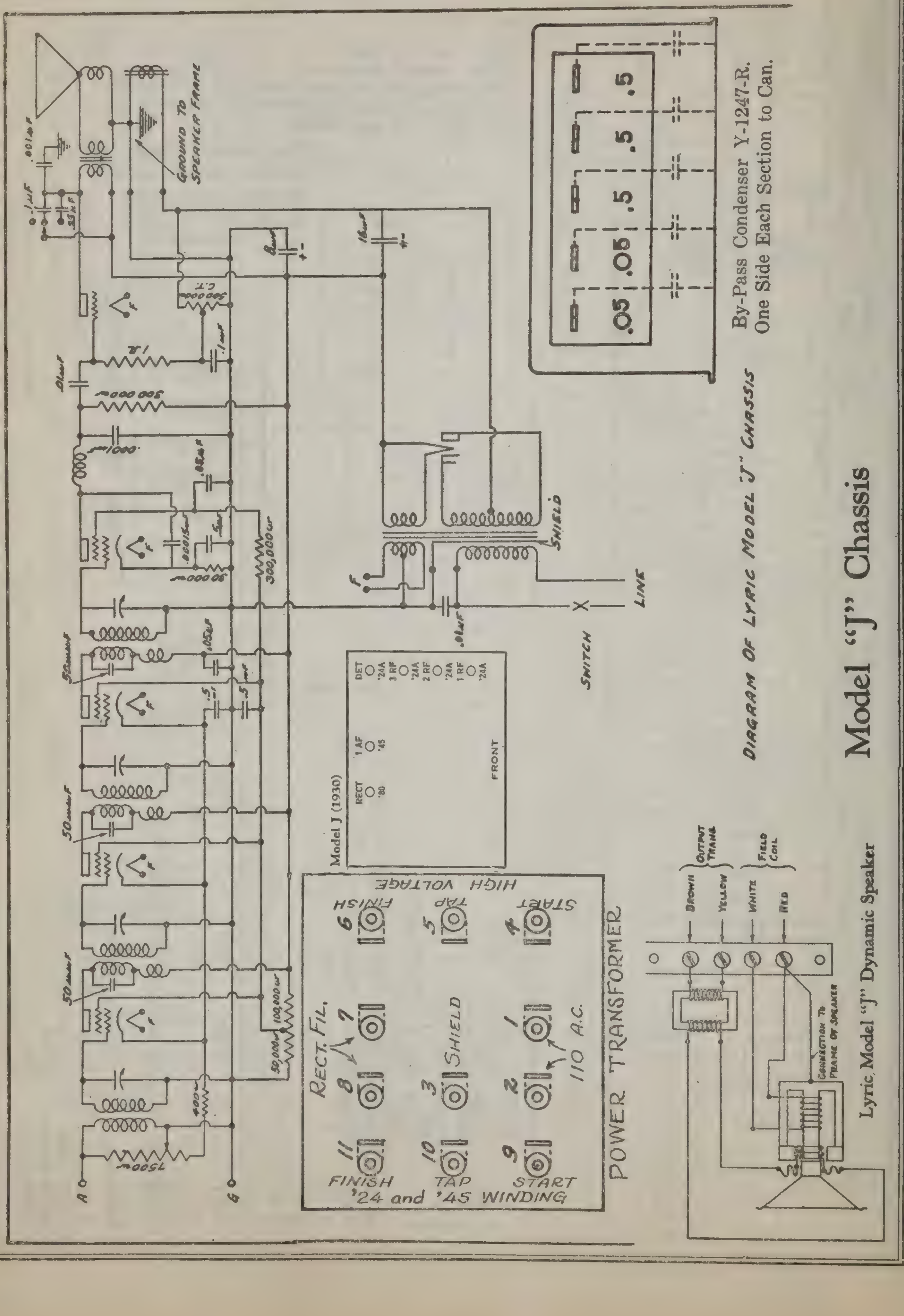
Capacity	Color Coding
35 micro-microfarads	Grey dot
50 micro-microfarads	Blue dot and white dot
100 micro-microfarads	Orchid dot

FIVE SECTION BY-PASS BLOCK, LEAD TYPE:

Red leads .05 microfarads.
Blue lead .5 microfarads.

MODEL "J"
Schematic

ALL-AMERICAN MOHAWK CORP.


GROUND TO SPEAKER FRAME
.001mf
0.1mf
.25mf
8mf
18mf
500000 C.T.
.1mf
.1 R
.01mf
500 000w
1000
.02mf
.00015mf
.5mf
90 000w
300,000w
.05mf
.5mf
.5mf
50mmf
50mmf
50mmf
100,000w
50,000w
400w
1500w
A
B
F
SHIELD
LINE
SWITCH
.01mf
.05
.05
.5
.5
.5
Model J (1930)
RECT '80
1 AF '45
DET '24A
3 RF '24A
2 RF '24A
1 RF '24A
FRONT
HIGH VOLTAGE
6 FINISH
5 TAP
4 START
RECT. FIL.
7
8
SHIELD
3
1
2
110 A.C.
11 FINISH
10 TAP
9 START
'24 and '45 WINDING
POWER TRANSFORMER
BROWN
YELLOW
OUTPUT TRANS
WHITE
RED
FIELD COIL
CONNECTION TO FRAME OF SPEAKER

By-Pass Condenser Y-1247-R.
One Side Each Section to Can.

DIAGRAM OF LYRIC MODEL "J" CHASSIS

Model "J" Chassis

Lyric Model "J" Dynamic Speaker

ALL-AMERICAN MOHAWK CORP.

MODEL "J"
Data

Model "J" Chassis

TECHNICAL DATA

The following table shows normal voltages to be found on the LYRIC A. C. Model "J" receiver:

Type of Tube	Position of Tube	Filament Voltage	Cathode Voltage	Plate Voltage	Screen Voltage	Grid Voltage
'24	1 RF	2.25	2.5	250	70	
'24	2 RF	2.25	2.5	250	70	
'24	3 RF	2.25	2.5	250	70	
'24	DET	2.25	3.0	180*	60*	
'45	AUD	2.25		250		—50*
'80	RECT	4.8		360 A.C.		

*Due to the high resistance of the circuit, these voltages can only be accurately measured with an electrostatic voltmeter.

The voltages tabulated above are standard under the following conditions:—

1. Line voltage 114.
2. Volume control in full on position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with a 1000 ohm per volt voltmeter.
5. Except where a minus sign precedes the value, the negative side of the instrument is to be connected to the chassis pan.
6. Tested tubes are used.

Slight variation in voltages will be experienced due to manufacturing tolerance on both the parts of the set and the tubes.

RESISTOR VALUES AND COLOR CODING

Each resistance unit in this set has a distinguishing color code to designate its resistance and current handling capacity. It is recommended that when ordering resistors for replacement purposes, they be specified by colors, resistance and their position in the circuit. This will prevent any possibility of errors.

Resistance	Limits		Watts	Color Code
400 ohms (Wire Wound)	390-	410	1	None
30,000 ohms	27,000-	33,000	1	White or Orange-black-orange
150,000 ohms	135,000-	165,000	1	Violet-green-orange or Brown-green-yellow
300,000 ohms	270,000-	330,000	1	Orange-green end or Orange-black-yellow
500,000 ohms	450,000-	550,000	1	Red-green-yellow or Green-black-yellow
1,000,000 ohms	750,000-	1,250,000	1	Black-red end or Brown-black-green

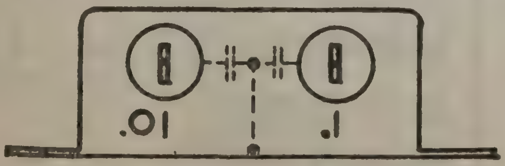
The color coding listed above is in accordance with R. M. A. standards wherever possible. The first color indicates the body, the second the end and the third the band or dot.

FIXED CONDENSER VALUES AND COLOR CODING

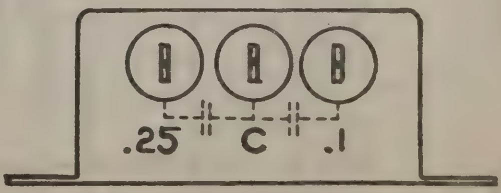
The small condensers in this chassis are color coded and should be ordered the same way as resistors.

Capacitance	Limits	Color Code
.00005 mfd.	.000045-.000055	Grey Dot
.0001	.00009 -.00011	Purple Dot
.00015	.000135-.000165	Yellow Dot
.001	.0009 -.0011	Blue Dot
.01	.009 -.011	None

Diagrams show the connections of the various tone control and by-pass condenser blocks. The electrolytic condensers may be distinguished by the diameters of their cans. The 16 mfd. unit is in a 2½" container while the 8 mfd. unit is in a 1⅜" container.



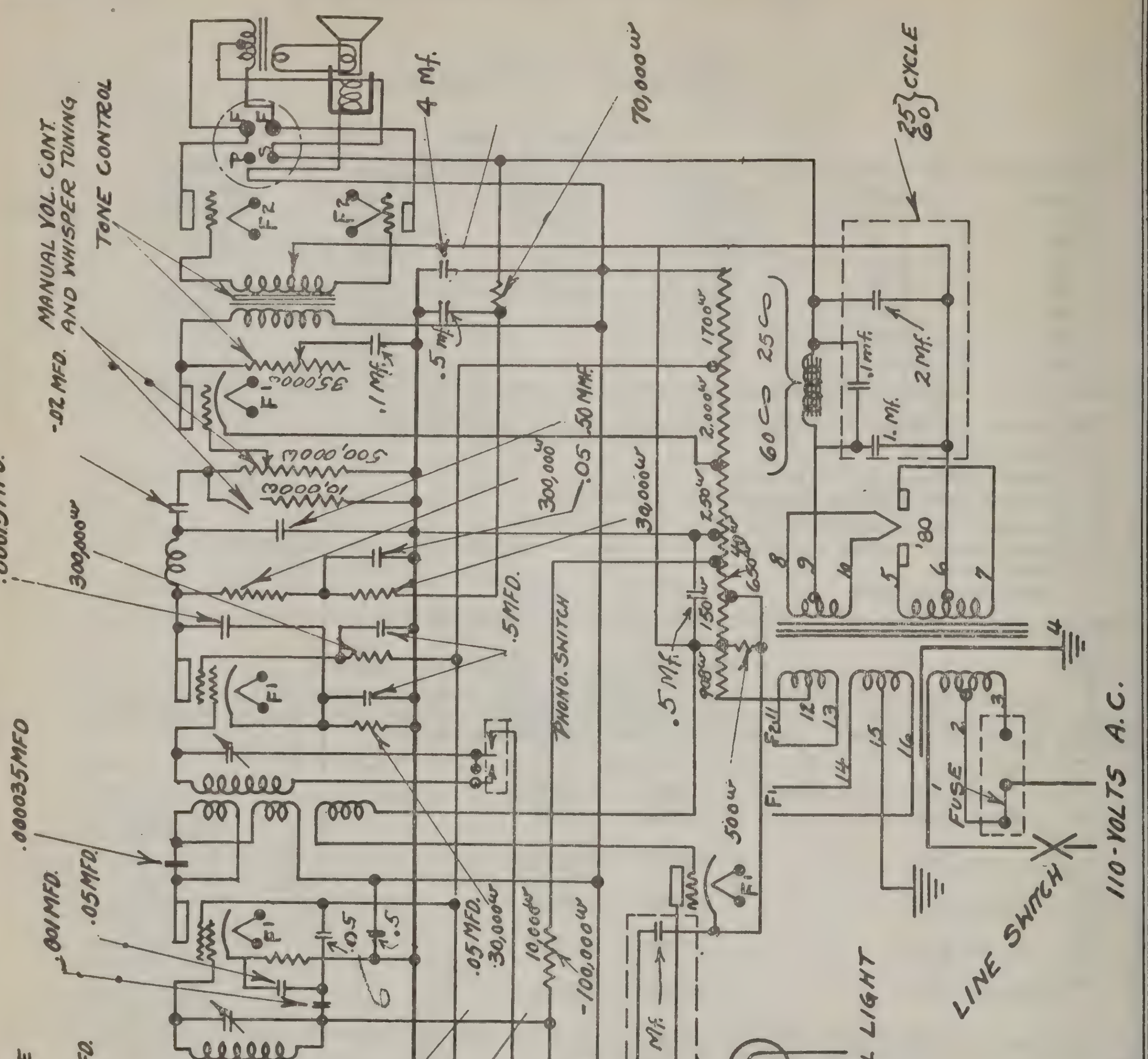
Aux. By-Pass Condenser Y-1276-R.
One Side Each Section to Can.



Tone Control Condenser Y-1279-R.
One Side Each Section to Central Lug.

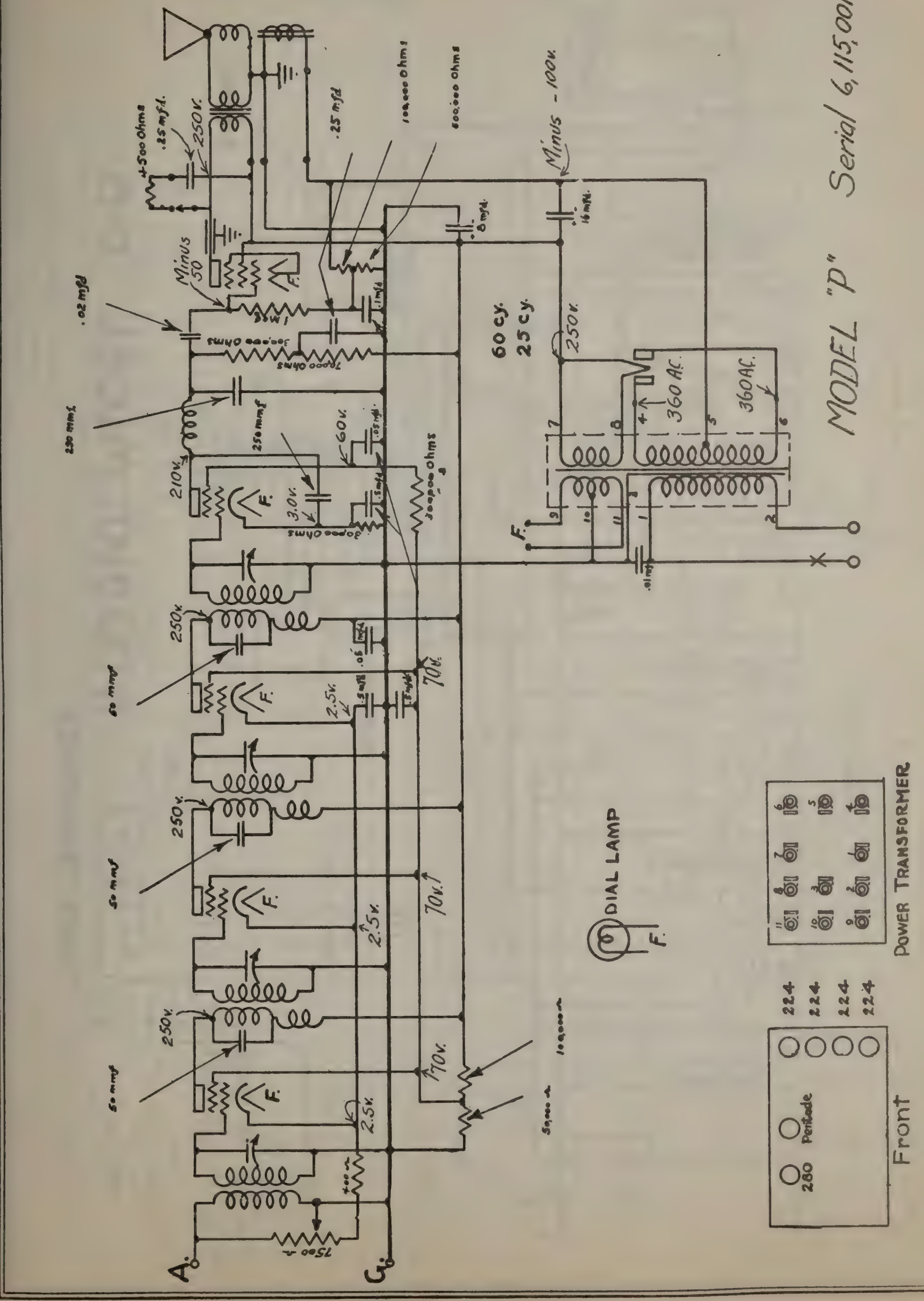
MODEL "K"

ALL-AMERICAN MOHAWK CORP.


MANUAL VOL. CONT. AND WHISPER TUNING
TONE CONTROL
4 Mf.
70,000w
25/60 CYCLE
.02 MFD.
35,000w
.1 Mf.
.5 Mf.
.50 MMf.
,1 Mf.
1. Mf.
2 Mf.
60~ 25~
1700w
2,000w
500,000w
10,000w
.00015 MFD.
300,000w
300,000w
.05
30,000w
250w
.5 MFD.
PHONO. SWITCH
.5 Mf.
150w
650w
500w
'80
FUSE
110-VOLTS A.C.
LINE SWITCH
DIAL LIGHT
.000035 MFD
.05 MFD.
.001 MFD.
.05 MFD. 30,000w
10,000w
-100,000w
LOCAL DISTANCE SWITCH
.000035 MFD.
800w
.5 Mf.
.001 MFD.
100,000w
.000035 MFD.
.05 MFD.
1,000w
.05 MFD.
10,000w
10,000w
.001 MFD.
A
G
POWER TRANSFORMER
Model K (1930)
RECT '80
1AF '27
1 RF '24A
2 RF '24A
3 RF '24A
DET '24A
1 AF
'45
'45
AUT. VOL CONT. '27
PILOT 2.5 V.
FRONT

MODEL "P"

ALL-AMERICAN MOHAWK CORP.

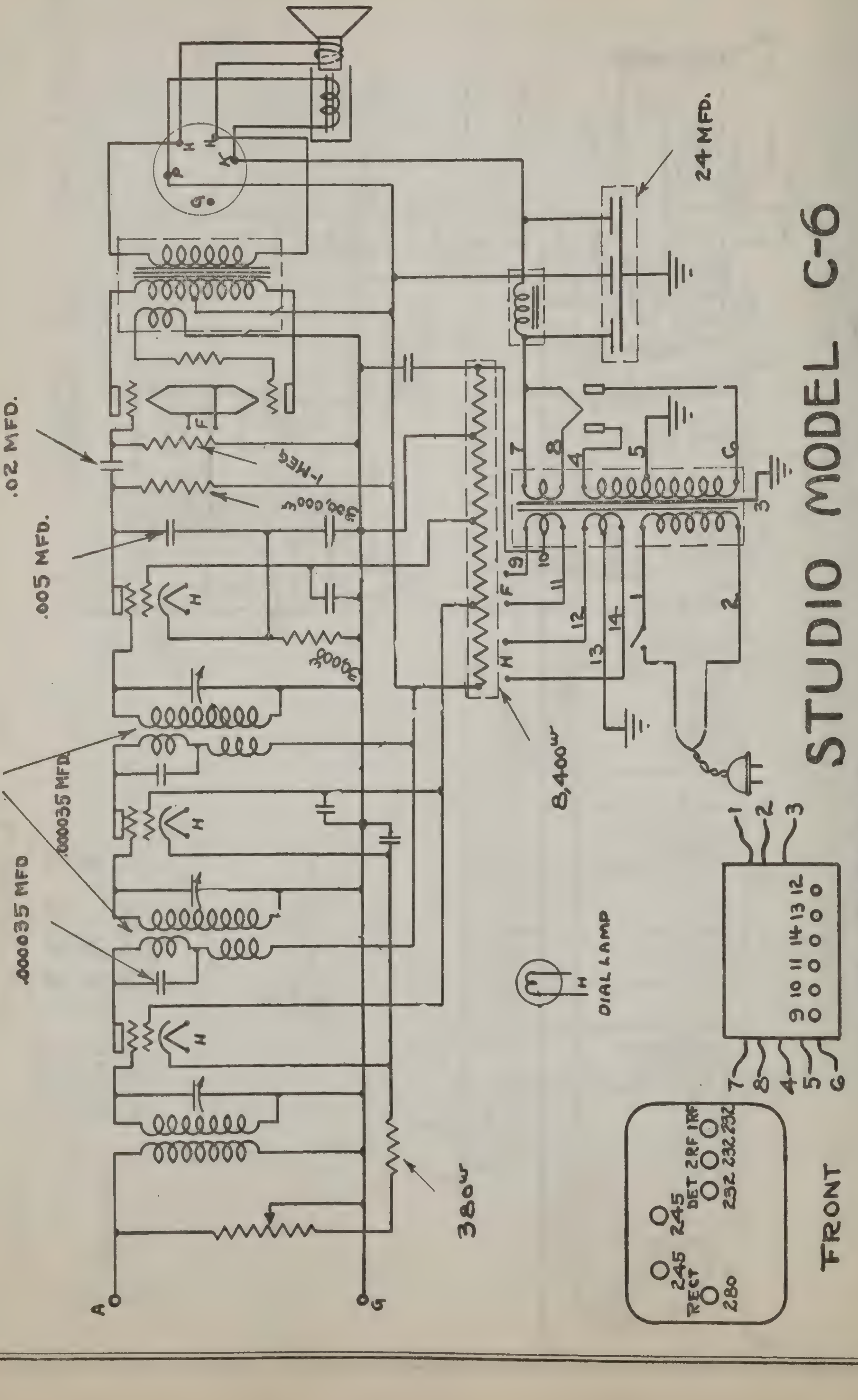

4500 ohms
.25 mfd.
250V.
Minus 50
.25 mfd
100,000 ohms
500,000 ohms
.02 mfd
1 meg.
30,000 ohms
70,000 ohms
.1 mfd
.8 mfd.
Minus -100V.
16 mfd.
250 mmf
250 mmf
60V.
.05 mfd
210V.
3.0V.
30,000 ohms
.5 mfd
30,000 ohms
250V.
50 mmf
.05
.5 mfd
2.5V.
70V.
250V.
50 mmf
2.5V.
70V.
250V.
50 mmf
70V.
2.5V.
400 Ω
7500 Ω
10,000 Ω
50,000 Ω
A
G
F.
60 cy.
25 cy.
250V.
360 AC.
360 AC.
1
2
3
4
5
6
7
8
9
10
11
.01 mfd
DIAL LAMP
F.
POWER TRANSFORMER
11
8
7
6
10
3
5
9
2
1
4
224
224
224
224
Pentode
280
Front

MODEL "P"

Serial 6,115,001-up

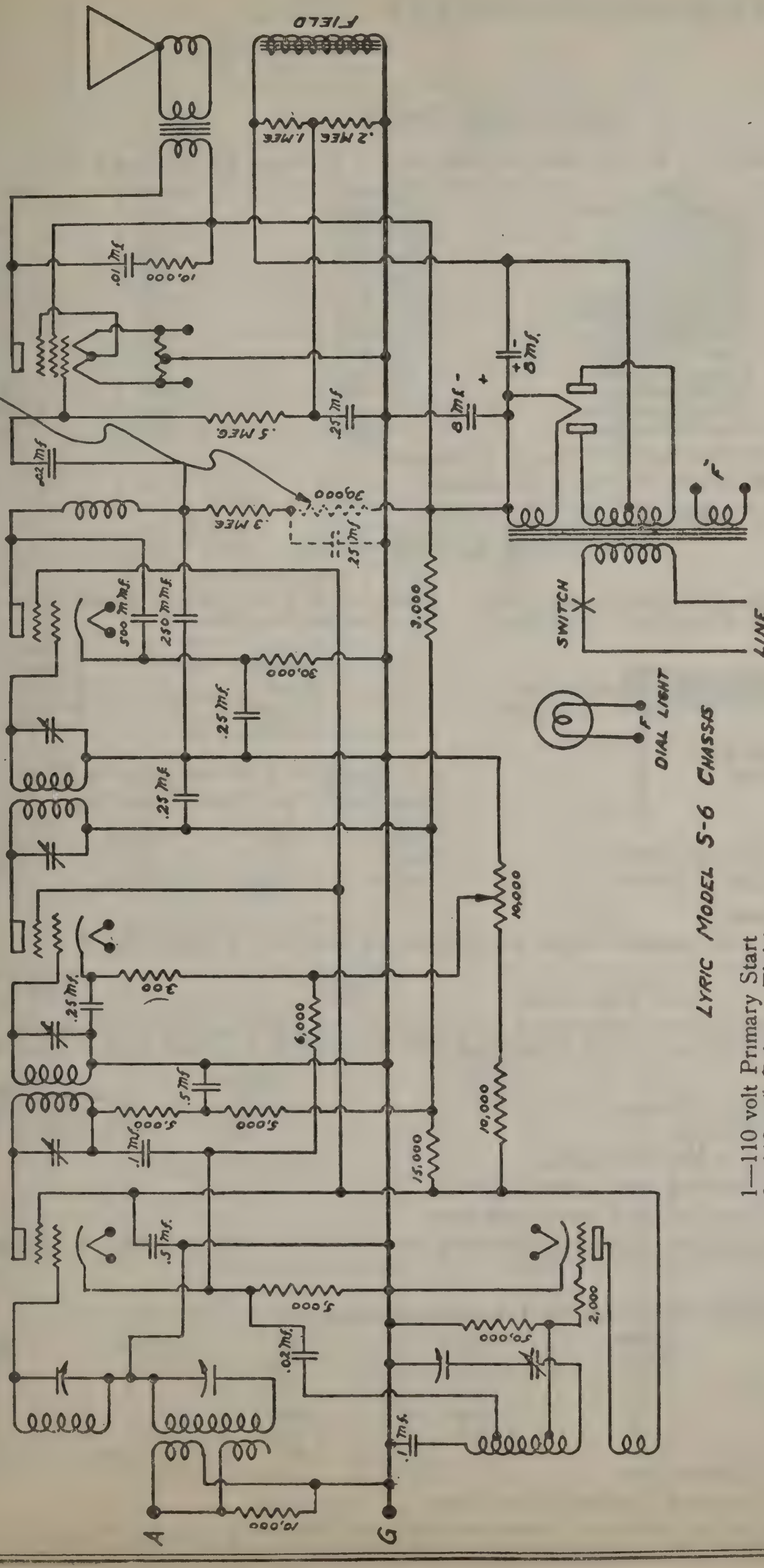
MODEL
Schematic C-6

ALL-AMERICAN MOHAWK CORP.


STUDIO MODEL C-6
24 MFD.
.02 MFD.
.005 MFD.
1-MEG
300,000Ω
3000Ω
.000035 MFD
.000035 MFD
8,400Ω
380Ω
A
G
F
H
P
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
DIAL LAMP
POWER TRANSFORMER
1 2 3
9 10 11 14 13 12
7 8 4 5 G
245 RECT 280
245
DET 232
2RF 232
1RF 232
FRONT

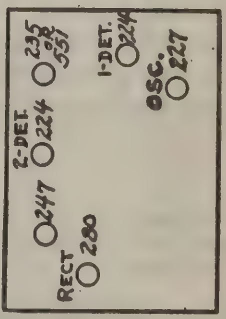
ALL-AMERICAN MOHAWK CORP.

MODEL S-6
Chassis


FIELD
.2 MEG
1 MEG
.01 mf
10,000
.5 MEG
.25 mf
8 mf
8 mf
.22 mf
.3 MEG
30000
.25 mf
500 mmf
250 mmf
30,000
.25 mf
.25 mf
3,000
10,000
300
.25 mf
6,000
.5 mf
5,000
5,000
.1 mf
15,000
10,000
.5 mf
5,000
.02 mf
50,000
2,000
.1 mf
10,000
A
G
SWITCH
LINE
F
F
DIAL LIGHT

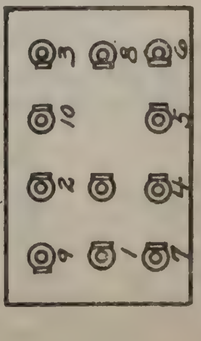
DOTTED LINES REPRESENT CHANGE IN EFFECT AFTER SERIAL NUMBER 1,402,550

LYRIC MODEL S-6 CHASSIS


RECT 280
247
2-DET. 224
235
551
1-DET. 224
OSC. 227

FRONT

1—110 volt Primary Start
2—110 volt Primary Finish
3—Shield
4—High Voltage Secondary Start
5—High Voltage Secondary Tap
6—High Voltage Secondary Finish
7—'80 Filament Winding Start
8—'80 Filament Winding Finish
9—Heater Winding Start
10—Heater Winding Finish
11—No Connection


9
1
7
2
4
10
5
3
8
6

POWER TRANSFORMER

ALL-AMERICAN MOHAWK CORP.

Model S-6

TECHNICAL DATA

Resistors:

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code.

Resistance	*Color*	*Capacity*	*Tolerance*	*Part No.*
300 ohms	Orange-black-brown	1/3 watt	10%	14-1773
2,000 ohms	Red-black-red	1/3 watt	10%	14-1806
3,000 ohms	Orange-black-red	1 watt	10%	14-1498
5,000 ohms	Green-black-red	1/3 watt	10%	14-1600
6,000 ohms	Blue-black-red	1/3 watt	10%	14-1502
10,000 ohms	Brown-black-orange	1/3 watt	10%	14-1599
15,000 ohms	Brown-green-orange	3 watt	10%	14-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	14-1555
50,000 ohms	Green-black-orange	1/3 watt	10%	14-1544
100,000 ohms	Brown-black-yellow	1/3 watt	10%	14-1541
200,000 ohms	Red-black-yellow	1/3 watt	10%	14-1730
300,000 ohms	Orange-black-yellow	1/3 watt	10%	14-1556
500,000 ohms	Green-black-yellow	1/3 watt	10%	14-1531

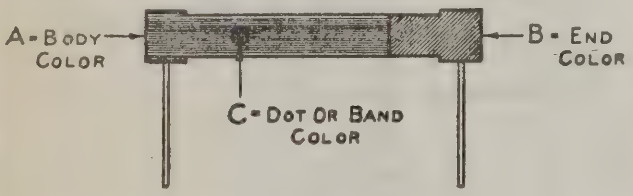
One-third watt resistors are approximately ¾" long x ¼" diameter.

One watt resistors are approximately 1¾" long x ¼" diameter.

Three watt resistors are approximately 1¾" long x ⅜" diameter.

RESISTOR COLOR CODE

All resistors on LYRIC Model "S" receivers have their resistance value indicated by the RMA Color Code which is described below.



A—Body color denotes first significant figure.

B—End color denotes second significant figure.

C—Dot or band color denotes number of zeros following second significant figure.

0—Black
1—Brown
2—Red
3—Orange
4—Yellow
5—Green
6—Blue
7—Violet
8—Grey
9—White

A few samples of this code are given below.

Body Color	*End Color*	*Dot Color*	*Resistance*
Orange	Black	Yellow	300,000 ohms
Brown	Green	Orange	15,000 ohms
Violet	Green	Red	7,500 ohms
Orange	Black	Brown	300 ohms

Condensers:

Fixed mica condensers used in these receivers are color coded to indicate capacity.

Capacity	*Color*	*Tolerance*	*Part Number*
.0005 Mfd.	Green, Black, Brown	10%	14-1186

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity In addition each unit carries a distinguishing color dot indicating the voltage rating as listed below:

Voltage	*Color*
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

Normal Working Voltages:

1. Line voltage 115 volts.
2. Volume control in full "ON" position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with 1000 ohm per volt meter.
5. Except where a minus sign preceeds the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CONNECTED TO THE CHASSIS PAN.
6. Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:—

Position of tube	*Type of tube*	*Filament Voltage*	*Cathode Voltage*	*Plate Voltage*	*Screen Voltage*	*Grid Voltage*
1st Det.	-24	2.5	4.2	185	70	0
Oscillator	-27	2.5	0	70		0
I.F. Amp.	-51 or -35	2.5	1.8	195	70	0
2nd Det.	-24	2.5	4.5	195**	70	0
Output	-47	2.5		225	245 (note)	-17**

Speaker Field Current—49 M.A.

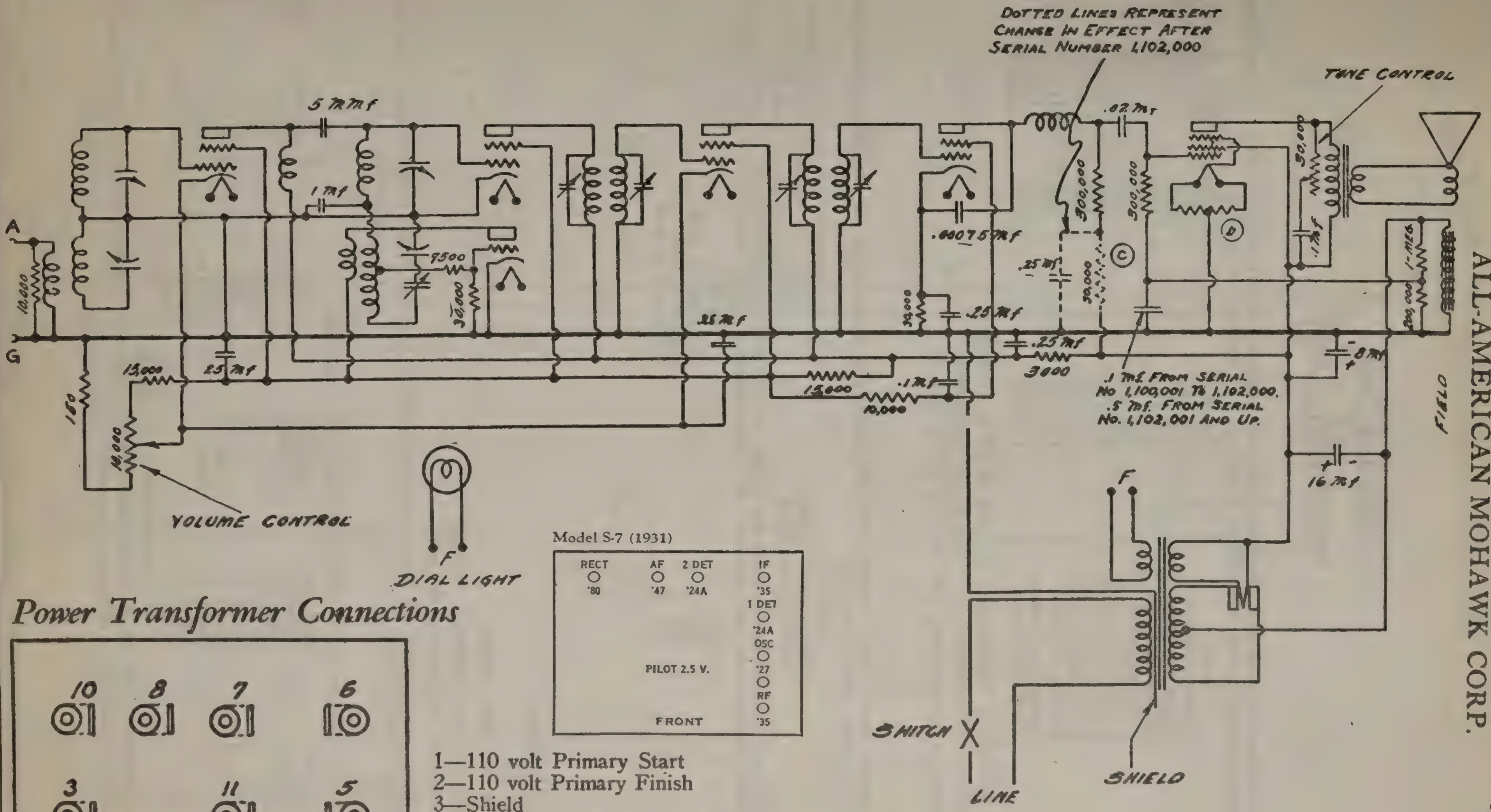
Note—Screen of pentode is connected to cathode pin on socket.

** Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter.

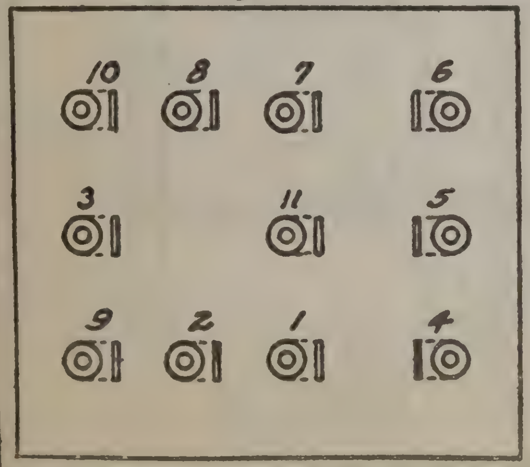
MODEL S-7

ALL-AMERICAN MOHAWK CORP.

PEAK FREQUENCY = 175 KC.


DOTTED LINES REPRESENT CHANGE IN EFFECT AFTER SERIAL NUMBER 1,102,000
TONE CONTROL
5 mmf
1 mf
9500
30,000
A
G
10,000
15,000
25 mf
150
10,000
VOLUME CONTROL
25 mf
.00075 mf
30,000
.25 mf
.25 mf
.1 mf
15,000
10,000
3000
300,000
300,000
30,000
.02 mf
C
D
30,000
.1 mf
1-meg
200,000
8 mf
FIELD
16 mf
.1 mf. FROM SERIAL No 1,100,001 TO 1,102,000. .5 mf. FROM SERIAL No. 1,102,001 AND UP.
F
DIAL LIGHT
F
SWITCH
LINE
SHIELD
Model S-7 (1931)
RECT '80
AF '47
2 DET '24A
IF '35
1 DET '24A
OSC '27
RF '35
PILOT 2.5 V.
FRONT

Power Transformer Connections


10
8
7
6
3
11
5
9
2
1
4

1—110 volt Primary Start
2—110 volt Primary Finish
3—Shield
4—High Voltage Secondary Start
5—High Voltage Secondary Tap
6—High Voltage Secondary Finish
7—'80 Filament Winding Start
8—'80 Filament Winding Finish
9—Heater and '47 Filament Winding Start
10—Heater and '47 Filament Winding Finish
11—No Connection

Model S-7 Receiver

ALL-AMERICAN MOHAWK CORP.

Model S-7

TECHNICAL DATA

Resistors:

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code. In the following table th nominal resistance, power capacity, test limits, color marks and part numbers are listed.

Resistance	*Color*	*Capacity*	*Tolerance*	*Part No.*
150 ohms	Brown-green-brown	1/3 watt	10%	11-1760 or 11-1603
3,000 ohms	Orange-black-red	2 watt	10%	11-1759
4,500 ohms	Yellow-green-red	1/3 watt	10%	11-1542
7,500 ohms	Violet-green-red	1/3 watt	10%	11-1642
10,000 ohms	Brown-black-orange	1/3 watt	10%	11-1599
15,000 ohms	Brown-green-orange	1/3 watt	10%	11-1601
15,000 ohms	Brown-green-orange	2 watt	10%	11-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	11-1555
200,000 ohms	Red-black-yellow	1/3 watt	10%	11-1730
300,000 ohms	Orange-black-yellow	1/3 watt	10%	11-1556
500,000 ohms	Green-black-yellow	1/3 watt	10%	11-1531

One third watt resistors are approximately ¾" long by ¼" in diameter.

One watt resistors are approximately 1¾" long by ¼" in diameter.

Two watt resistors are approximately 1¾" long by ⅜" in diameter.

Condensers:

Fixed mica condensers used in these receivers are color coded to indicate capacity. In the following table nominal capacit test limits, color code and part number are listed.

Capacity	*Color*	*Tolerance*	*Part Number*
.00075 Mfd.	Violet, Green, Brown	10%	11-1801
5 m. mfd.	Black, Green, Black	10%	11-1595

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity. In additic each unit carries a distinguishing color dot indicating the voltage rating as listed below.

Voltage	*Color*
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

Normal Working Voltages:

1. Line voltage 115 volts.
2. Volume control in full "ON" position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with 1000 ohm per volt meter.
5. Except where a minus sign preceeds the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CON-NECTED TO THE CHASSIS PAN.
6. Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:

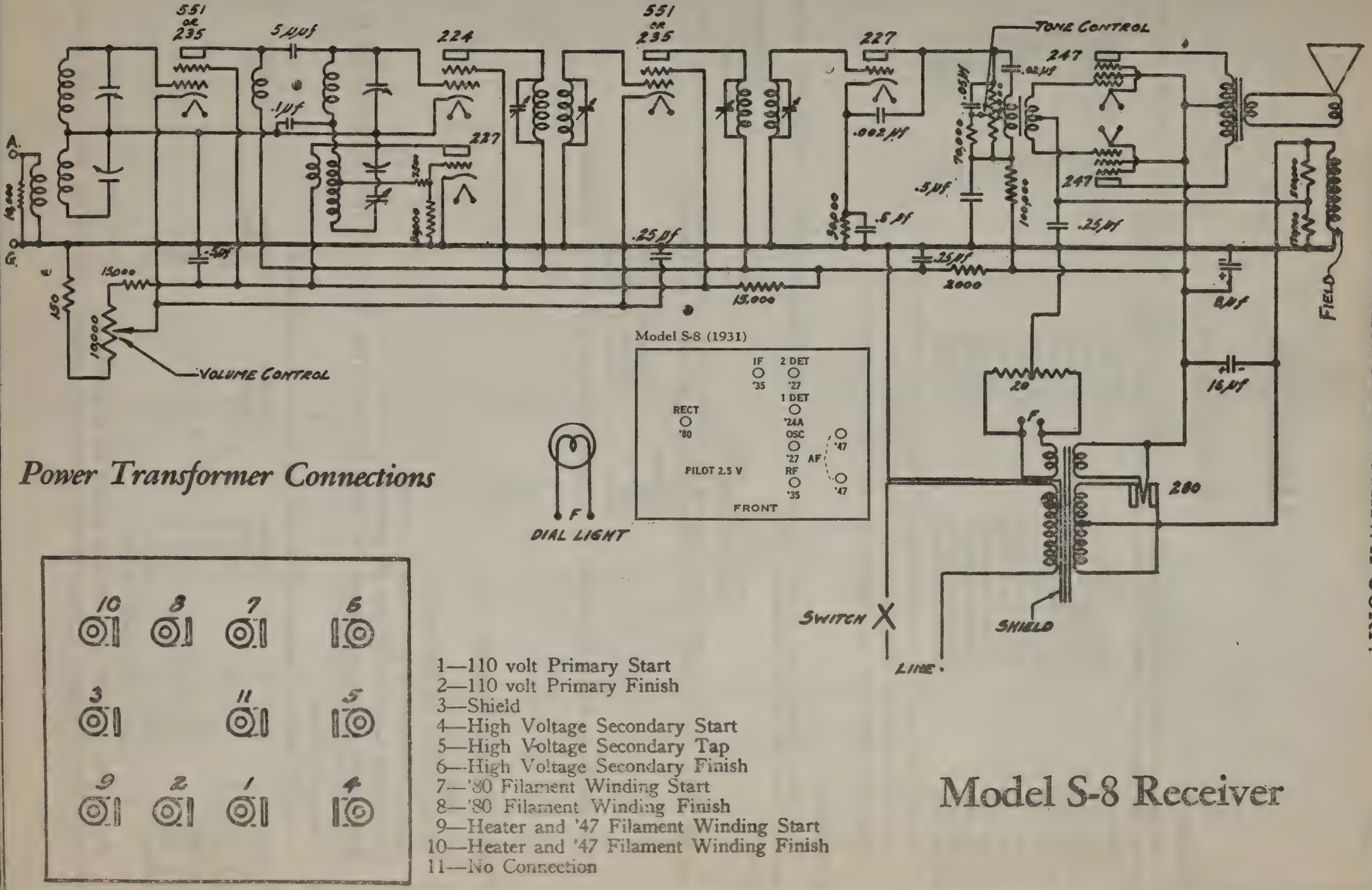
Position of tube	*Type of tube*	*Filament Voltage*	*Cathode Voltage*	*Plate Voltage*	*Screen Voltage*	*Grid Voltage*
R.F. Amp.	-51 or 35	2.50 A. C.	2.00	195.0	70.0	0
1st Det.	-24	2.50 A. C.		195.0	70.0	0
Oscillator	-27	2.50 A. C.	0	70.0		0
I.F. Amp.	-51 or 35	2.50 A. C.	2.00	195.0	70.0	0
2nd. Det.	-24	2.50 A. C.	4.50	168.0 **	70.0	0.
Output	-47	2.50 A. C.		230.0	250.0 (note)	-17.0**
Rectifier	-80	5.00 A. C.		350.0 A. C.		

Speaker field current—57 M. A.

** Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter
Note—Screen of pentode is connected to cathode pin on socket.

ALL-AMERICAN MOHAWK CORP.

PEAK FREQUENCY = 175 KC.


551 or 235
5 μμf
224
.1 μf
227
551 or 235
227
.002 μf
TONE CONTROL
.02 μf
.05 μf
70,000
100,000
.5 μf
247
247
.25 μf
.5 μf
30,000
.25 μf
2000
15,000
.25 μf
A.
G.
15,000
.5 μf
150
15000
10000
VOLUME CONTROL
FIELD
8 μf
16 μf
20
F
280
SHIELD
SWITCH
LINE
F
DIAL LIGHT
10
8
7
6
3
11
5
9
2
1
4

Model S-8 (1931)

IF
'35
2 DET
'27
1 DET
'24A
OSC
'27
RF
'35
RECT
'80
PILOT 2.5 V
AF
'47
'47
FRONT

Power Transformer Connections

1—110 volt Primary Start
2—110 volt Primary Finish
3—Shield
4—High Voltage Secondary Start
5—High Voltage Secondary Tap
6—High Voltage Secondary Finish
7—'80 Filament Winding Start
8—'80 Filament Winding Finish
9—Heater and '47 Filament Winding Start
10—Heater and '47 Filament Winding Finish
11—No Connection

Model S-8 Receiver

ALL-AMERICAN MOHAWK CORP

Model S-8

TECHNICAL DATA

Resistors:

All carbon resistors used in these chassis are color coded in accordance with the R.M.A. code. In the following table the nominal resistance, power capacity, test limits, color marks and part numbers are listed.

Resistance	*Color*	*Capacity*	*Tolerance*	*Part No.*
150 ohms	Brown-green-brown	1/3 watt	10%	12-1603 or 12-1760
2,000 ohms	Red-black-red	3 watt	10%	12-1777
7,500 ohms	Violet-black-red	1/3 watt	10%	12-1642
10,000 ohms	Brown-black-orange	1/3 watt	10%	12-1599
15,000 ohms	Brown-green-orange	1/3 watt	10%	12-1601
15,000 ohms	Brown-green-orange	3 watt	10%	12-1745
30,000 ohms	Orange-black-orange	1/3 watt	10%	12-1555
70,000 ohms	Violet-black-orange	1/3 watt	10%	12-1558
100,000 ohms	Brown-black-yellow	1/3 watt	10%	12-1614
170,000 ohms	Brown-violet-yellow	1/3 watt	10%	12-1734
500,000 ohms	Green-black-yellow	1/3 watt	10%	12-1531

One-third watt resistors are approximately ¾" long by ¼" in diameter.

One watt resistors are approximately 1¾" long by ¼" diameter.

Three watt resistors are approximately 1¾" long by ⅜" in diameter.

Condensers:

Fixed mica condensers used in these receivers are color coded to indicate capacity. In the following table nominal capacity, test limits, color code and part numbers are listed.

Capacity	*Color*	*Tolerance*	*Part Number*
5 m. mfd.	Black, Green, Black	10%	12-1595
.002	Red, Black, Red	10%	12-1625

Paper bypass condensers used in these receivers are of the cub type and are plainly marked to show capacity. In addition each unit carries a distinguishing color dot indicating the voltage rating as listed below.

Voltage	*Color*
200	Green dot or label
400	Red dot or label
600	Yellow dot or label

Part numbers for these units are given on the schematic diagram at the end of the manual.

Normal Working Voltages:

1. Line voltage 115 volts.
2. Volume control in full "On" position.
3. Antenna disconnected so that no signal is received.
4. Measurements made with 1000 ohm per volt meter.
5. Except where a minus sign preceeds the reading the NEGATIVE SIDE OF THE INSTRUMENT IS TO BE CONNECTED TO THE CHASSIS PAN.
6. Tested tubes are used.

In a normal receiver all voltages will be within 5% of the values listed below:—

Position of tube	*Type of tube*	*Filament Voltage*	*Cathode Voltage*	*Plate Voltage*	*Screen Voltage*	*Grid Voltage*
R.F. Amp.,	-51 or -35	2.5 A. C.	2.1	200	70	0
1st Det.	-24	2.5 A. C.		205	70	0
Oscillator	-27	2.5 A. C.	0	70		0
I.F. Amp.	-51 or -35	2.5 A. C.	2.1	200	70	0
2nd Det.	-24	2.5 A. C.	10	125		0
Output	-47	2.5 A. C.		235	250 (note)	-17.0**

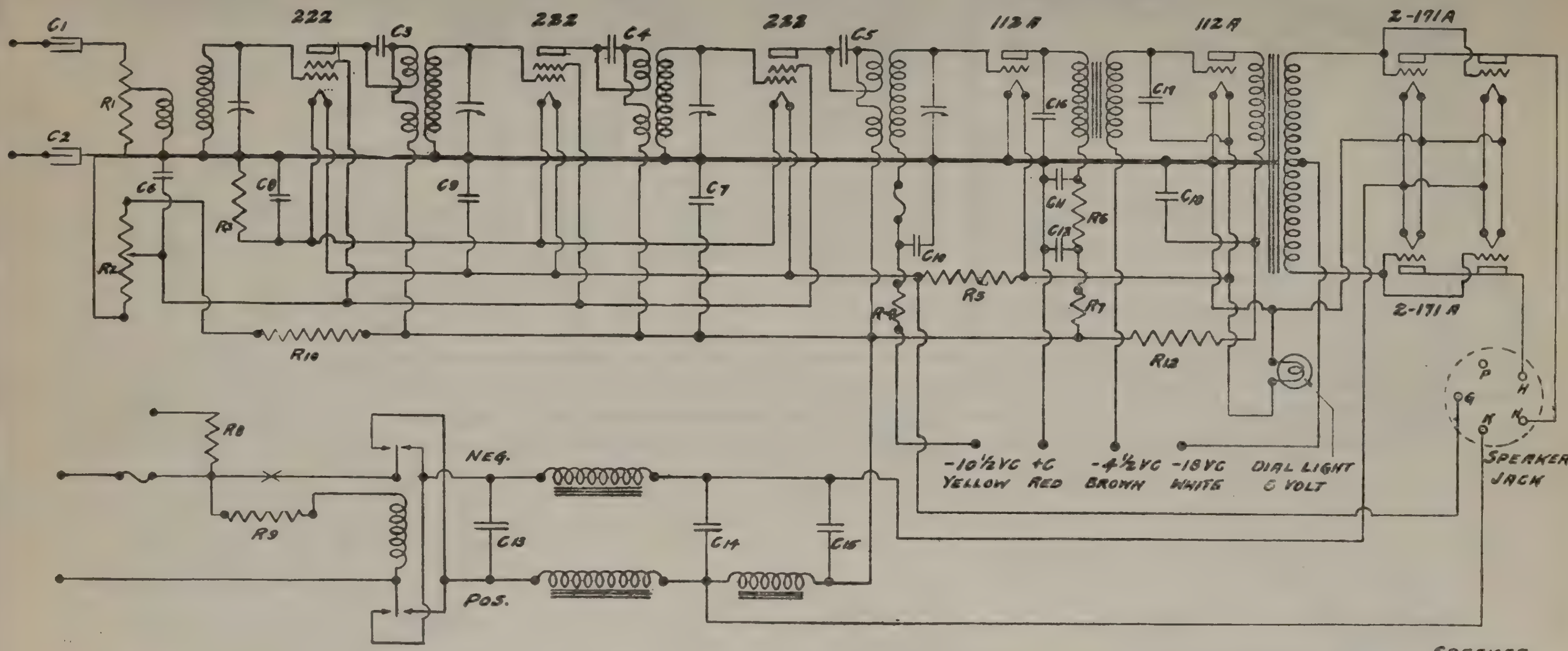
Speaker field current—91 M.A.

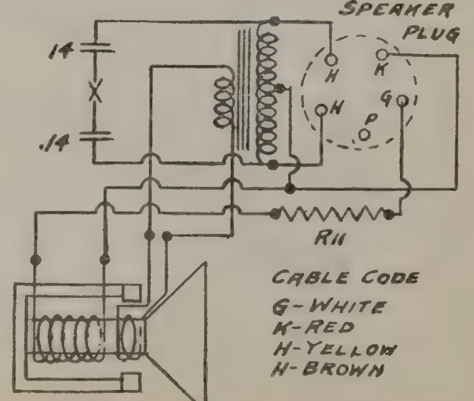
Note—Screen of pentode is connected to cathode pin on socket.

**Owing to the high resistance of the circuit these voltages can be measured accurately only with an electrostatic voltmeter.

ALL-AMERICAN MOHAWK CORP

MODEL - DC


C1
C2
R1
C6
R2
222
C3
R4
C8
R10
232
C4
C9
232
C5
C7
113A
C16
C11
C13
R6
C10
R5
R8
R7
112A
C17
C18
R12
2-171A
2-171A
P
H
G
K
H
SPEAKER JACK
-10½VC YELLOW
+C RED
-4½VC BROWN
-18VC WHITE
DIAL LIGHT 6 VOLT
R8
R9
NEG.
POS.
C13
C14
C15

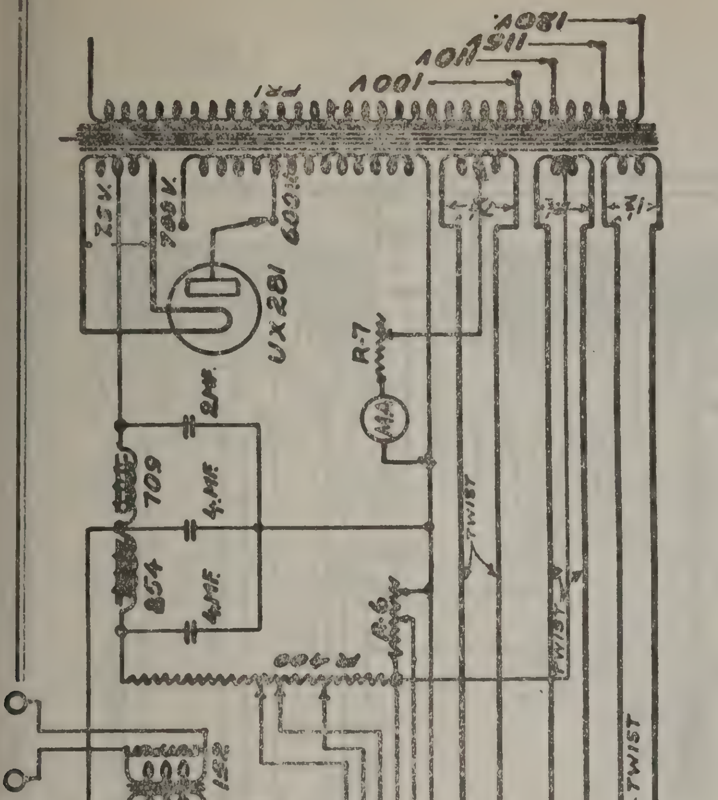

SPEAKER PLUG
H
K
H
G
P
.14
.14
R11
CABLE CODE
G-WHITE
K-RED
H-YELLOW
H-BROWN

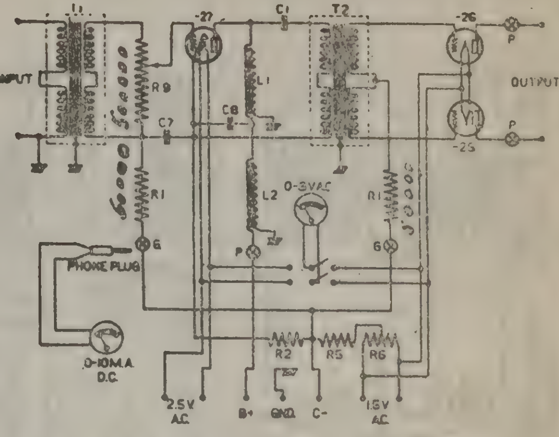
C1	.02 μf	
C2	.05 μf	
C3	35 μμf	
C4	35 μμf	
C5	35 μμf	
C6	.5 μf	
C7	.5 μf	
C8	.5 μf	
C9.	.05 μf	
C10	.1 μf (2.05's IN PARALLEL)	
C11	1.0 μf (2.5's IN PARALLEL)	
C12	.5 μf	
C13	1.0 μf	
C14	8 μf (ELECTROLYTIC)	
C15	8 μf (ELECTROLYTIC)	
C16	.001 μf.	
C17	.00025 μf	
ⓑ C18	.5 μf .	

R1	10000 ω	VOLUME CONTROL
R2	7500 ω	VOLUME CONTROL
R3	8.6 ω	WIRE WOUND
R4	10000 ω	CARBON
R5	2.25 ω	WIRE WOUND
R6	4500 ω	CARBON
R7	4500 ω	CARBON
R8	10 ω	VITREOUS ENAMELLED (IN CHASSIS)
R9	700 ω	CARBON
R10	4500 ω	CARBON
R11	85 ω	VITREOUS ENAMELLED (ON SPEAKER)
ⓑ R12	2400 ω	CARBON

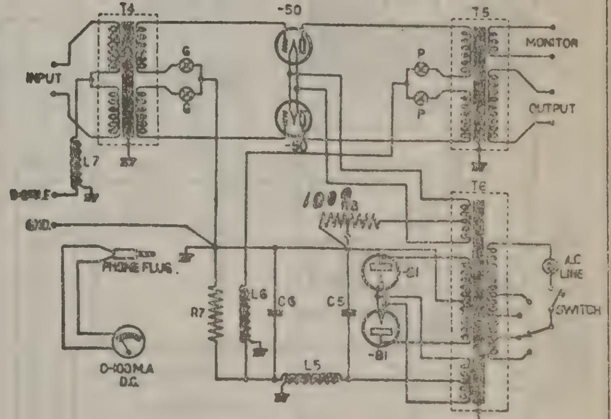
SCHEMATIC DIAGRAM - DC CHASSIS 11-4-30

AMERICAN TRANSFORMER CO. MODEL 25-A Amp'ier

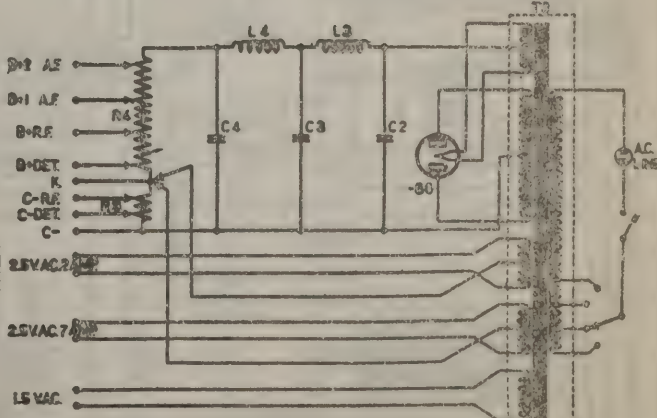

180V.
150V.
110V.
100V.
PRI.
7.5V.
750V.
600V.
UX281
R-7
M.A.
2MF
709
4MF
854
4MF
R-6
R-400
TWIST
TWIST
TWIST
TWIST
152
UX210
UX210
R2
R2
151
UY227
1MF
R2
1MF
R1
DET. PL.
DET. FIL.
B+ RF
A-
B-
CATHODE
C- RF
2½ V.
1½ V.

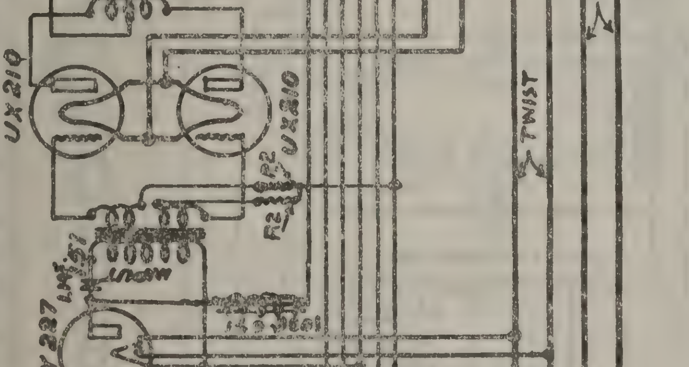

T1
-27
C1
T2
-26
P
INPUT
R9
500000
C7
C8
L1
OUTPUT
-26
50000
R1
L2
0-3VAC
R1
3000
G
G
P
PHONE PLUG
0-100 M.A. D.C.
R2
R5
R6
2.5V. A.C.
B+
GND.
C-
1.5V. A.C.

25-A Power Amplifier
(A Unit)


T4
-50
T5
MONITOR
INPUT
G
G
P
P
OUTPUT
-50
L7
B+R.F.
GND.
1000
R8
T6
PHONE PLUG
A.C. LINE
R7
L6
C6
C5
-81
SWITCH
-81
0-100 M.A. D.C.
L5

25-A Power Amplifier
(PA Unit)

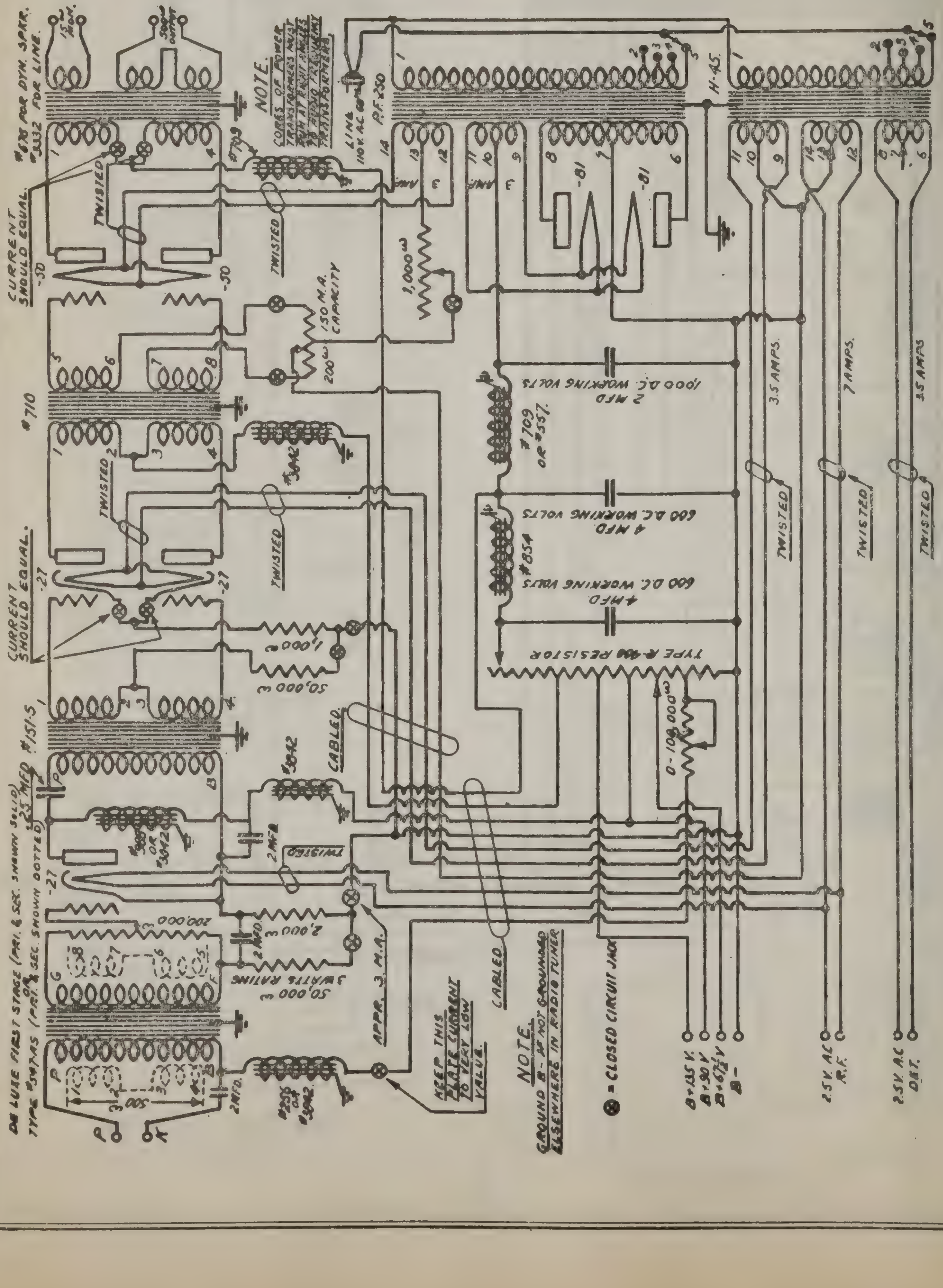

L4
L3
T3
B+2 A.F.
B+1 A.F.
B+R.F.
R4
B+DET.
K
C-R.F.
C-DET.
C-
R3
C4
C3
C2
-80
A.C. LINE
2.5V.A.C.2
2.5V.A.C.7
1.5V.A.C.
GND.


110 VOLTS 60 CYCLES
PRIMARY
RECT.
UX-216B
AMER. CHOKE TYPE 854
B+ MAX.
1 MF
4 MF
2MF. to 8MF
M.A.
AMERTRAN RESISTOR TYPE 400
2ND AUDIO
1ST AUDIO
B+ RF.
DET.
-A
SPEAKER RETURN
FIL. UX-210
FIL. UX-210
-C RF
-C 1ST & 2ND AUD.
GROUND TRANSFORMER CASE
AMERTRAN

25-A Power Amplifier
(P Unit)

MODEL 250 Amertran
Power Amplifier

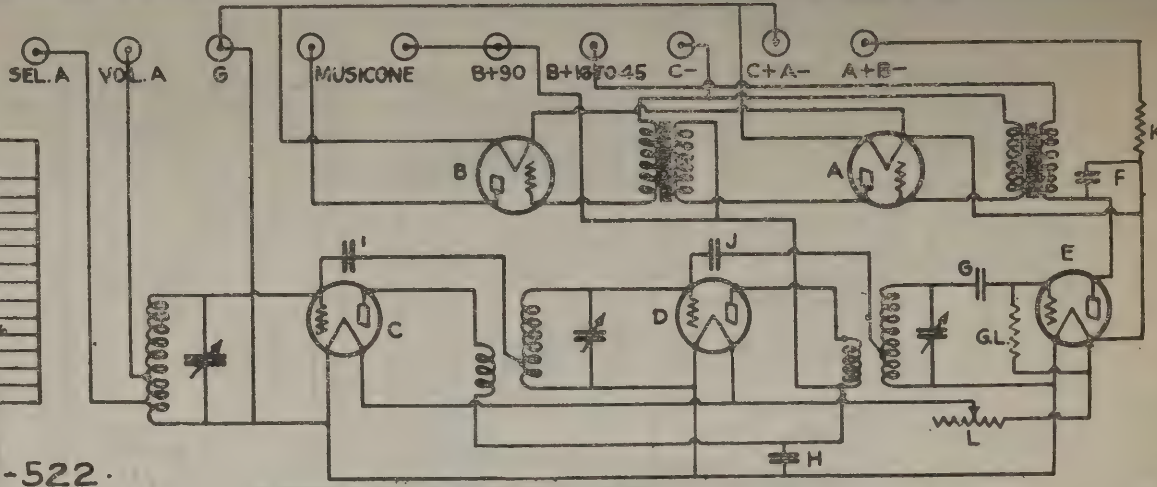
AMERICAN TRANSFORMER CO.


#678 FOR DYN. SPKR.
#3332 FOR LINE.
15 OHM
500 OHM OUTPUT
NOTE.
CORES OF POWER TRANSFORMERS MUST BE IT EARTH GROUNDED TO AUDIO FREQUENCY TRANSFORMERS.
LINE 110 V. A.C. 60~
P.F. 250
H-45.
CURRENT SHOULD EQUAL.
TWISTED
-50
-50
#709
1,000 ω
150 M.A. CAPACITY
200 ω
-81
-81
#710
#3042
2 MFD 1000 D.C. WORKING VOLTS
#709 OR #557
4 MFD. 600 D.C. WORKING VOLTS
#854
4 MFD. 600 D.C. WORKING VOLTS
3.5 AMPS.
7 AMPS.
3.5 AMPS
TWISTED
CURRENT SHOULD EQUAL.
-27
-27
1,000 ω
50,000 ω
#151-5
CABLED
TYPE R-400 RESISTOR
0-100,000 ω
DE LUXE FIRST STAGE (PRI. & SEC. SHOWN SOLID)
TYPE #341AS (PRI. OR SEC. SHOWN DOTTED)
.25 MFD
#3042
2 MFD
-27
200,000
2,000 ω
2 MFD
50,000 ω 3 WATTS RATING
APPR. 3 M.A.
KEEP THIS PLATE CURRENT TO VERY LOW VALUE.
CABLED
.005
2 MFD.
#256 OR #3042
NOTE.
GROUND B- IF NOT GROUNDED ELSEWHERE IN RADIO TUNER
⊗ = CLOSED CIRCUIT JACK
B+135 V.
B+90 V.
B+67½ V.
B-
2.5 V. A.C. R.F.
2.5 V. A.C. DET.

250 POWER AMPLIFIER

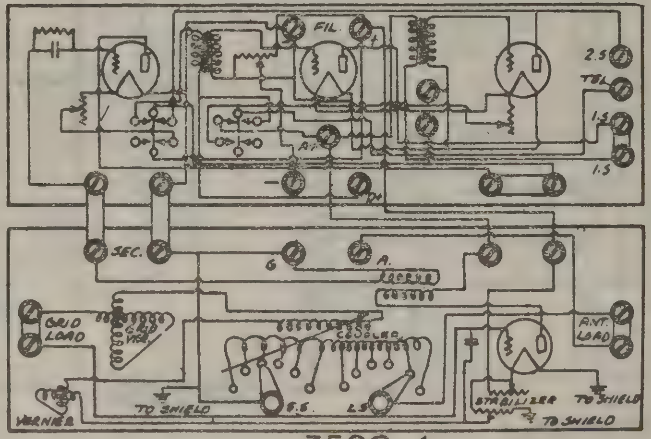
AMRAD CORPORATION

MODEL S-522
MODEL 3500-1
MODEL 3500-2


SEL. A
VOL. A
G
MUSICONE
B+90
B+135 45
C-
C+A-
A+B-
A
B
C
D
E
F
G
GL.
H
I
J
K
L

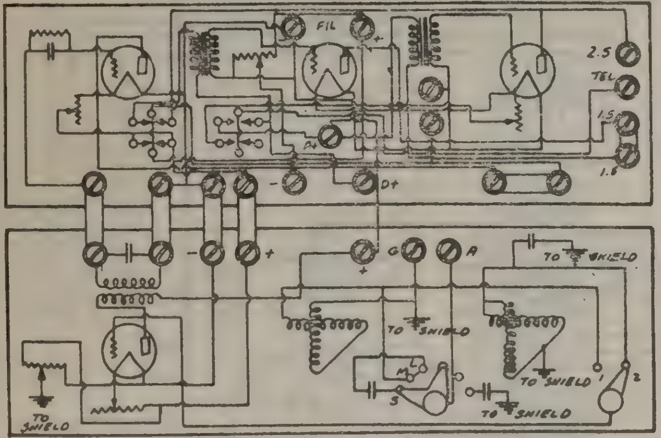
S-522

KEY	
A	1st. Audio Stage
B	2nd. " "
C	1st. Radio "
D	2nd. " "
E	Detector
F	.001 Mfd.
G	.00025 Mfd.
H	1 Mfd.
I, J	Neut. Condensers
K	.75 Ohms
L	6 Ohms


FIL
2.5
TEL
1.5
1.5
A.F.
D+
SEC.
G
A.
GRID LOAD
GRID VAR.
COUPLER
ANT. LOAD
VERNIER
TO SHIELD
S.S.
L.S.
STABILIZER
TO SHIELD
TO SHIELD

3500-1

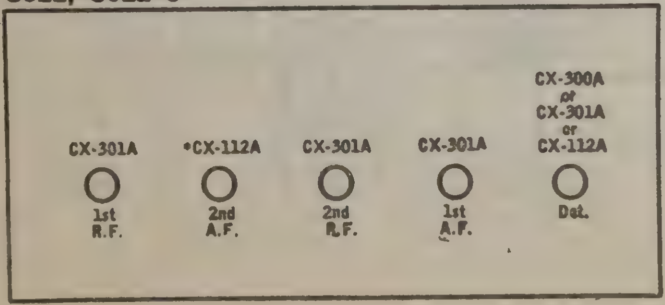
INTERNAL WIRING OF DETECTOR 2 STAGE AMPLIFIER 2634 & BROADCAST TUNER 3475 AS VIEWED FROM FRONT OF INSTRUMENT


FIL
2.5
TEL
1.5
1.5
D+
G
A
TO SHIELD
TO SHIELD
TO SHIELD
TO SHIELD
TO SHIELD
TO SHIELD

3500-2

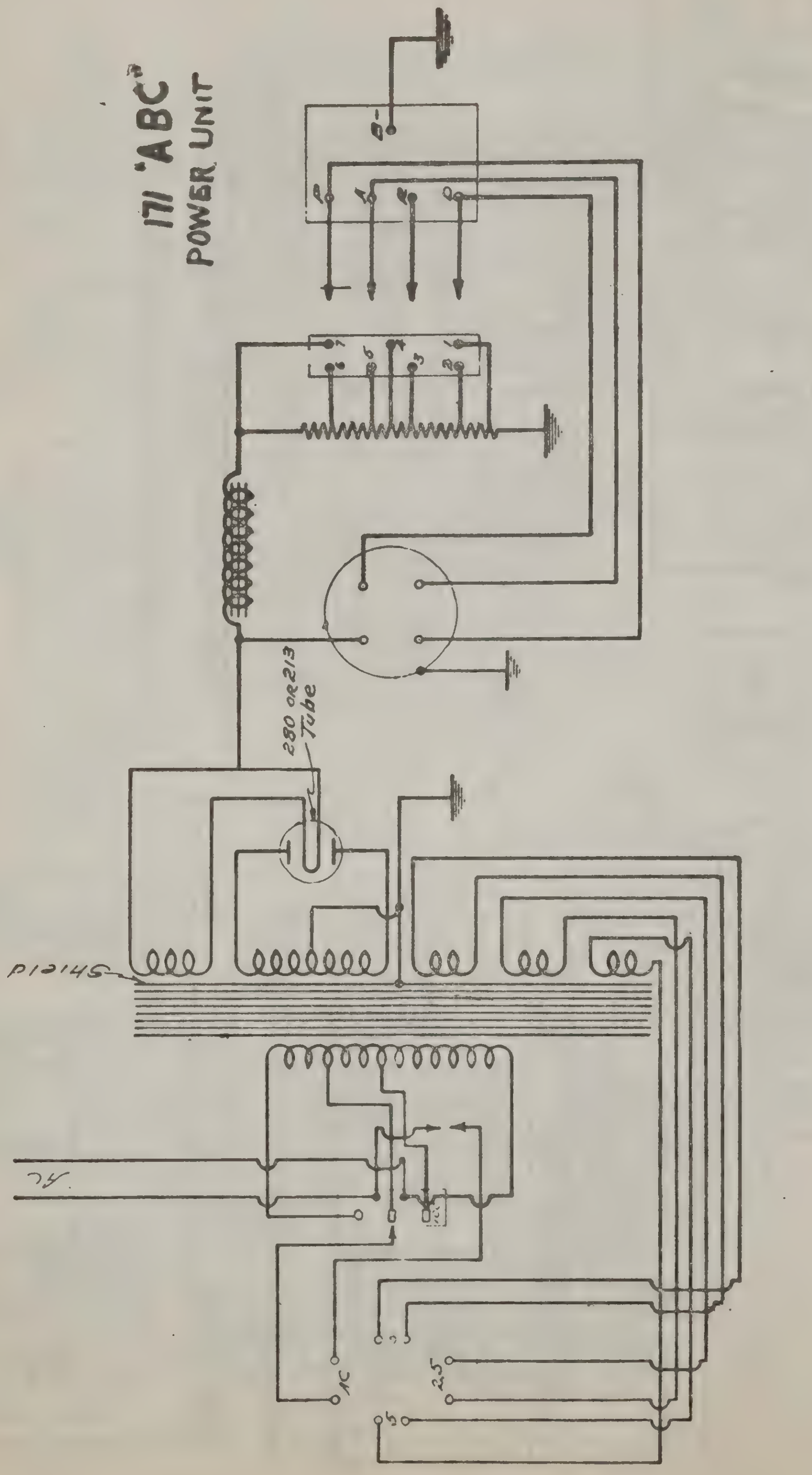
INTERNAL WIRING OF DETECTOR 2 STAGE AMPLIFIER 2634 AND BROADCAST TUNER 3730 AS VIEWED FROM FRONT OF INSTRUMENTS

S522, S522-C (Batt.)


CX-301A
1st R.F.
•CX-112A
2nd A.F.
CX-301A
2nd R.F.
CX-301A
1st A.F.
CX-300A or CX-301A or CX-112A
Det.

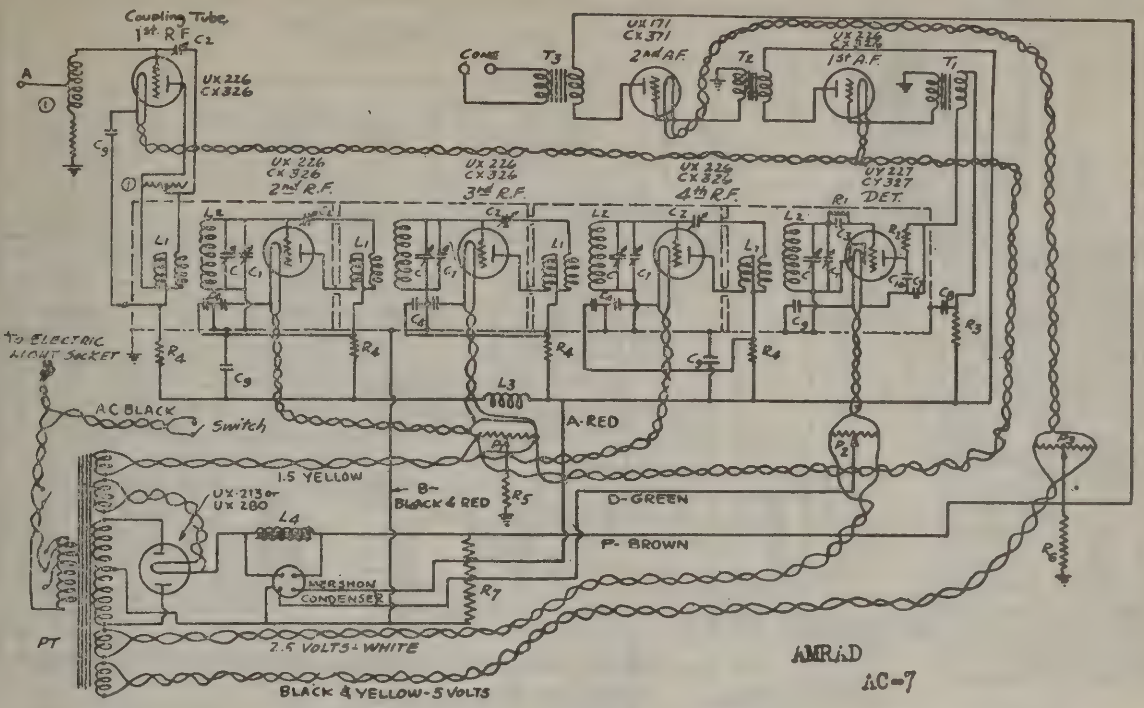
MODEL 171 ABC
Power Pack

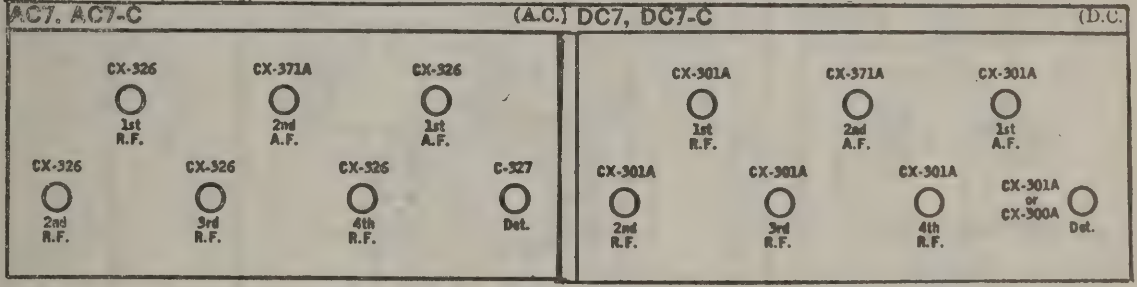
AMRAD CORPORATION

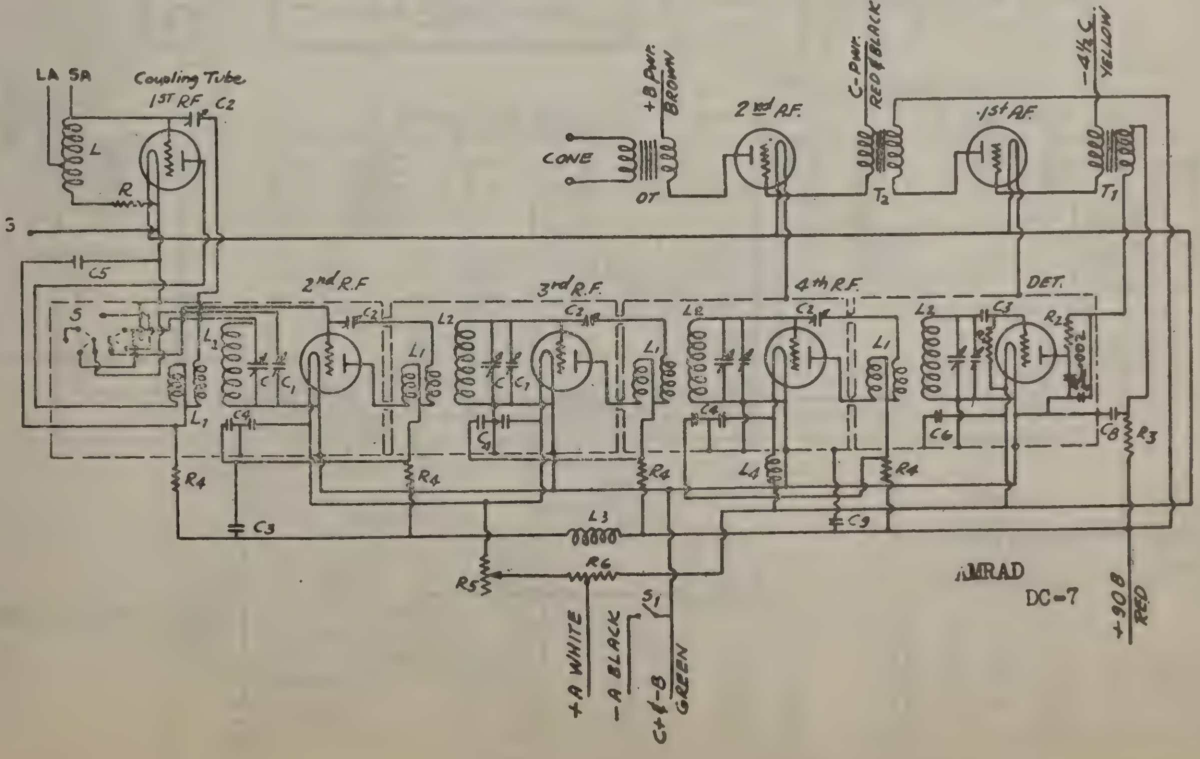

171 "ABC"
POWER UNIT
B-
280 OR 213
Tube
P12145
AC
2.5
5

AMRAD CORPORATION

MODEL AC-7
MODEL DC-7

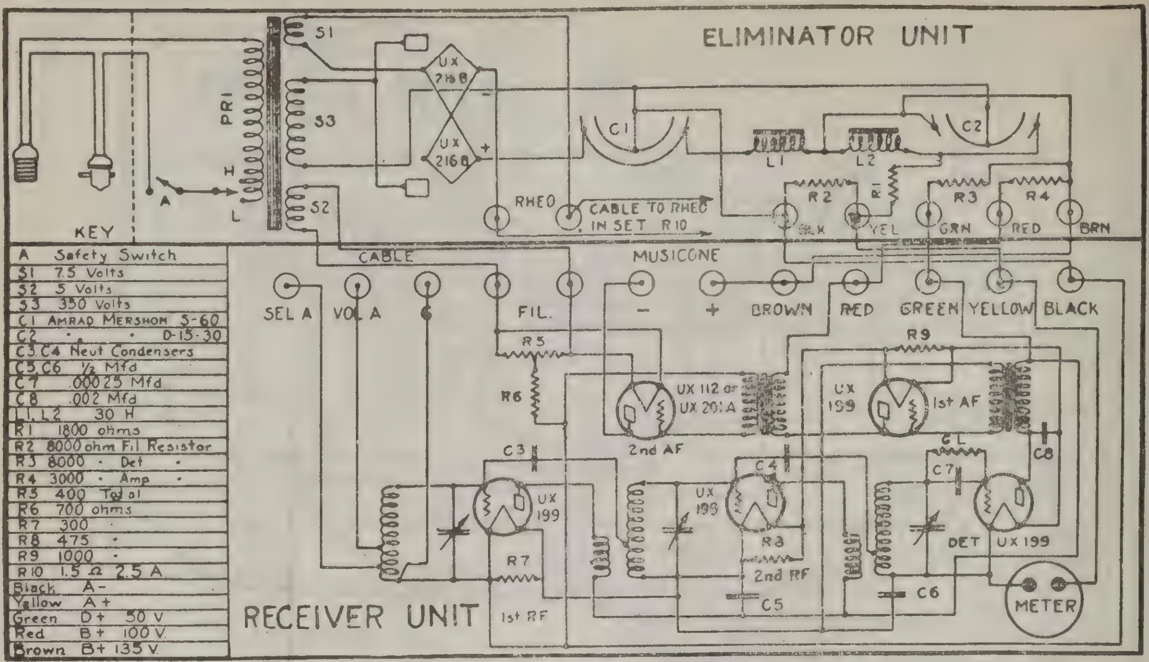

Coupling Tube, 1st R.F. C2
UX 226 CX 326
A
C9
UX 171 CX 371 2nd A.F.
CONE T3 T2 T1
UX 226 CX 326 1st A.F.
UX 226 CX 326 2nd R.F.
UX 226 CX 326 3rd R.F.
UX 226 CX 326 4th R.F.
UX 227 CY 327 DET.
L2 L1 C C1 C2 R1 R2 R3 R4 C9 L3
To ELECTRIC LIGHT SOCKET
AC BLACK Switch
A-RED
1.5 YELLOW
B- BLACK & RED
R5
D-GREEN
P- BROWN
UX-213 or UX 280
L4
MERSHON CONDENSER
R7
R6
P1 P2 P3
PT
2.5 VOLTS- WHITE
BLACK & YELLOW-5 VOLTS
AMRAD AC-7


AC7, AC7-C (A.C.)
CX-326 1st R.F.
CX-371A 2nd A.F.
CX-326 1st A.F.
CX-326 2nd R.F.
CX-326 3rd R.F.
CX-326 4th R.F.
C-327 Det.
DC7, DC7-C (D.C.)
CX-301A 1st R.F.
CX-371A 2nd A.F.
CX-301A 1st A.F.
CX-301A 2nd R.F.
CX-301A 3rd R.F.
CX-301A 4th R.F.
CX-301A or CX-300A Det.


LA SA
Coupling Tube 1st RF C2
L R
S
C5
+B Pwr. BROWN
C-Pwr. RED & BLACK
-4½ C YELLOW
CONE OT
2nd A.F.
1st A.F.
T2 T1
2nd R.F.
3rd R.F.
4th R.F.
DET.
L1 L2 C C1 C2 C3 C4 C6 C8 C9 R2 R3 R4 L4
C3 L3
R5 R6 S1
+A WHITE
-A BLACK
C+ & -B GREEN
+90 B RED
AMRAD DC-7

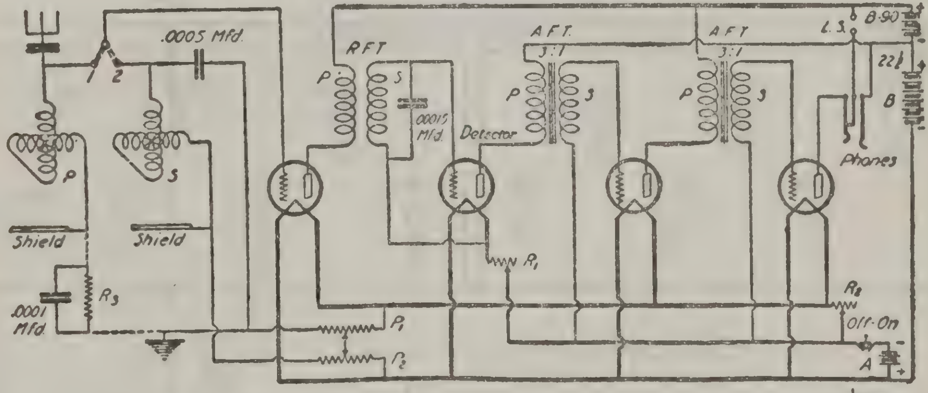
MODEL AC-5
MODEL 80,82,83
MODEL Inductrol

AMRAD CORPORATION

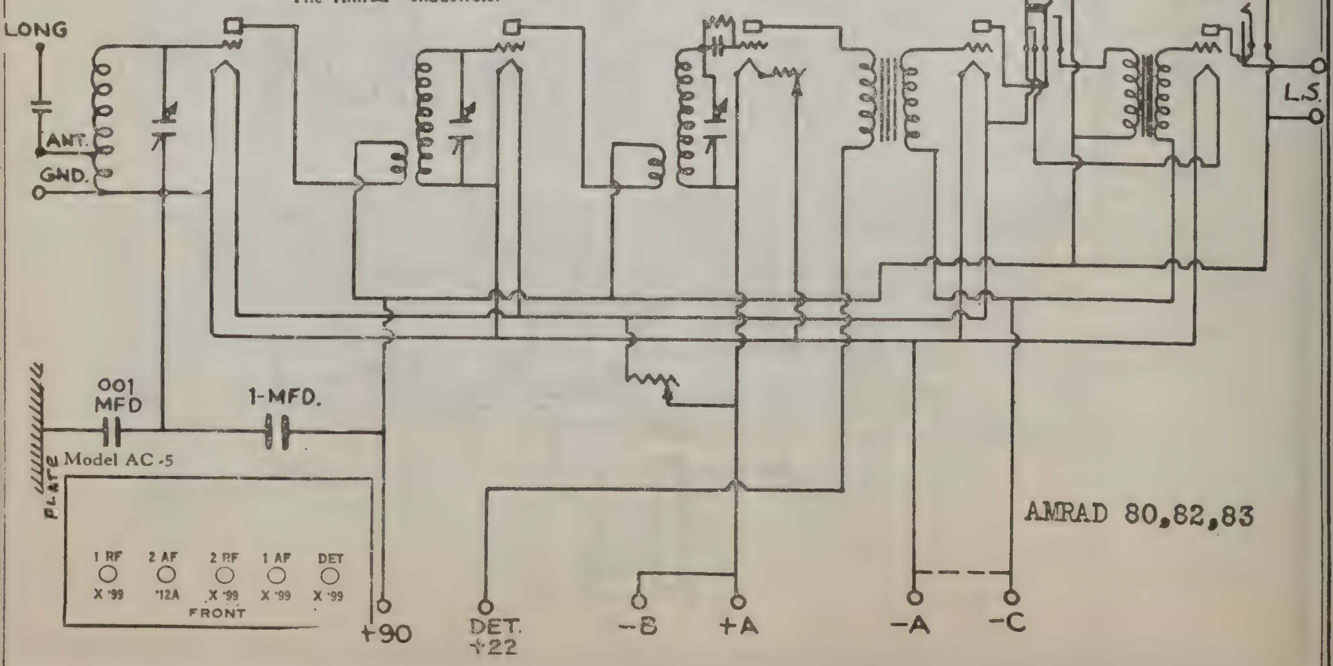

ELIMINATOR UNIT
S1
S3
S2
PRI
H
L
A
KEY
UX 216 B
UX 216 B
C1
C2
L1
L2
R2
R1
R3
R4
RHEO
CABLE TO RHEO IN SET R10
BLK
YEL
GRN
RED
BRN
CABLE
MUSICONE
SEL A
VOL A
G
FIL.
−
+
BROWN
RED
GREEN
YELLOW
BLACK
R5
R6
UX 112 or UX 201 A
2nd AF
UX 199
1st AF
R9
C3
C4
UX 199
UX 199
6L
C7
C8
R8
2nd RF
R7
1st RF
C5
C6
DET
UX 199
METER
RECEIVER UNIT

A	Safety Switch
S1	7.5 Volts
S2	5 Volts
S3	350 Volts
C1	AMRAD MERSHON S-60
C2	· · D-15-30
C3.C4	Neut Condensers
C5.C6	½ Mfd
C7	.00025 Mfd
C8	.002 Mfd
L1, L2	30 H
R1	1800 ohms
R2	8000 ohm Fil Resistor
R3	8000 · Det ·
R4	3000 · Amp ·
R5	400 Total
R6	700 ohms
R7	300 ·
R8	475 ·
R9	1000 ·
R10	1.5 Ω 2.5 A
Black	A−
Yellow	A+
Green	D+ 50 V
Red	B+ 100 V.
Brown	B+ 135 V.

NEUTRODYNE. Type AC-5 and Power Unit.


.0005 Mfd.
1
2
P
S
Shield
Shield
.0001 Mfd
R3
RFT
P
S
.00015 Mfd.
Detector
A.F.T.
3:1
P
S
A.F.T.
3:1
P
S
L.S.
B 90
22½
B
Phones
R1
P1
P2
R2
Off-On
A

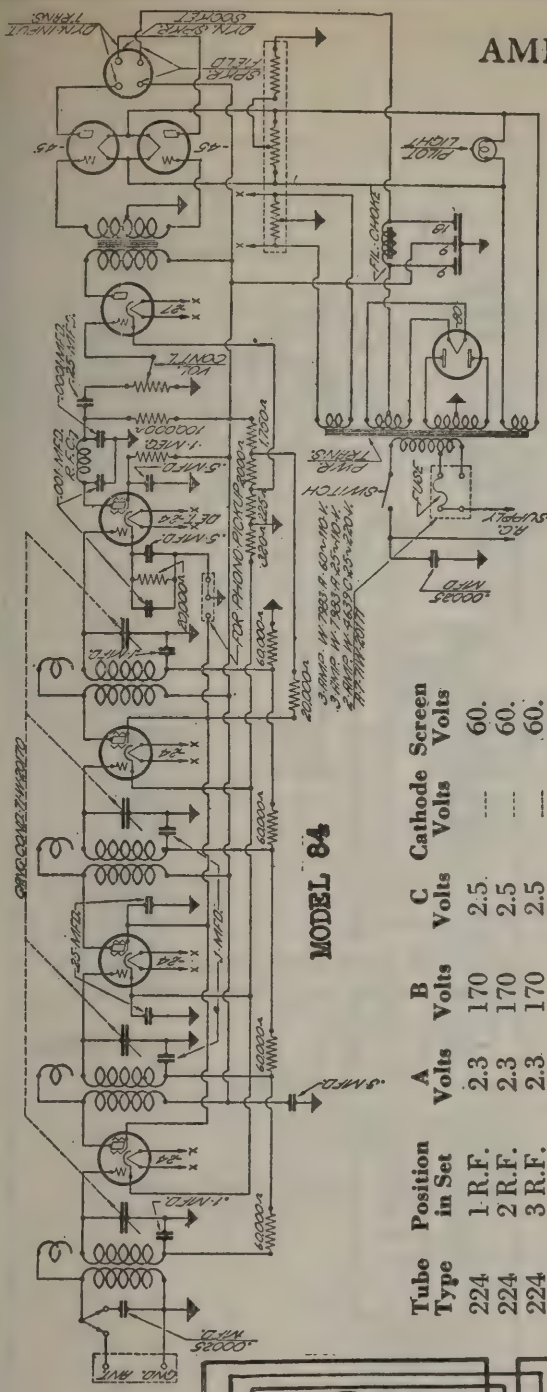
The Amrad "Inductrole."


LONG
ANT.
GND.
L.S.
.001 MFD
1-MFD.
PLATE
Model AC-5
1 RF
2 AF
2 RF
1 AF
DET
X '99
'12A
X '99
X '99
X '99
FRONT
+90
DET. +22
−B
+A
−A
−C

AMRAD 80,82,83

AMRAD CORPORATION

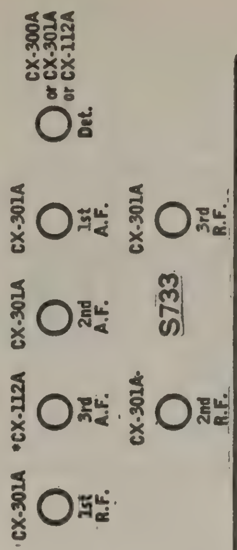
MODEL 84
MODEL S-733
MODEL 3950

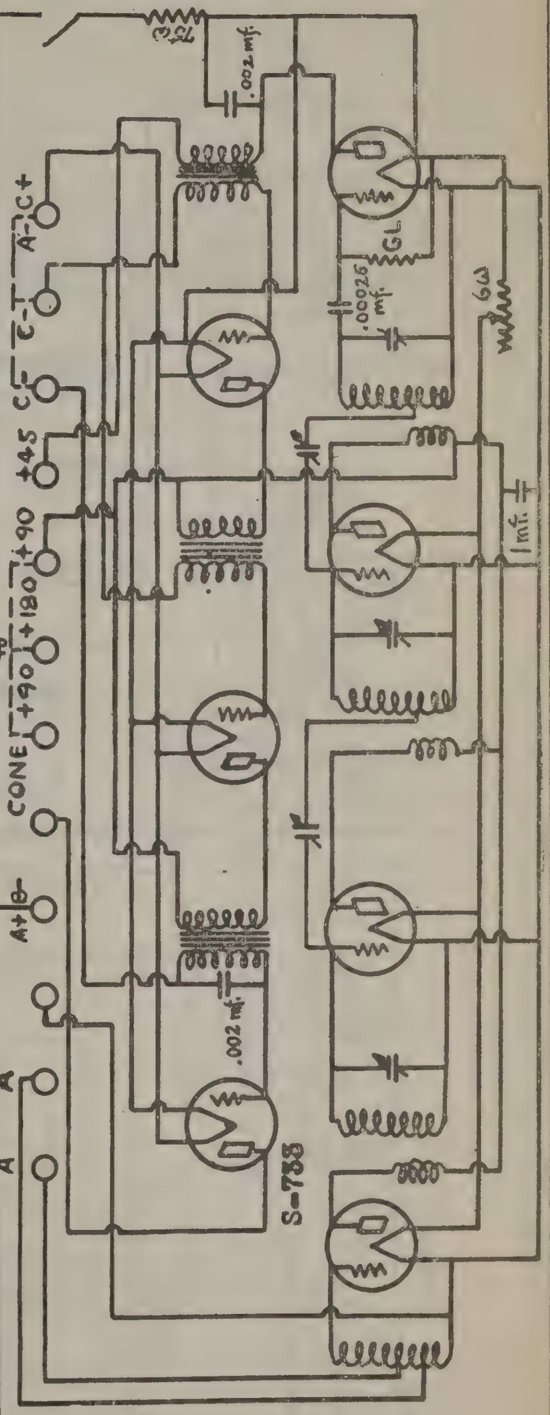

DYN. INPUT TRANS.
DYN. SPKR. SOCKET
SPKR. FIELD
PILOT LIGHT
FIL. CHOKE
VOL. CONT'L
POWER TRANS.
SWITCH
A.C. SUPPLY
FOR PHONO PICKUP
GND. ANT.
'45
'45
'27
'24
'24
'24
'24
'80

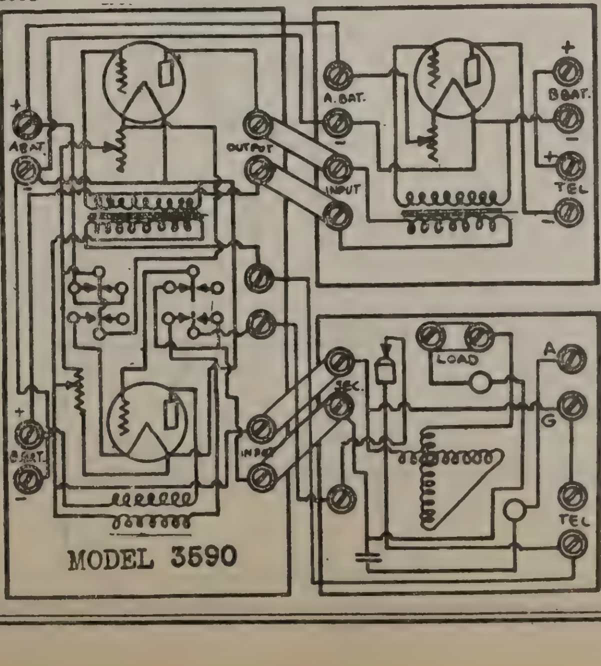
MODEL 84

Tube Type	Position in Set	A Volts	B Volts	C Volts	Cathode Volts	Screen Volts
224	1 R.F.	2.3	170	2.5	---	60.
224	2 R.F.	2.3	170	2.5	---	60.
224	3 R.F.	2.3	170	2.5	---	60.
224	Det.	2.3	95	4.0	---	35.
227	1 A.F.	2.3	130	8.0	---	---
245	P.P.	2.3	220	40.	---	---
245	P.P.	2.3	220	40.	---	---
280	Rect.	4.6	250		---	---

Line voltage 117. Volume control maximum.

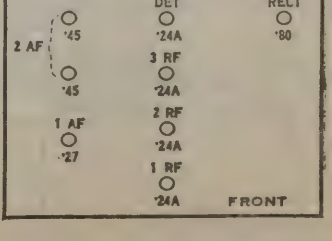

CX-301A 1st R.F.
*CX-112A 3rd A.F.
CX-301A 2nd A.F.
CX-301A 1st A.F.
CX-300A or CX-301A or CX-112A Det.
CX-301A- 2nd R.F.
CX-301A 3rd R.F.
S733


A-
C+
C-
C-
+45
+90
+180
+90
CONE
A+
A
A
.002 mf.
.00025 mf.
1 mf.
GL
6Ω
S-733


A. BAT.
OUTPUT
A.BAT.
INPUT
B.BAT.
TEL
B.BAT.
INPUT
SEC.
LOAD
A
G
TEL

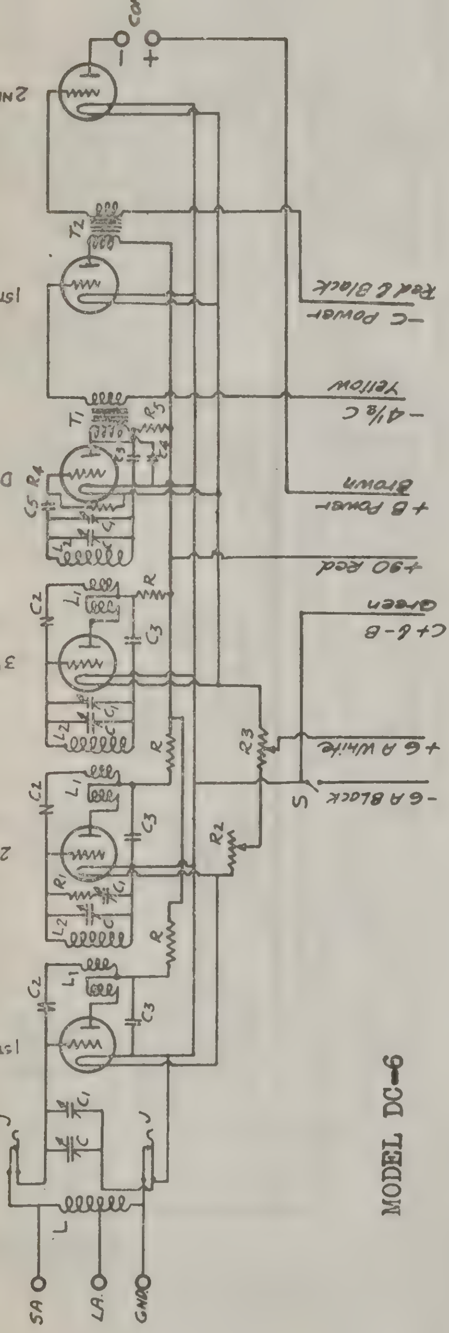
MODEL 3590

Models 84C, 84D

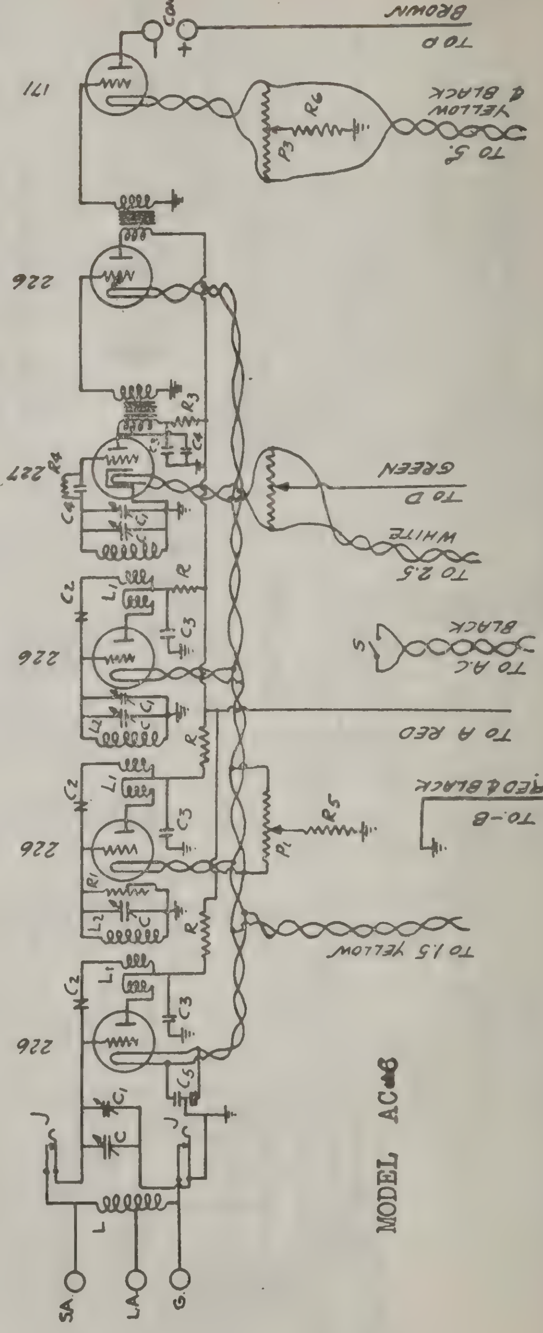

DET '24A
RECT '80
2 AF '45 '45
3 RF '24A
2 RF '24A
1 AF '27
1 RF '24A
FRONT

MODEL AC-6
MODEL DC-6

AMRAD CORPORATION

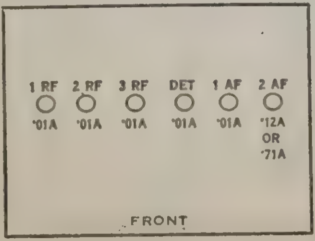

CONE
2ND A.F.
T2
1ST A.F.
Red & Black
-C Power
Yellow
-4½ C
T1
R5
DET.
R4
C5
Brown
+B Power
+90 Red
3RD R.F.
Green
C+6-B
R3
+6 A White
S
-6 A Black
2ND R.F.
R2
1ST R.F.
SA
LA
GND

MODEL DC-6

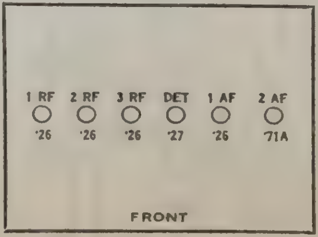

CONE
171
TO D
BROWN
TO 5
YELLOW & BLACK
R6
P3
226
R3
227
R4
TO D
GREEN
TO 2.5
WHITE
TO A.C.
BLACK
S
226
TO A RED
TO -B
RED & BLACK
R5
P1
226
TO 1.5 YELLOW
226
C5
SA
LA
G

MODEL AC-6

Models DC-6, DC-6C

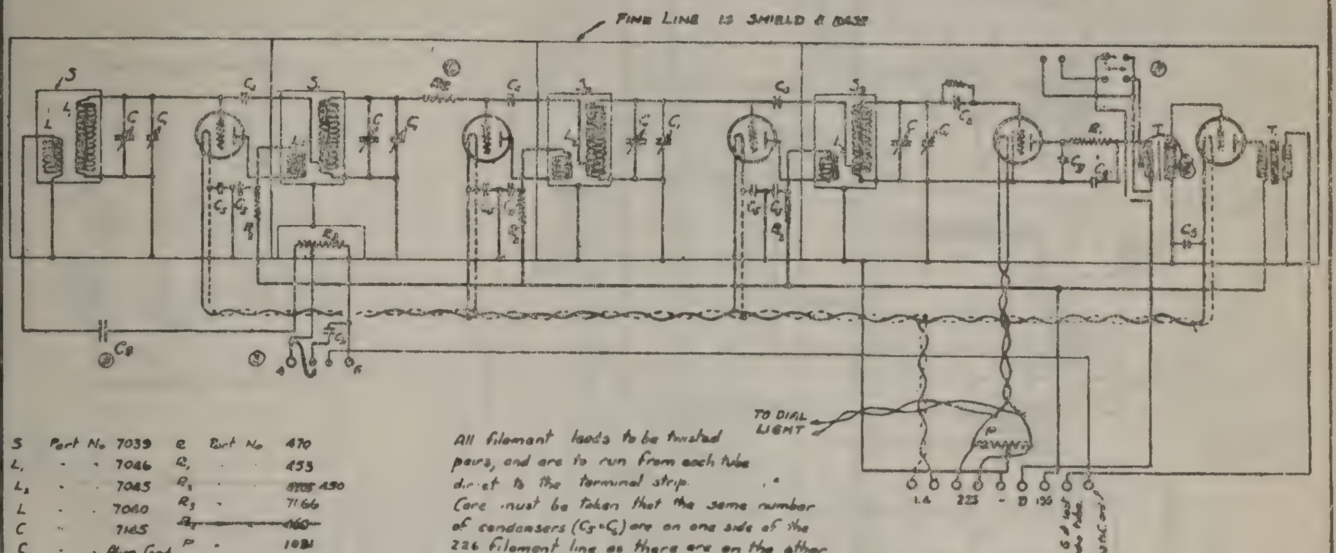

1 RF
'01A
2 RF
'01A
3 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'12A OR '71A
FRONT

Models AC-6, AC-6C


1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
2 AF
'71A
FRONT

AMRAD CORPORATION

MODEL 7100 Receiver
MODEL 7191 Power Unit


FINE LINE IS SHIELD & BASE
S
L
L,
C
C,
C₂
C₃
C₄
C₅
C₆
C₇
R
R₂
S₁
S₂
T
T,
P
C_B
TO DIAL LIGHT
1.6
223
B
135

S	Part No	7039	R	Part No	470
L_1	"	7046	R_1	"	453
L_2	"	7045	R_2	"	~~4105~~ 450
L	"	7080	R_3	"	7166
C	"	7185	~~R_4~~		~~460~~
C.	"	Align. Cond	P	"	1081
C_1	"	377	T	"	7163
C_3	"	376	T_1	"	7164
C_4	"	Dial Cond.	C_B	"	"
C_5	"	379			
C_6	"	382			
C_7	"	378			

All filament leads to be twisted pairs, and are to run from each tube direct to the terminal strip.
Care must be taken that the same number of condensers (C_5 & C_6) are on one side of the 226 filament line as there are on the other

ALTERATIONS				
No	Date	Remarks	Auth	Chd
1	4-16-28	Redrawn	[illegible]	
2	4-30	Sw. added	[illegible]	
3	4-30	Cond ..	[illegible]	
4	5-30	Sw changed		
5	5-30	Cond [illegible]		

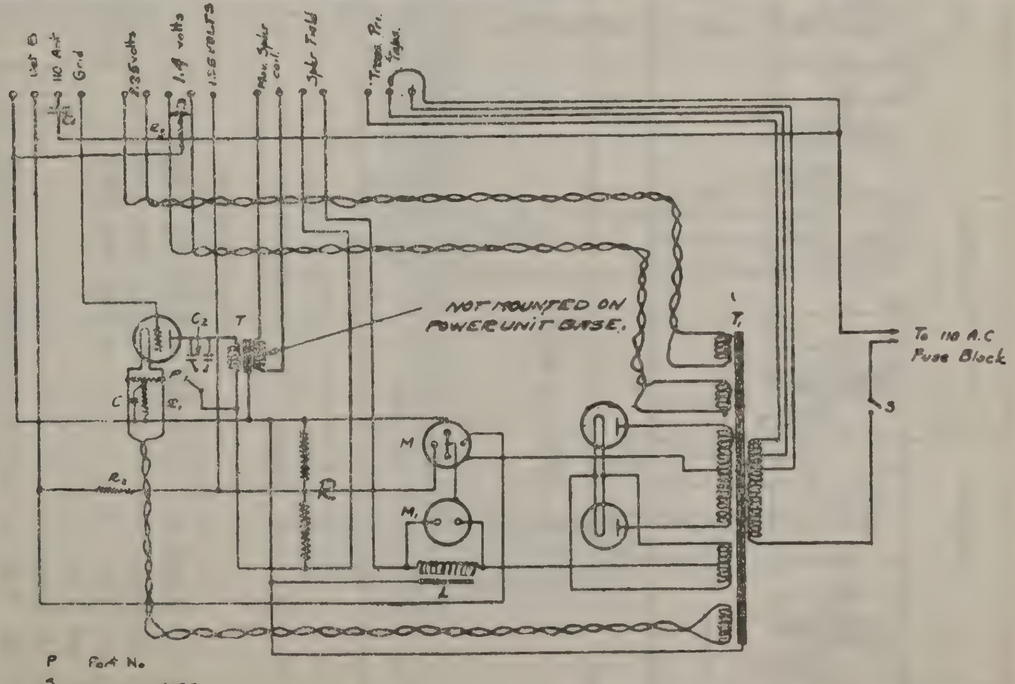
SCHEMATIC DIAGRAM OF
RECEIVER NO 7100

AMRAD CORP

MEDFORD HILLSIDE MASS

Drawn T.S.L.	
Traced T.S.L.	
Checked T.S.L.	
Date 4-16-28	

No. C-7075


Ant ⊕
110 A.C. Gnd
2.35 volts
1.4 volts
135 VOLTS
Mov. Spkr coil
Spkr Field
Trans. Pri. Taps
R₃
NOT MOUNTED ON POWER UNIT BASE.
C₂
T
P
C
R₁
R₂
R
M
M₁
L
T₁
To 110 A.C Fuse Block
S

R	Part No	437
R_1	"	456
R_2	"	465
C	"	382
C_1	"	377
M	"	7196
M_1	"	7098
T	"	7168
T_1	"	7193
L	"	7197

P	Part No	
S	"	1023
P_1	"	475
R_3	"	432
C_2	"	383

ALTERATIONS				
No	Date	Remarks	Auth	Chd
1	4-16	Redrawn	[illegible]	
2	6-19	C₂ Added	106	

SCHEMATIC DIAGRAM
POWER UNIT #7191

AMRAD CORP

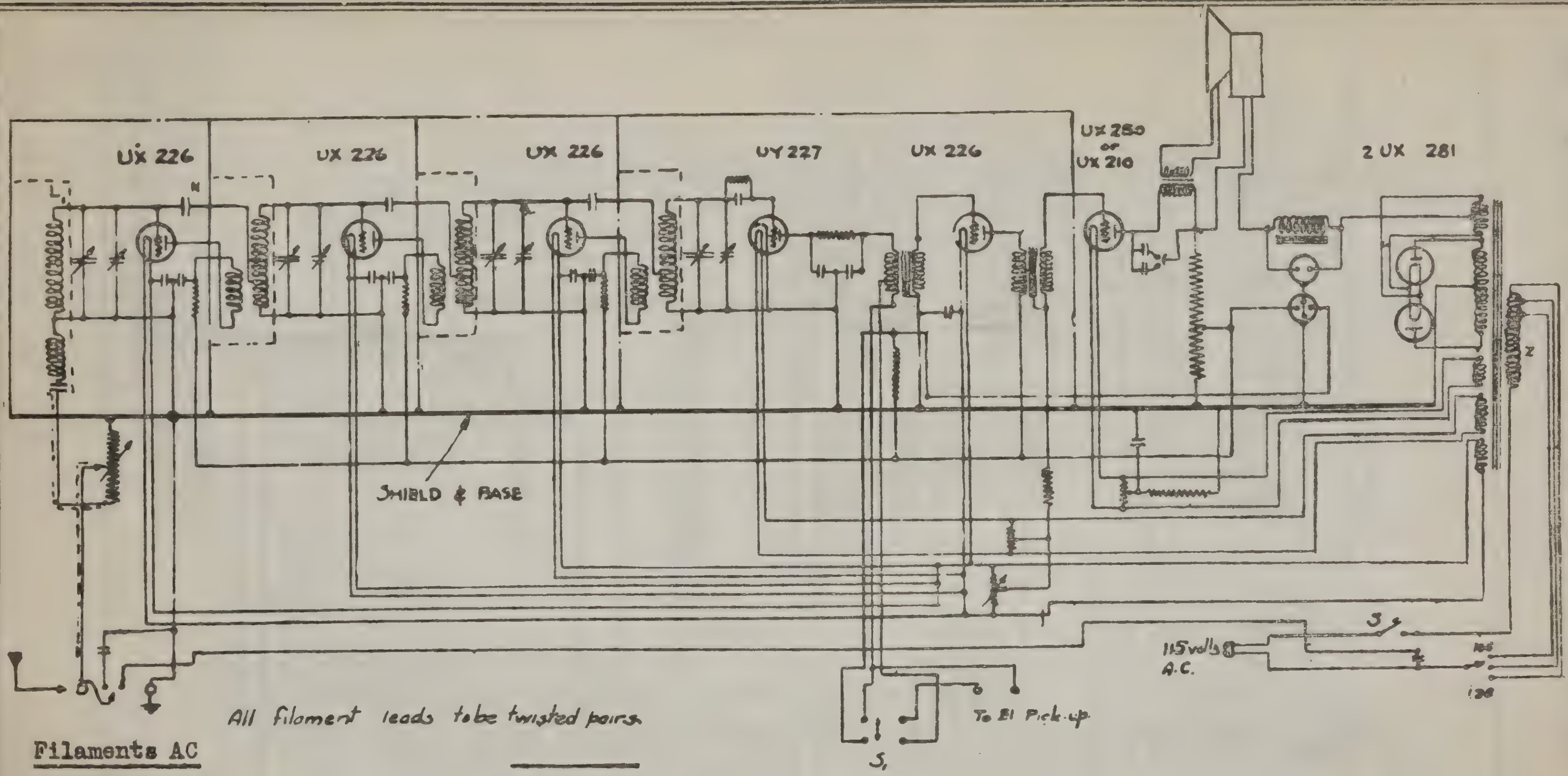
MEDFORD HILLSIDE MASS

Drawn TSL	
Traced TSL	
Checked TSL	
Date 4-16-28	

No. C 7076

MODEL 70

AMRAD CORPORATION


UX 226
UX 226
UX 226
UY 227
UX 226
UX 250 or UX 210
2 UX 281
SHIELD & BASE
115 volts A.C.
S
S1
To El Pick-up
105
130
Z

All filament leads to be twisted pairs.

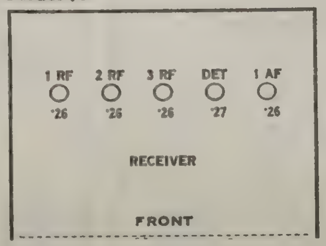
Filaments AC

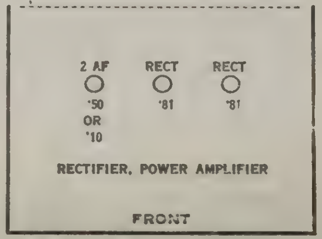
UX-226	1.4 to 1.45 - - - - - - -	135 to 160
UX-227	2.2 to 2.3 - - - - - - -	20 to 30
UX-250	7.3 to 7.4 - - - - - - -	350 to 370
UX-281	7.3 to 7.4	
UX-210 is used in place of 250	7.3 to 7.4 - - - - - - -	400 to 425

Bias

UX-226	9 to 11
UX-250	60 to 70

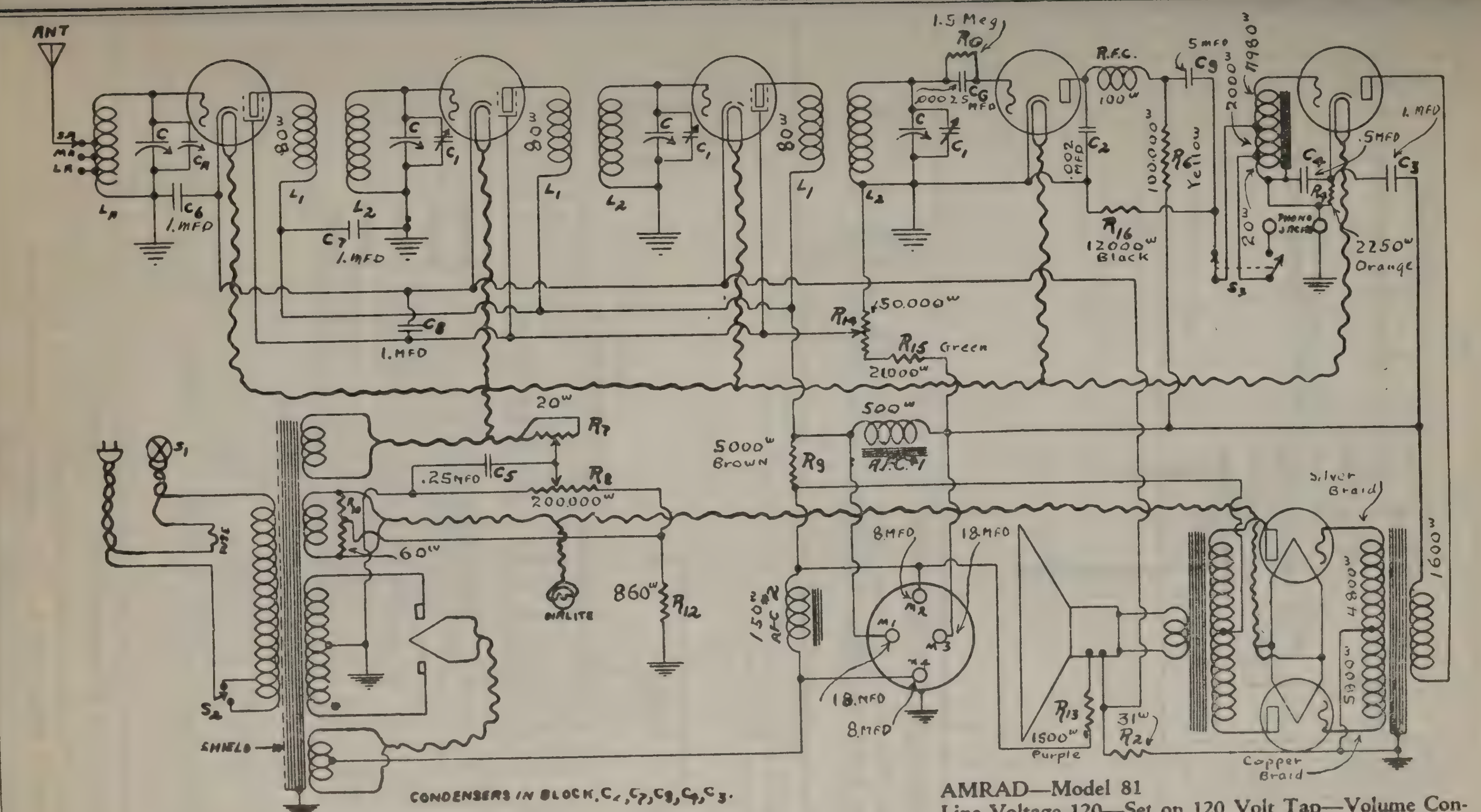
Model 70


1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
RECEIVER
FRONT


2 AF
'50 OR '10
RECT
'81
RECT
'81
RECTIFIER, POWER AMPLIFIER
FRONT

AMRAD CORPORATION

MODEL Bel-Canto 81.


ANT
SA
MA
LA
C
CA
C6
1.MFD
LA
80 Ω
L1
L2
C7
1.MFD
C1
C8
1.MFD
1.5 Meg
R10
CG
.00025 MFD
R.F.C.
100 Ω
.002 MFD
C2
5 MFD
C9
100,000 Ω
R6
Yellow
R16
12000 Ω
Black
2000 Ω
11980 Ω
1. MFD
.5MFD
C4
C3
R4
20 Ω
PHONO JACKS
S3
2250 Ω
Orange
R14
150,000 Ω
R15 Green
21000 Ω
20 Ω
R7
500 Ω
A.F.C.-1
5000 Ω
Brown
R9
.25MFD
C5
R8
200,000 Ω
60 Ω
DIALITE
860 Ω
R12
150 Ω
AFC-2
8.MFD
18.MFD
M1
M2
M3
M4
R13
1500 Ω
Purple
31 Ω
R2
Silver Braid
4800 Ω
5800 Ω
1600 Ω
Copper Braid
S1
S2
SHIELD
CONDENSERS IN BLOCK. C2, C7, C9, C4, C3.

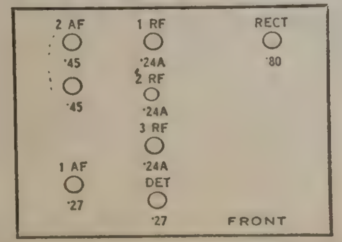
AMRAD—Model 81

Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Full On

Note: To get the 10.5 V. reading (4-8) the hum control potentiometer must be turned to ground side.

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE - HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.32	190	2.25	180	1.5	-	4	7.5	3.5	80
2	224	2nd RF	2.32	190	2.25	180	1.5	-	4	7.5	3.5	80
3	224	3rd RF	2.32	190	2.25	180	1.5	-	4	7.5	3.5	80
4	227	Det.	2.32	140	2.25	30	0	-	1.5	1.6	.1	-
5	227	1st AF	2.32	190	2.25	160	10.5	-	4.1	5.2	1.1	-
6	245	2nd AF	2.32	300	2.25	250	50	-	28	32	.4	-
7	245	2nd AF	2.32	300	2.25	250	50	-	28	32	.4	-
8	280	Rect.		-	4.65	-	-	-	110	-	-	-
9												
10												

Models 81, Aria, Minuett, Serenata, Duet, Symphony


2 AF
'45
'45
1 AF
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
RECT
'80
FRONT

BEL - CANTO SERIES

Aria, Minuett
Serenata, Duet
Symphony

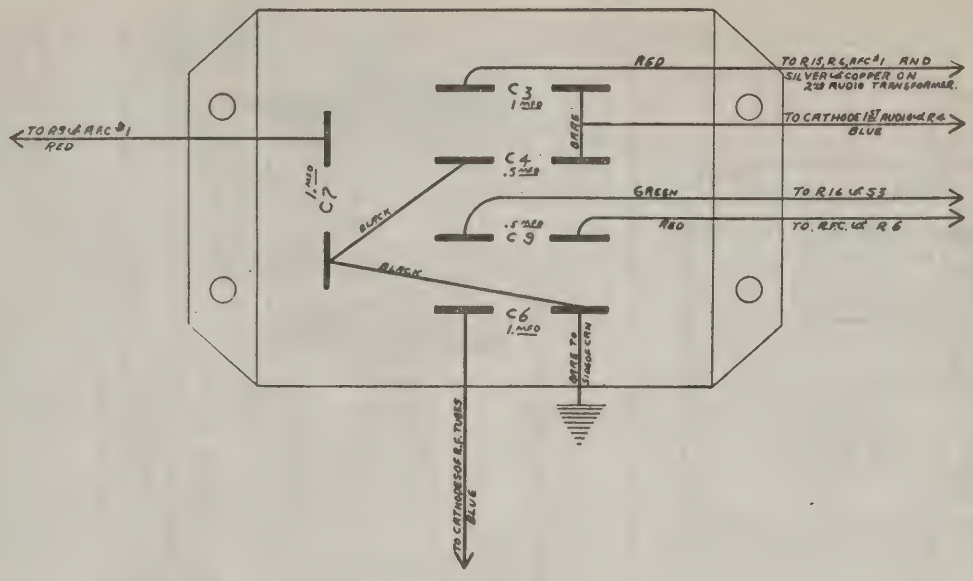
RCA Speaker
0.8 Ohm
Secondary
410 Ohm Primary
7000 Ohm Field

Peerless Speaker
Single turn
Secondary
550 Ohm Primary

Condenser Data on next page.

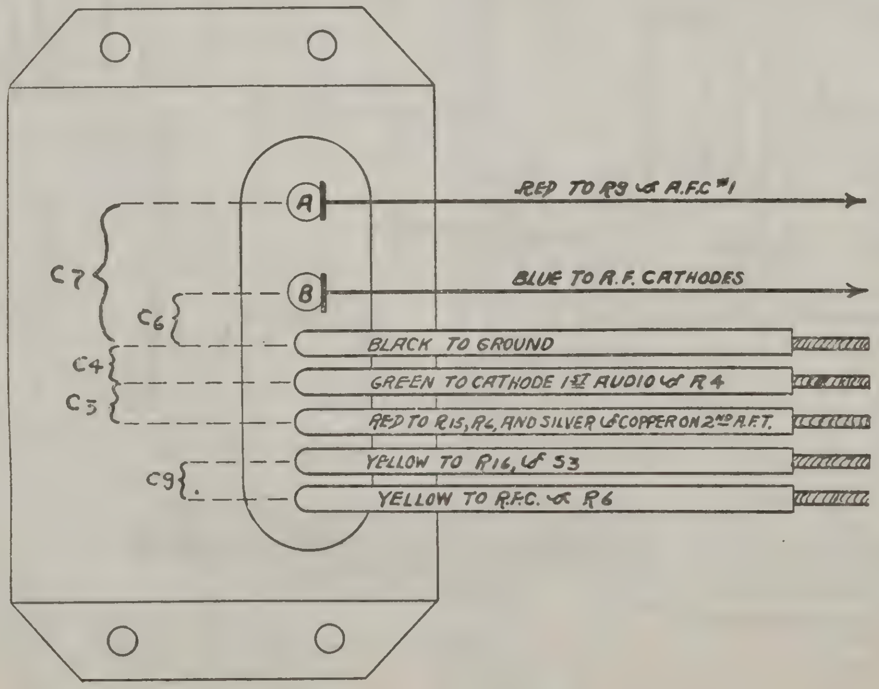
MODEL Bel-Canto 81
Condenser Data

AMRAD CORPORATION


RED
TO R15, R6, RFC #1 AND SILVER & COPPER ON 2ND AUDIO TRANSFORMER.
C3
1 MFD
BARE
TO CATHODE 1ST AUDIO & R4
BLUE
TO R9 & RFC #1
RED
1. MFD
C7
C4
.5 MFD
BLACK
GREEN
TO R16 & S3
.5 MFD
C9
RED
TO. RFC. & R6
BLACK
C6
1. MFD
BARE TO SIGNAL CAN
TO CATHODES OF R.F. TUBES
BLUE

BY-PASS BLOCK CONDENSER, NO. 8113

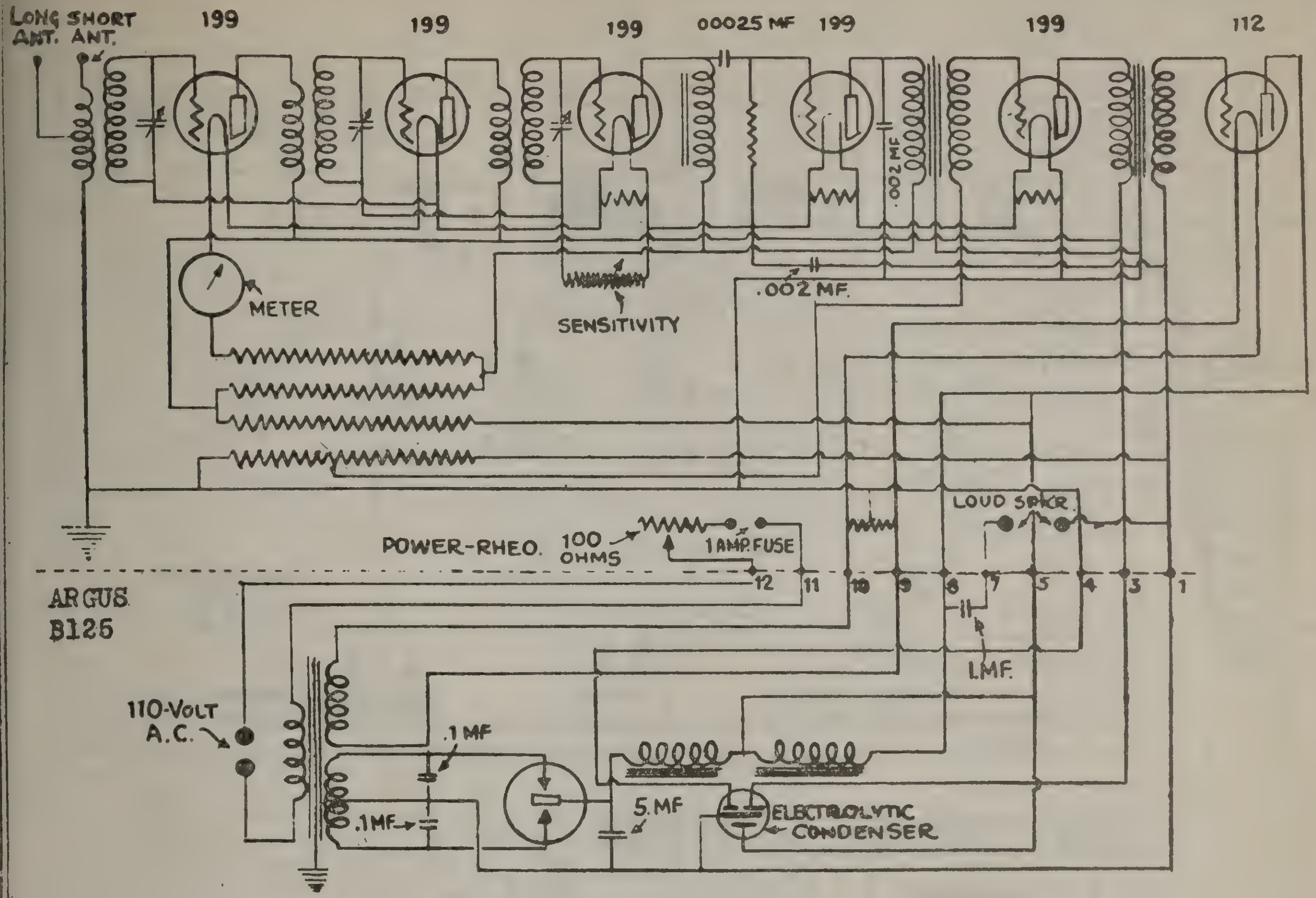
"Lug Terminal" Style. This block contains Fixed Condensers, C3, C4, C6, C7, C9. The different units are indicated, with their connections to their respective circuits.


A
RED TO R9 & A.F.C #1
B
BLUE TO R.F. CATHODES
C7
C6
BLACK TO GROUND
C4
GREEN TO CATHODE 1ST AUDIO & R4
C3
RED TO R15, R6, AND SILVER & COPPER ON 2ND A.F.T.
C9
YELLOW TO R16, & S3
YELLOW TO R.F.C. & R6

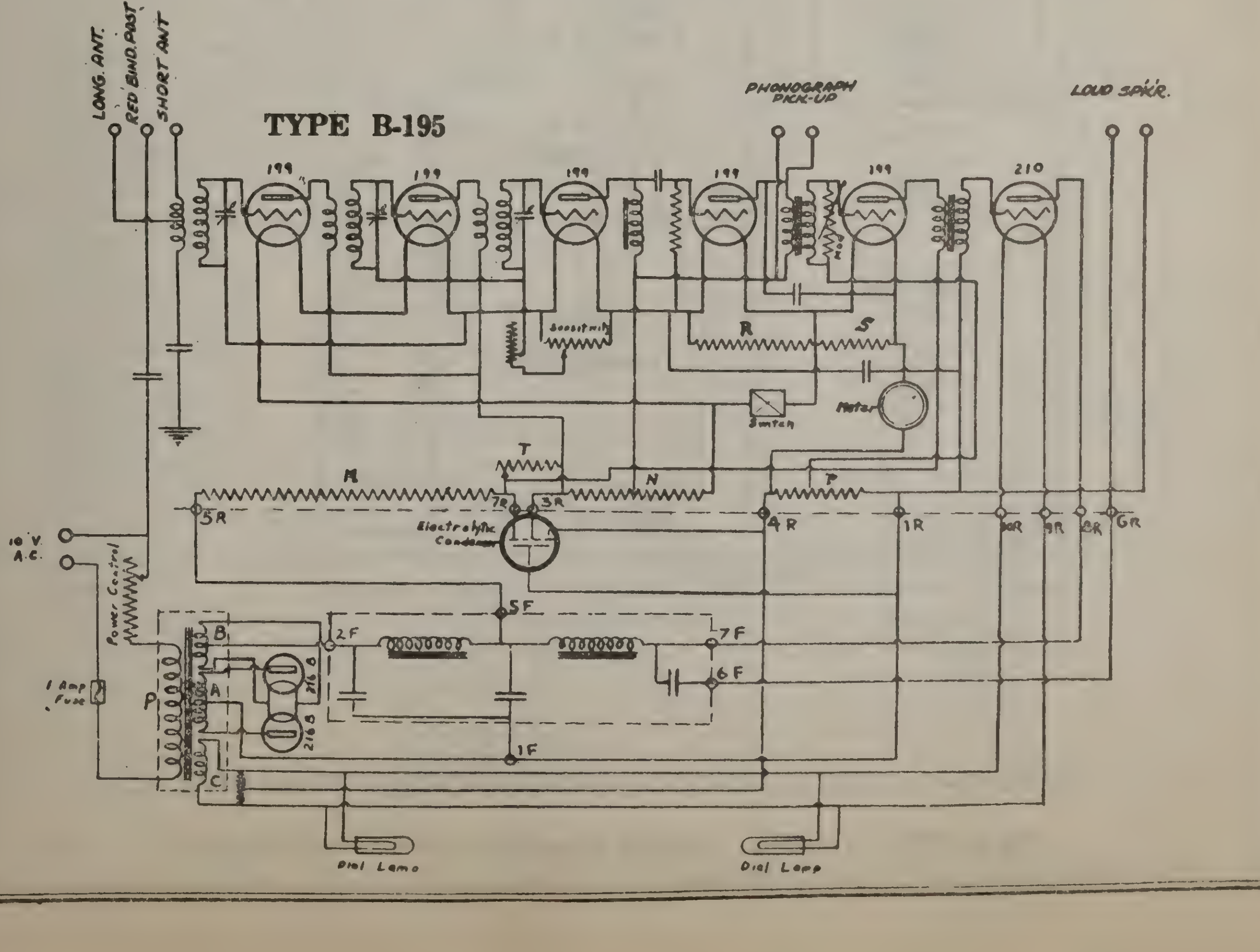
BY-PASS BLOCK CONDENSER, NO. 8113

"Wire Terminal" Style. This block contains the same units as does the No. 8113 "Lug Terminal" Style. To test for capacity, opens or shorts, it is necessary to disconnect at least one terminal of the unit from the circuit.

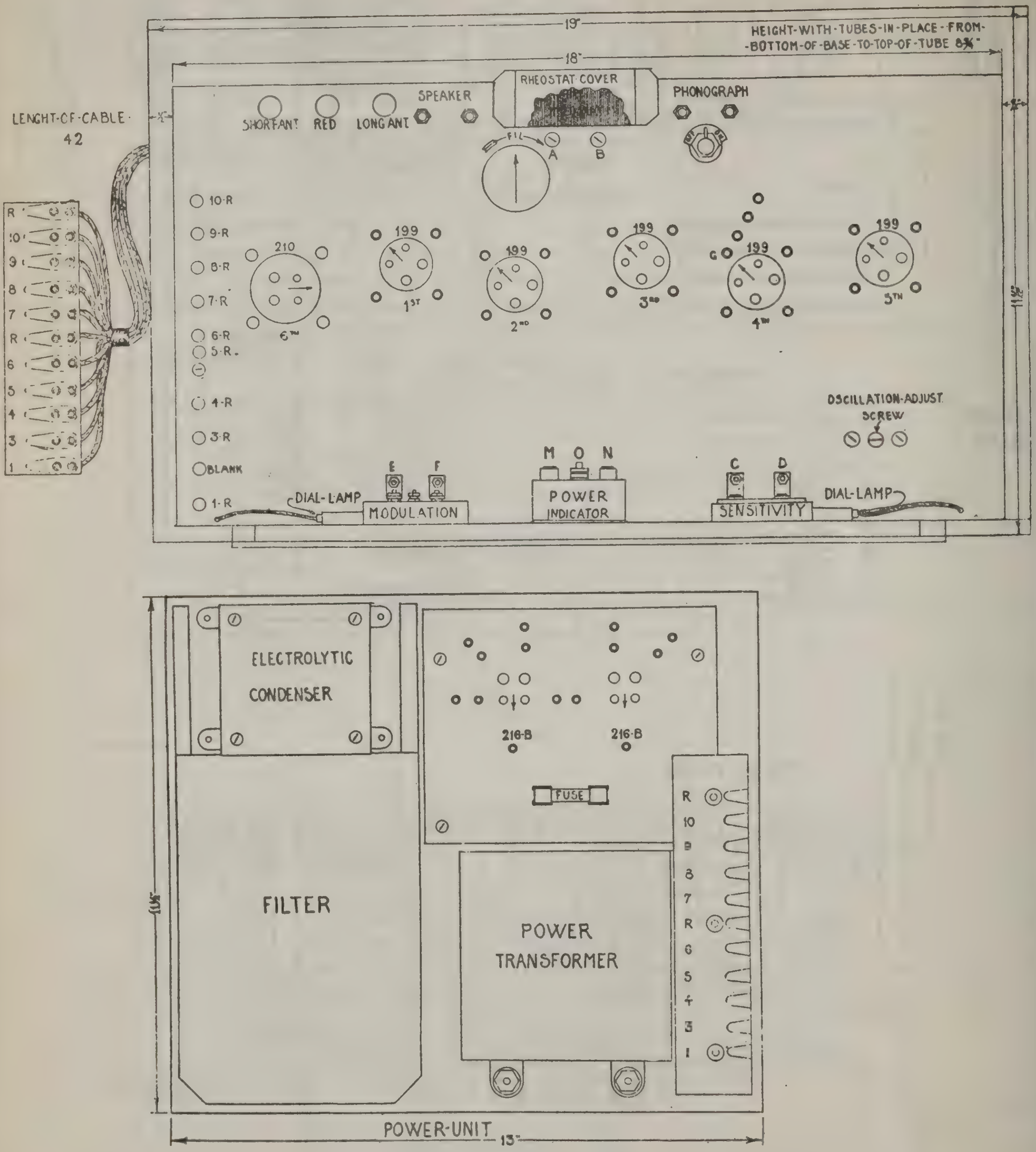
ARGUS RADIO CORP.


LONG ANT.
SHORT ANT.
199
199
199
.00025 MF
199
199
112
.002 MF
METER
SENSITIVITY
.002 MF.
LOUD SPKR.
POWER-RHEO. 100 OHMS
1 AMP. FUSE
12
11
10
9
8
7
5
4
3
1
ARGUS
B125
1 MF.
110-VOLT A.C.
.1 MF
.1 MF
5. MF
ELECTROLYTIC CONDENSER

TYPE B-195


LONG. ANT.
RED BIND. POST
SHORT ANT.
PHONOGRAPH PICK-UP
LOUD SPKR.
199
199
199
199
199
210
Sensitivity
R
S
Switch
Meter
T
M
N
P
5R
7R
3R
4R
1R
8R
9R
2R
6R
Electrolytic Condenser
10 V. A.C.
Power Control
1 Amp Fuse
5F
2F
7F
6F
1F
B
A
P
C
216 B
216 B
Dial Lamp
Dial Lamp

ARGUS RADIO CORP.

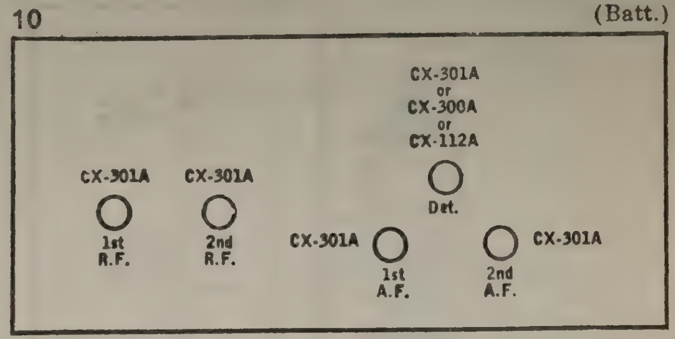

LENGHT-OF-CABLE 42
19"
18"
HEIGHT-WITH-TUBES-IN-PLACE-FROM-BOTTOM-OF-BASE-TO-TOP-OF-TUBE 8¾"
RHEOSTAT COVER
SPEAKER
PHONOGRAPH
SHORT ANT
RED
LONG ANT
FIL
A
B
10-R
9-R
8-R
7-R
6-R
5-R.
4-R
3-R
BLANK
1-R
210
6TH
199
1ST
2ND
3RD
G
4TH
5TH
11½"
OSCILLATION-ADJUST SCREW
M
O
N
E
F
C
D
DIAL-LAMP
MODULATION
POWER INDICATOR
SENSITIVITY
DIAL-LAMP
R
10
9
8
7
R
6
5
4
3
1
ELECTROLYTIC CONDENSER
216-B
216-B
FUSE
FILTER
POWER TRANSFORMER
11½"
POWER-UNIT
13"

Inside view of ARGUS ELECTRIC RADIO RECEIVER, Model B195,

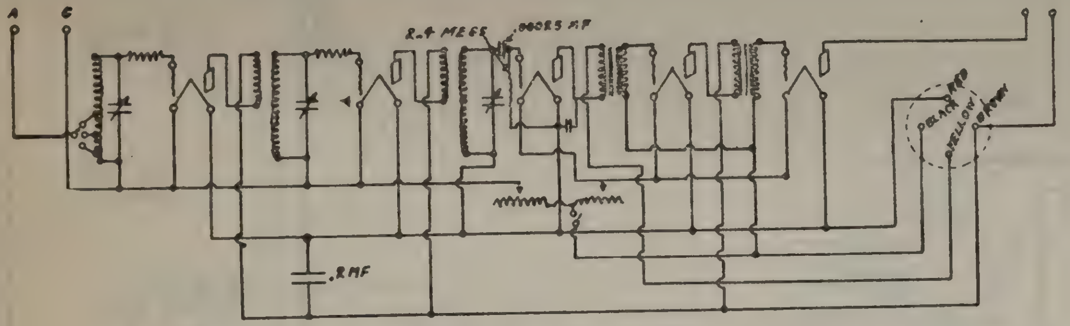
TWO-PIECE CHASSIS. Diagram shows location of connecting cables.

ATWATER KENT MFG. CO.

MODEL 10
MODEL 10-B
MODEL 12

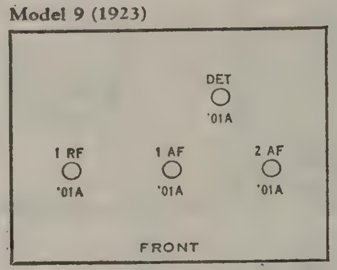


10
(Batt.)
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
CX-301A
2nd A.F.

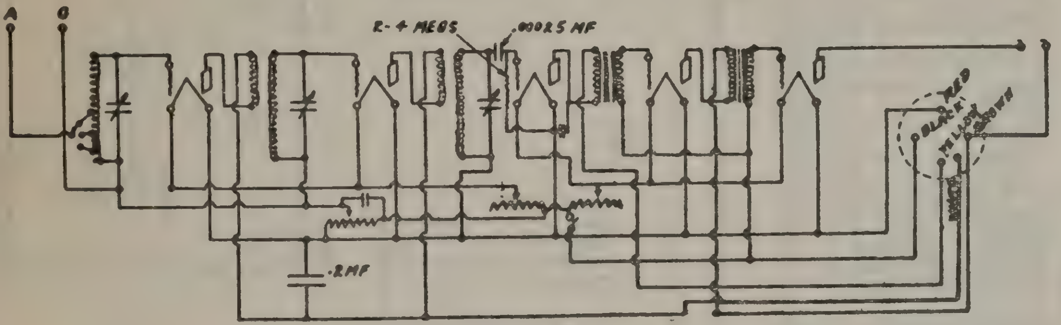


A
G
R-4 MEGS
.00025 MF
.2 MF
RED
BLACK
YELLOW
BROWN

MODEL 10 No. 4700



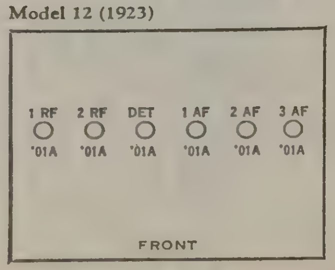
Model 9 (1923)
DET
'01A
1 RF
'01A
1 AF
'01A
2 AF
'01A
FRONT



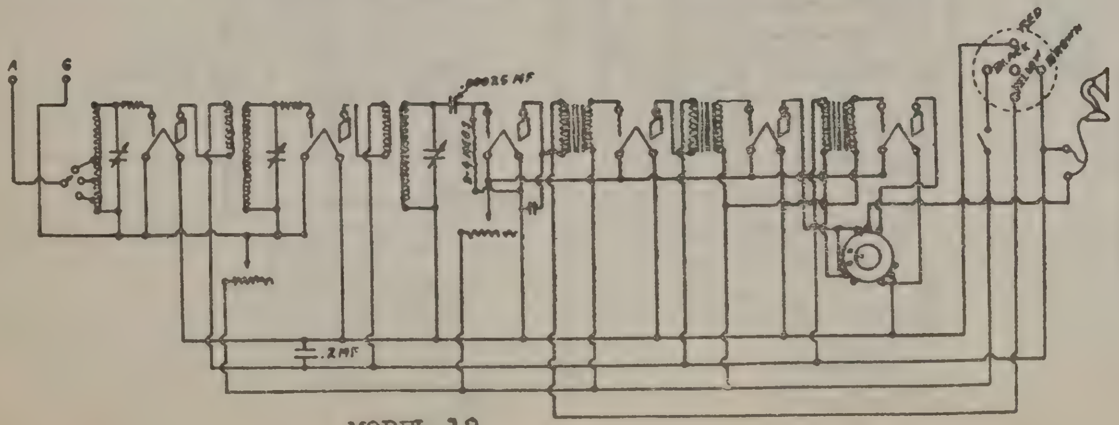
A
G
R-4 MEGS
.00025 MF
.2 MF
RED
BLACK
YELLOW
BROWN

MODEL 10-B

NOTE.—This set has two R.F. rheostats (one for each R.F. tube). —F1R connects to the slider lead of the 1st R.F. rheostat instead of to —F2R.



Model 12 (1923)
1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'01A
3 AF
'01A
FRONT



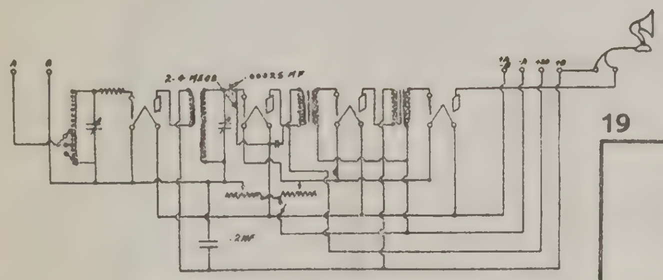
A
G
.00025 MF
2-4 MEGS
.2 MF
RED
BLACK
YELLOW
BROWN

MODEL 12

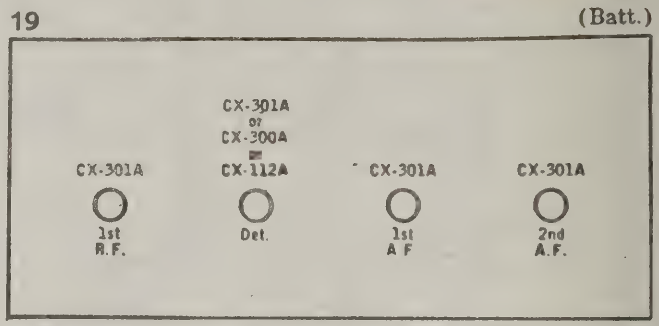
(Diagram shows one rheostat controlling detector and all three A.F. tubes. In actual set, rheostat controls detector and 1st audio only, 2nd and 3rd audio tubes being on separate fixed resistances.)

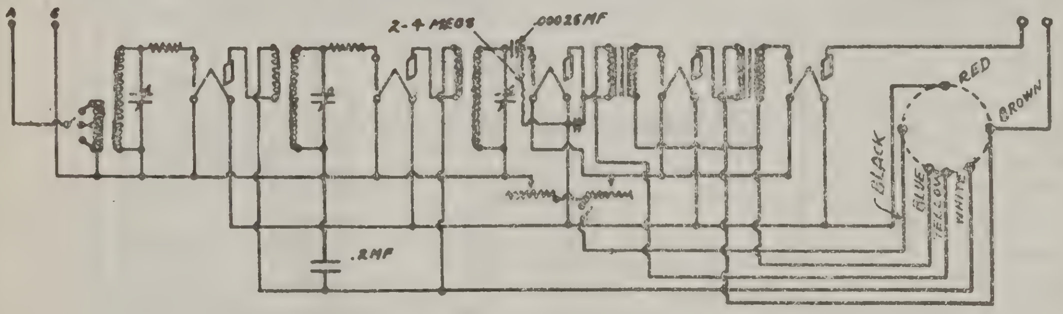
MODEL 19
MODEL 20 # 7570
MODEL 20 # 4640

ATWATER KENT MFG. CO.

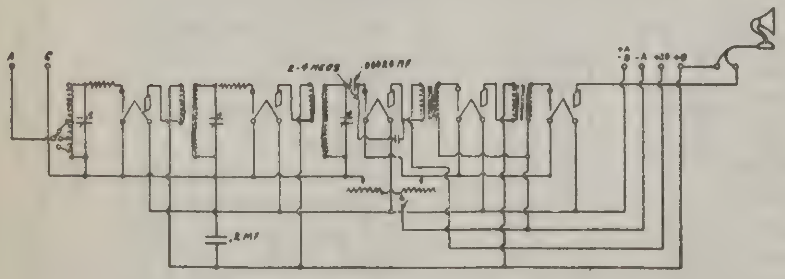

A
G
2-4 MEGS
.00025 MF
.2 MF

MODEL 19 SET No. 4880.

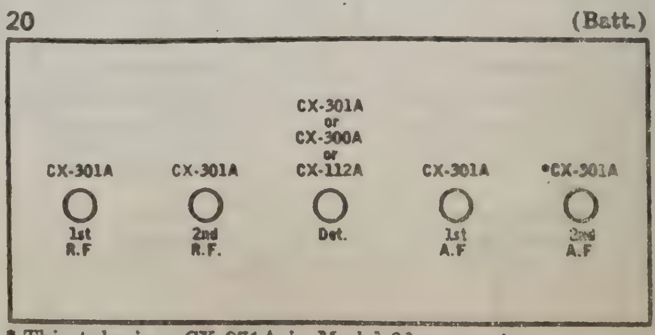

19
(Batt.)
CX-301A
1st R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A F
CX-301A
2nd A.F.


A
G
2-4 MEGS
.00025MF
.2MF
RED
BROWN
BLACK
BLUE
YELLOW
WHITE

Model 20 Compact Set No. 7570. Wiring Diagram.


A
G
2-4 MEGS
.00025 MF
.2 MF

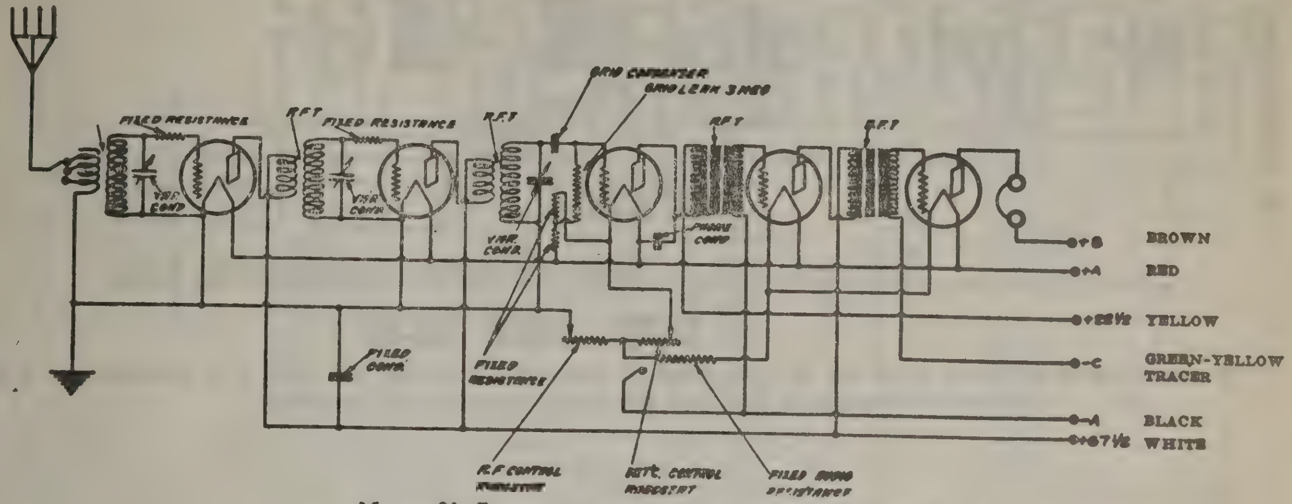
MODEL 20 SET No. 4640.


20
(Batt.)
CX-301A
1st R.F
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F
*CX-301A
2nd A.F

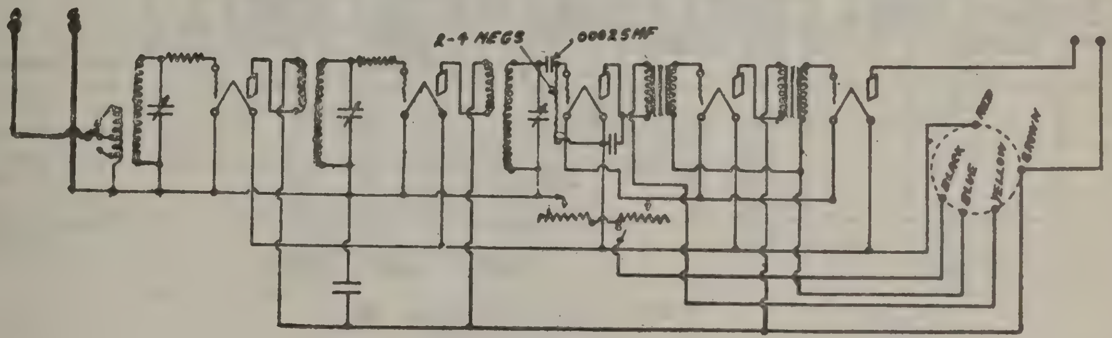
* This tube is a CX-371A in Model 20 compact.

MODRL 20 # 7960
MODEL 21 # 7780

ATWATER KENT MFG. CO.

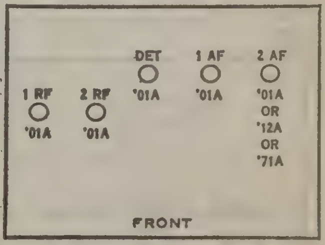

FIXED RESISTANCE
R.F.T
FIXED RESISTANCE
R.F.T
GRID CONDENSER
GRID LEAK 3 MEG
R.F.T
R.F.T
VAR. COND
VAR. COND
VAR. COND
PHONE COND
FIXED COND
FIXED RESISTANCE
R.F CONTROL RHEOSTAT
DETC. CONTROL RHEOSTAT
FIXED AUDIO RESISTANCE
+B BROWN
+A RED
+22½ YELLOW
-C GREEN-YELLOW TRACER
-A BLACK
+67½ WHITE

Model 20 Compact Set No. 7960. Wiring Diagram.

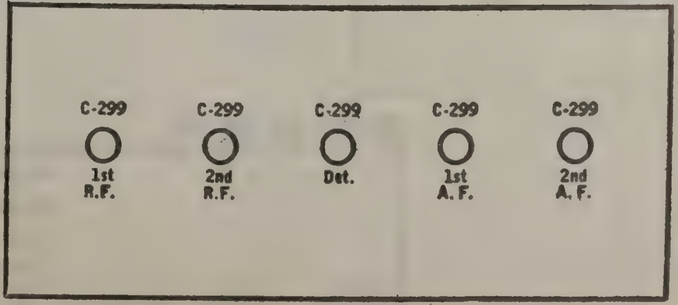

2-4 MEGS
.00025 MF
RED
BROWN
BLACK
BLUE
YELLOW

MODEL 21 DRY CELL SET No. 7780.

Model 20 Comp. (1925)

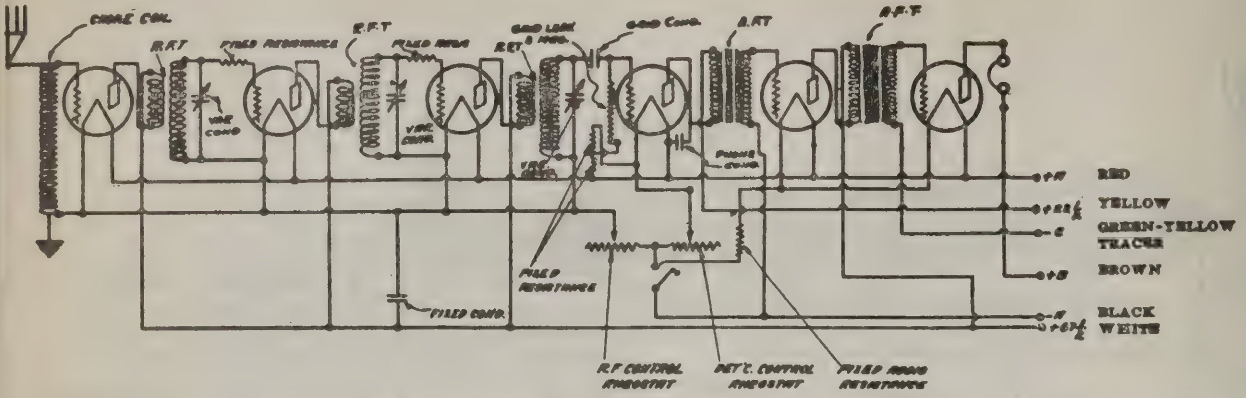

DET
'01A
1 AF
'01A
2 AF
'01A
OR
'12A
OR
'71A
1 RF
'01A
2 RF
'01A
FRONT

21 (Batt.)

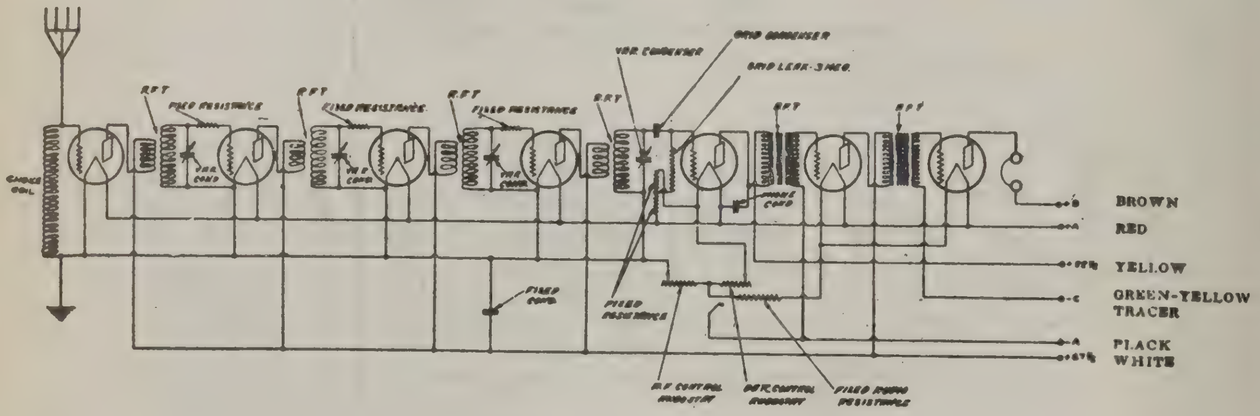

C-299
1st R.F.
C-299
2nd R.F.
C-299
Det.
C-299
1st A.F.
C-299
2nd A.F.

MODEL 30
MODEL 32
MODEL 35
MODEL 48

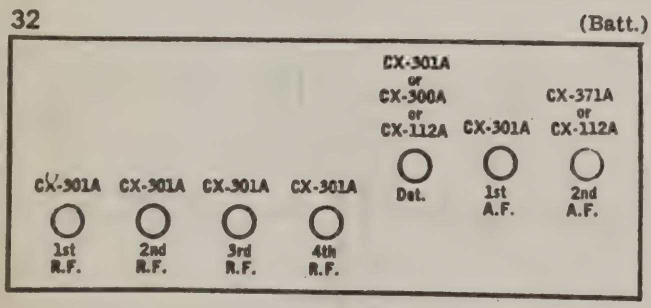
ATWATER KENT MFG. CO.

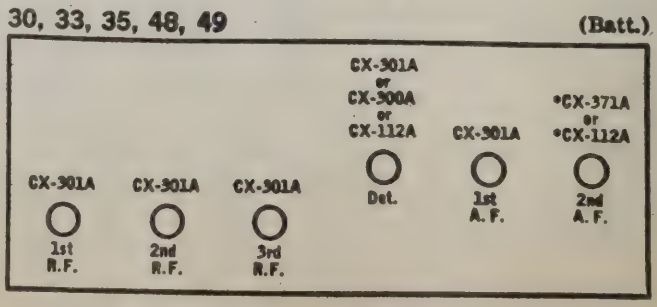

CHOKE COIL
R.F.T
FIXED RESISTANCE
VAR. COND.
R.F.T
FIXED RESIS.
VAR. COND.
R.F.T
GRID LEAK 5 MEG.
GRID COND.
VAR. COND.
A.F.T
PHONE COND.
A.F.T
RED
YELLOW
GREEN-YELLOW TRACER
BROWN
BLACK
WHITE
FIXED RESISTANCE
FIXED COND.
R.F. CONTROL RHEOSTAT
DET'C. CONTROL RHEOSTAT
FIXED AUDIO RESISTANCE

Wiring Diagram of Models 30, 35 and 48. (In Model 35, one rheostat controls the three R.F. filaments and a fixed resistance is connected in series with the detector and two A.F. filaments.)


R.F.T
FIXED RESISTANCE
R.F.T
FIXED RESISTANCE
R.F.T
FIXED RESISTANCE
R.F.T
VAR. CONDENSER
GRID CONDENSER
GRID LEAK-3 MEG.
A.F.T
A.F.T
CHOKE COIL
VAR. COND.
VAR. COND.
VAR. COND.
PHONE COND.
BROWN
RED
YELLOW
GREEN-YELLOW TRACER
BLACK
WHITE
FIXED COND.
FIXED RESISTANCE
R.F. CONTROL RHEOSTAT
DET'R. CONTROL RHEOSTAT
FIXED AUDIO RESISTANCE

Wiring Diagram of Model 32.


32
(Batt.)
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A
4th R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
CX-371A or CX-112A
2nd A.F.


30, 33, 35, 48, 49
(Batt.)
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
*CX-371A or *CX-112A
2nd A.F.

ATWATER KENT MFG. CO.

MODEL 33
MODEL 36 Early
MODEL 36 Late
MODEL 49

MODEL 36 ABOVE SERIAL No. 2,610,000

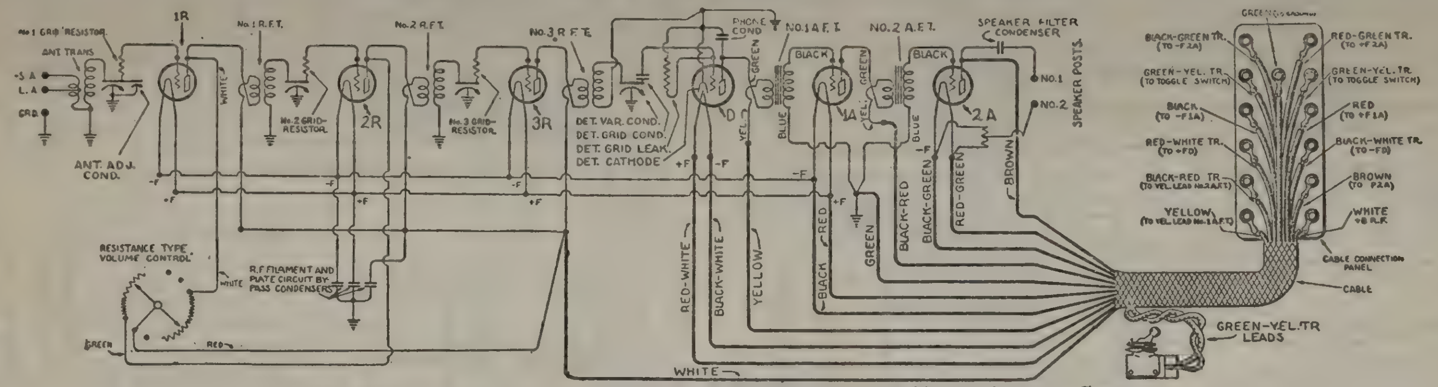
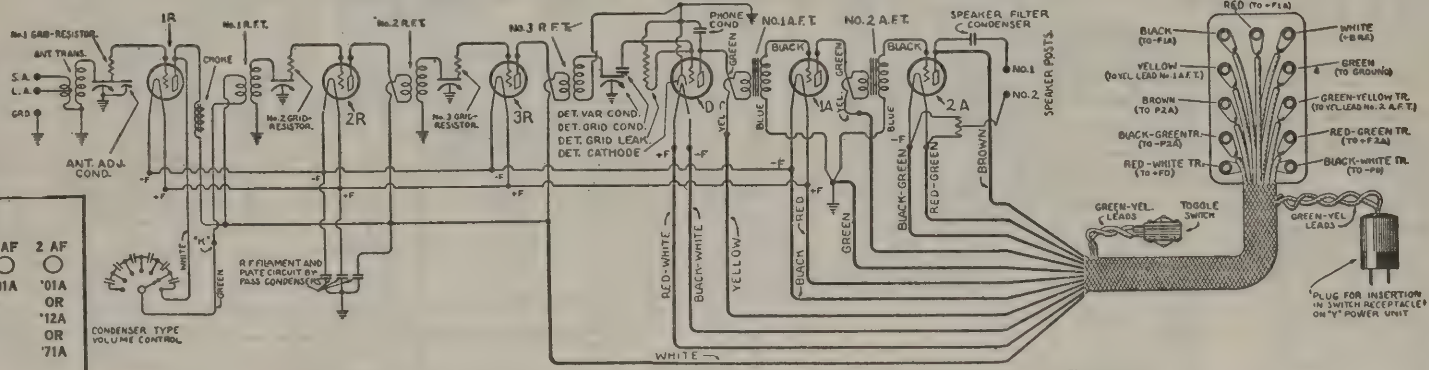

No.1 GRID RESISTOR
ANT TRANS
S.A.
L.A.
GRD.
ANT. ADJ. COND.
1R
No.1 R.F.T.
No.2 R.F.T.
No.2 GRID-RESISTOR
2R
No.3 R.F.T.
No.3 GRID-RESISTOR
3R
DET. VAR. COND.
DET. GRID COND.
DET. GRID LEAK
DET. CATHODE
PHONE COND
D
No.1 A.F.T.
1A
No.2 A.F.T.
2A
SPEAKER FILTER CONDENSER
No.1
No.2
SPEAKER POSTS
RESISTANCE TYPE VOLUME CONTROL
R.F. FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS
WHITE
GREEN
RED
BLACK
BLUE
YEL.
RED-WHITE
BLACK-WHITE
YELLOW
BLACK-RED
BLACK-GREEN
RED-GREEN
BROWN
+F
-F
BLACK-GREEN TR. (TO -F 2A)
GREEN-YEL. TR. (TO TOGGLE SWITCH)
BLACK (TO -F 1A)
RED-WHITE TR. (TO +FD)
BLACK-RED TR. (TO YEL. LEAD No.2 A.F.T.)
YELLOW (TO YEL. LEAD No.1 A.F.T.)
RED-GREEN TR. (TO +F 2A)
GREEN-YEL. TR. (TO TOGGLE SWITCH)
RED (TO +F 1A)
BLACK-WHITE TR. (TO -FD)
BROWN (TO P2A)
WHITE +B R.F.
CABLE CONNECTION PANEL
CABLE
GREEN-YEL. TR LEADS

Fig. 70. Wiring Diagram of Model 36 With Resistance-Type Volume Control.

MODEL 36 BELOW SERIAL No. 2,610,000


No.1 GRID-RESISTOR
ANT TRANS.
S.A.
L.A.
GRD.
ANT. ADJ. COND.
1R
CHOKE
No.1 R.F.T.
No.2 R.F.T.
No.2 GRID-RESISTOR
2R
No.3 R.F.T.
No.3 GRID-RESISTOR
3R
DET. VAR. COND.
DET. GRID COND.
DET. GRID LEAK
DET. CATHODE
PHONE COND
D
No.1 A.F.T.
1A
No.2 A.F.T.
2A
SPEAKER FILTER CONDENSER
No.1
No.2
SPEAKER POSTS
CONDENSER TYPE VOLUME CONTROL
R.F. FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS
WHITE
GREEN
RED
BLACK
BLUE
YEL.
RED-WHITE
BLACK-WHITE
YELLOW
BLACK-GREEN
RED-GREEN
BROWN
+F
-F
RED (TO +F 1A)
BLACK (TO -F 1A)
YELLOW (TO YEL. LEAD No.1 A.F.T.)
BROWN (TO P2A)
BLACK-GREEN TR. (TO -F 2A)
RED-WHITE TR. (TO +FD)
WHITE (+B RF)
GREEN (TO GROUND)
GREEN-YELLOW TR. (TO YEL. LEAD No.2 A.F.T.)
RED-GREEN TR. (TO +F 2A)
BLACK-WHITE TR. (TO -FD)
GREEN-YEL. LEADS
TOGGLE SWITCH
GREEN-YEL. LEADS
PLUG FOR INSERTION IN SWITCH RECEPTACLE ON "Y" POWER UNIT

Wiring Diagram of Model 36 With Condenser-Type Volume Control.

Model 33 (1927)

DET 1 AF 2 AF
'01A '01A '01A OR '12A OR '71A

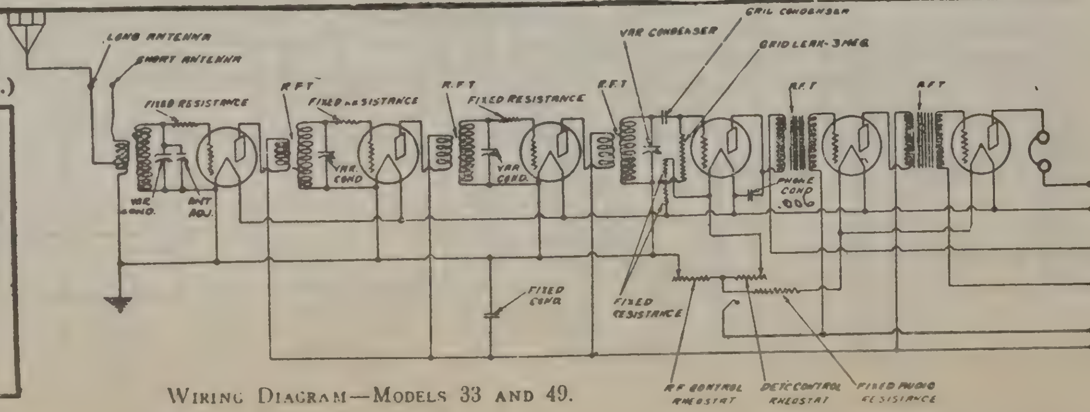
1 RF 2 RF 3 RF
'01A '01A '01A

FRONT

36 (A.C.)

CX-326	CX-326	CX-326	C-327	CX-326	CX-371A
1st R.F.	2nd R.F.	3rd R.F.	Det.	1st A.F.	2nd A.F

CX-380 used in separate power unit.

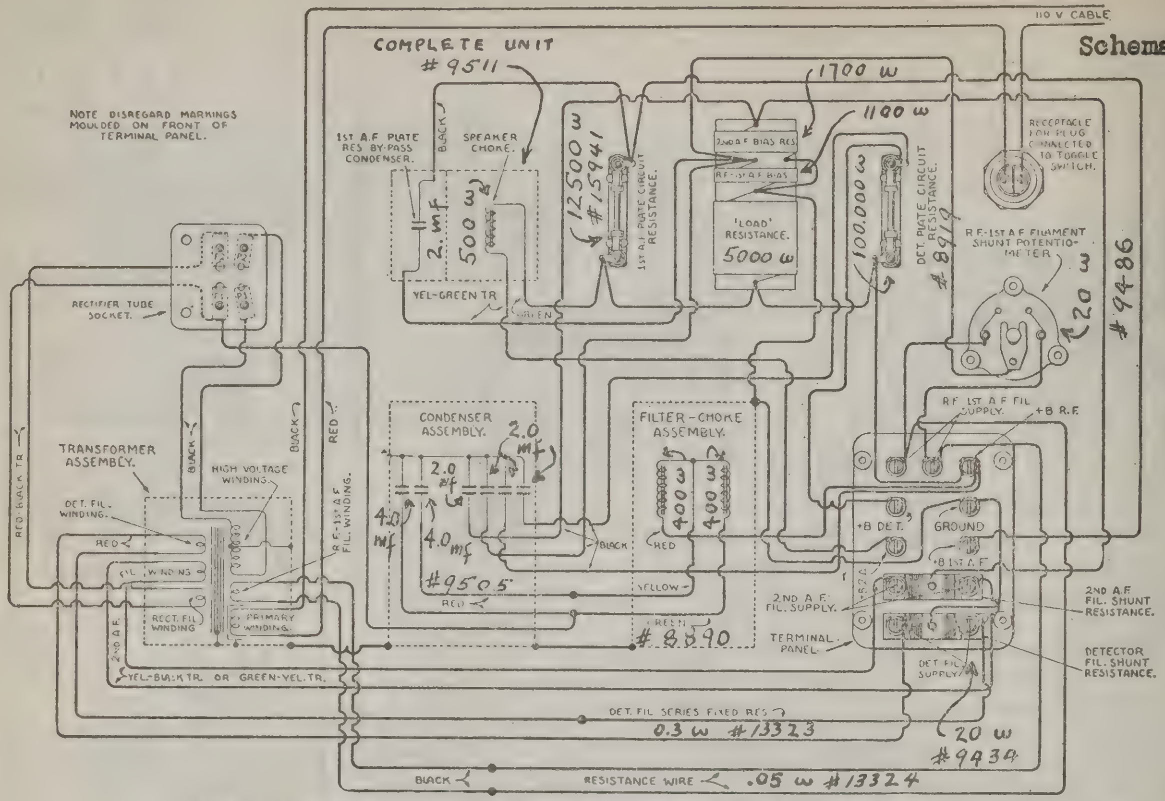

LONG ANTENNA
SHORT ANTENNA
FIXED RESISTANCE
VAR COND.
ANT ADJ.
R.F.T.
FIXED RESISTANCE
VAR COND.
R.F.T.
FIXED RESISTANCE
VAR COND.
R.F.T.
VAR CONDENSER
GRID CONDENSER
GRID LEAK - 3 MEG
A.F.T.
PHONE COND .006
A.F.T.
FIXED COND.
FIXED RESISTANCE
R.F. CONTROL RHEOSTAT
DET. CONTROL RHEOSTAT
FIXED AUDIO RESISTANCE
+B
-B
+22½
-C
-A-B
+67½

Wiring Diagram—Models 33 and 49.

ATWATER KENT MFG. CO.

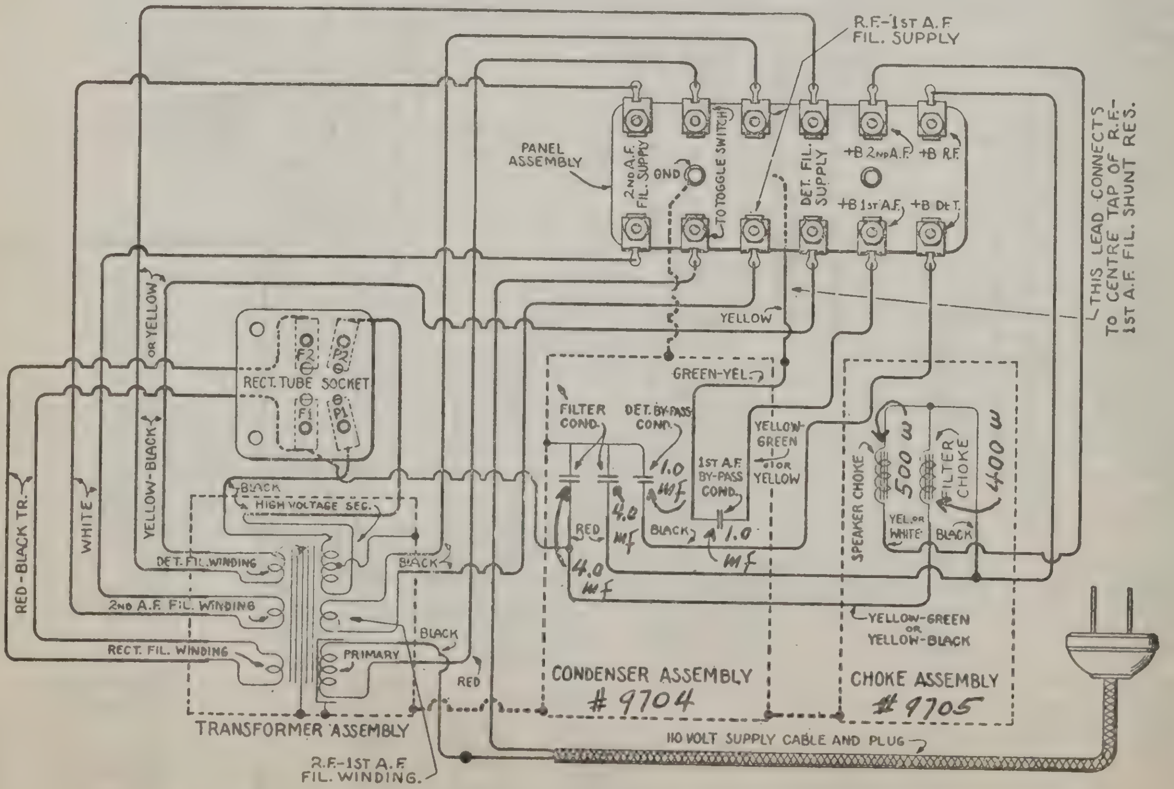
MODEL 36
Power Pack

Schematic


110 V CABLE
COMPLETE UNIT
#9511
NOTE DISREGARD MARKINGS MOULDED ON FRONT OF TERMINAL PANEL.
1ST A.F PLATE RES BY-PASS CONDENSER.
BLACK
SPEAKER CHOKE.
2. mf
500 w
12500 w
#15941
1ST A.F. PLATE CIRCUIT RESISTANCE.
1700 w
1100 w
2ND A.F. BIAS RES.
R.F.-1ST A.F. BIAS
'LOAD' RESISTANCE.
5000 w
100.000 w
DET. PLATE CIRCUIT RESISTANCE.
#8919
RECEPTACLE FOR PLUG CONNECTED TO TOGGLE SWITCH.
R.F.-1ST A.F. FILAMENT SHUNT POTENTIOMETER
20 w
#9486
RECTIFIER TUBE SOCKET.
YEL-GREEN TR
GREEN
RED-BLACK TR
TRANSFORMER ASSEMBLY.
BLACK
BLACK
RED
HIGH VOLTAGE WINDING.
DET. FIL. WINDING.
RED
FIL. WINDINGS
RECT. FIL WINDING
PRIMARY WINDING.
R.F.-1ST A.F. FIL. WINDING.
2ND A.F.
YEL-BLACK TR. OR GREEN-YEL. TR.
CONDENSER ASSEMBLY.
2.0 mf
2.0 mf
4.0 mf
4.0 mf
#9505
RED
BLACK
FILTER-CHOKE ASSEMBLY.
400 w
400 w
RED
YELLOW
GREEN
#8590
R.F. 1ST A.F. FIL. SUPPLY.
+B R.F.
+B DET.
GROUND
+B 1ST A.F.
2ND A.F. FIL. SUPPLY.
TERMINAL PANEL.
2ND A.F. FIL. SHUNT RESISTANCE.
DETECTOR FIL. SHUNT RESISTANCE.
DET. FIL SUPPLY.
DET. FIL SERIES FIXED RES
0.3 w #13323
20 w
#9434
BLACK
RESISTANCE WIRE
.05 w #13324

Model "Y" Power Units below Serial No. 260,000

(Used with Model 36 Sets below Serial No. 2,610,000)

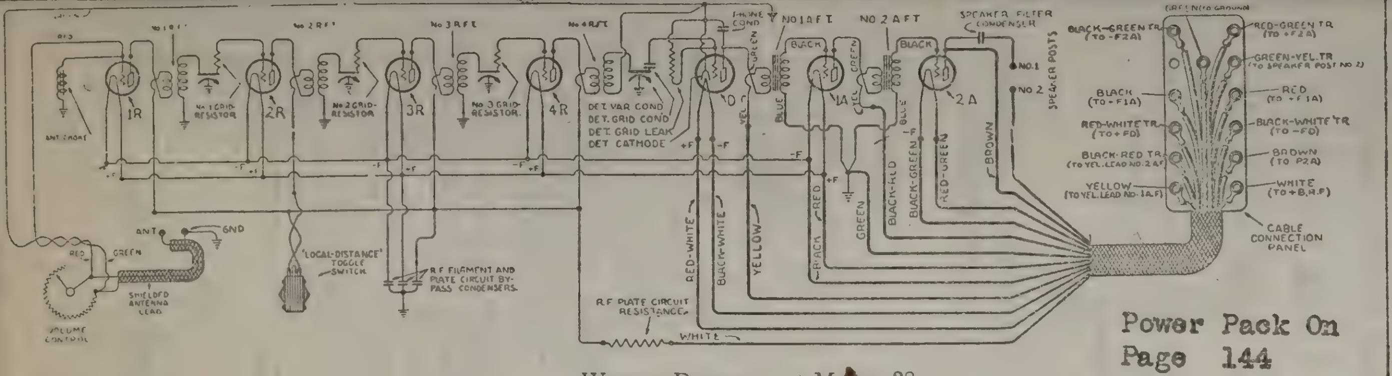

R.F.-1ST A.F. FIL. SUPPLY
PANEL ASSEMBLY
2ND A.F. FIL. SUPPLY
GND
TO TOGGLE SWITCH
DET. FIL. SUPPLY
+B 2ND A.F.
+B R.F.
+B 1ST A.F.
+B DET.
THIS LEAD CONNECTS TO CENTRE TAP OF R.F.-1ST A.F. FIL. SHUNT RES.
OR YELLOW
YELLOW
RECT. TUBE SOCKET
F2
P2
F1
P1
GREEN-YEL.
FILTER COND.
DET. BY-PASS COND.
1.0 mf
YELLOW-GREEN OR YELLOW
1ST A.F. BY-PASS COND.
1.0 mf
RED
4.0 mf
BLACK
4.0 mf
SPEAKER CHOKE
500 w
FILTER CHOKE
400 w
YEL. OR WHITE
BLACK
RED-BLACK TR.
WHITE
YELLOW-BLACK
BLACK
HIGH VOLTAGE SEC.
DET. FIL. WINDING
BLACK
2ND A.F. FIL. WINDING
BLACK
RECT. FIL. WINDING
PRIMARY
RED
YELLOW-GREEN OR YELLOW-BLACK
CONDENSER ASSEMBLY
#9704
CHOKE ASSEMBLY
#9705
TRANSFORMER ASSEMBLY
110 VOLT SUPPLY CABLE AND PLUG
R.F.-1ST A.F. FIL. WINDING.

Model "Y" Power Units Above Serial No. 260,000

(Used with Model 36 Sets above Serial No. 2,610,000)

ATWATER KENT MFG. CO.

MODEL 37
MODEL 38
(A.C.)

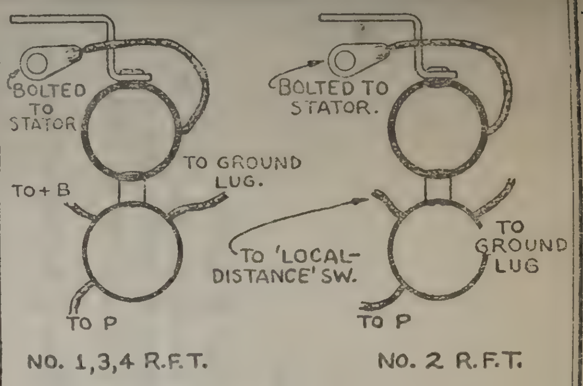


No 1 R F T
No 2 R F T
No 3 R F T
No 4 R F T
1R
2R
3R
4R
No 1 GRID RESISTOR
No 2 GRID RESISTOR
No 3 GRID RESISTOR
ANT CHOKE
DET. VAR COND
DET. GRID COND
DET. GRID LEAK
DET. CATHODE
PHONE COND
NO 1 A F T
NO 2 A F T
D
1A
2A
BLACK
BLUE
YEL
GREEN
SPEAKER FILTER CONDENSER
NO 1
NO 2
SPEAKER POSTS
GREEN (TO GROUND)
BLACK-GREEN TR (TO -F2A)
BLACK (TO -F1A)
RED-WHITE TR (TO +FD)
BLACK-RED TR (TO YEL. LEAD NO. 2 AF)
YELLOW (TO YEL. LEAD NO. 1 AF)
RED-GREEN TR (TO +F2A)
GREEN-YEL. TR (TO SPEAKER POST NO 2)
RED (TO +F1A)
BLACK-WHITE TR (TO -FD)
BROWN (TO P2A)
WHITE (TO +B, R.F.)
CABLE CONNECTION PANEL
RED-WHITE
BLACK-WHITE
YELLOW
BLACK
RED
GREEN
BLACK-RED
BLACK-GREEN
RED-GREEN
BROWN
WHITE
+F
-F
ANT
GND
GREEN
RED
SHIELDED ANTENNA LEAD
VOLUME CONTROL
'LOCAL-DISTANCE' TOGGLE SWITCH
R F FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS
R F PLATE CIRCUIT RESISTANCE

Power Pack On Page 144

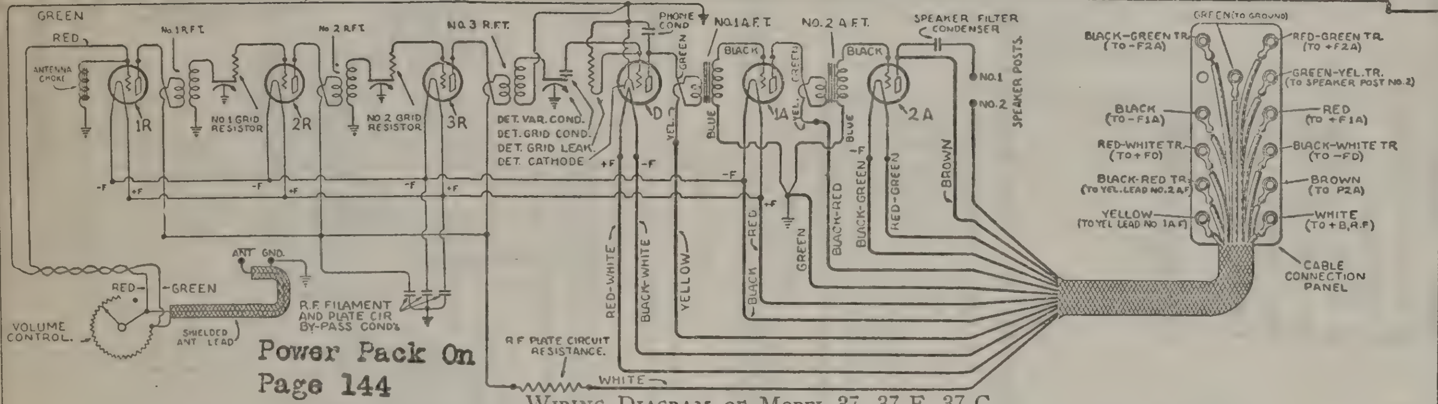
WIRING DIAGRAM OF MODEL 38.

A 2nd-A. F. filament-shunt resistor is used before Serial No. 1,752,000 and the green-yellow tracer cable lead is not used. Connections for this resistor are shown in dotted lines in the diagram on page 61. A schematic diagram of the volume control is shown in Fig. 78.



BOLTED TO STATOR
TO GROUND LUG.
TO + B
TO P
NO. 1,3,4 R.F.T.
BOLTED TO STATOR.
TO 'LOCAL-DISTANCE' SW.
TO GROUND LUG
TO P
NO. 2 R.F.T.

SKETCH SHOWING CONNECTIONS FROM R. F. TRANSFORMERS



GREEN
RED
ANTENNA CHOKE
No 1 R.F.T.
No 2 R.F.T.
NO 3 R.F.T.
1R
2R
3R
NO 1 GRID RESISTOR
NO 2 GRID RESISTOR
DET. VAR. COND.
DET. GRID COND.
DET. GRID LEAK.
DET. CATHODE
PHONE COND
NO 1 A F T.
NO. 2 A F T.
D
1A
2A
BLACK
BLUE
YEL
GREEN
SPEAKER FILTER CONDENSER
NO. 1
NO. 2
SPEAKER POSTS.
GREEN (TO GROUND)
BLACK-GREEN TR. (TO -F2A)
BLACK (TO -F1A)
RED-WHITE TR. (TO + FD)
BLACK-RED TR. (TO YEL. LEAD NO. 2 AF)
YELLOW (TO YEL. LEAD NO 1 AF)
RED-GREEN TR. (TO +F2A)
GREEN-YEL. TR. (TO SPEAKER POST NO. 2)
RED (TO +F1A)
BLACK-WHITE TR (TO -FD)
BROWN (TO P2A)
WHITE (TO +B, R.F)
CABLE CONNECTION PANEL
RED-WHITE
BLACK-WHITE
YELLOW
BLACK
RED
GREEN
BLACK-RED
BLACK-GREEN
RED-GREEN
BROWN
WHITE
+F
-F
ANT
GND.
RED
GREEN
VOLUME CONTROL.
SHIELDED ANT LEAD
R.F. FILAMENT AND PLATE CIR BY-PASS CONDS
R F PLATE CIRCUIT RESISTANCE.

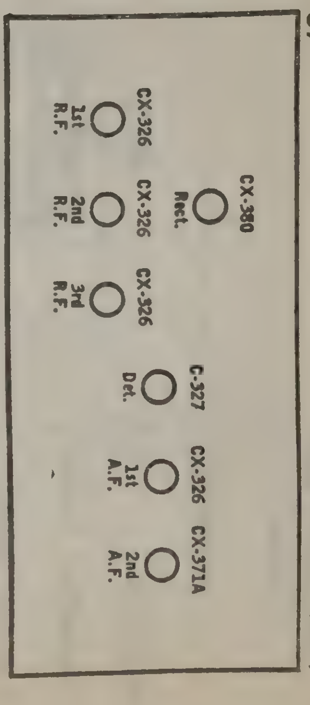
Power Pack On Page 144

WIRING DIAGRAM OF MODEL 37, 37-F, 37-C.

A 2nd-A F. filament-shunt resistor is used before Serial No. 1,385,000, in which case speaker post No. 2 connects to the centre-tap of this resistor, and the green-yellow tracer lead is not used. The R. F. plate circuit resistor is used after Serial No. 1,385,000.

In Model 37-C the on-off switch is connected to the two terminals on either side of the ground eyelet. A 2nd-A. F. filament-shunt resistor is used in the chassis of all Model 37-C receivers.

37



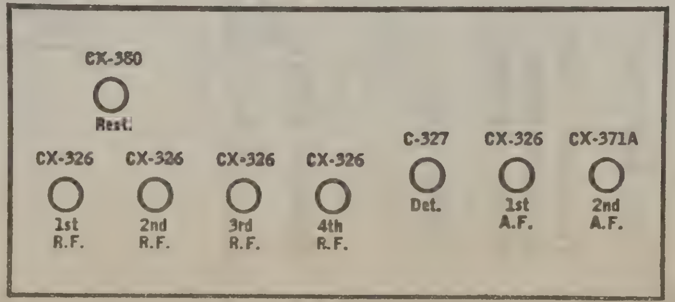
CX-380
Rect.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.
CX-326
1st A.F.
CX-371A
2nd A.F.

ATWATER-KENT—Models 37-38

Line Voltage 115—On Early Models "B" and "C" Voltages Are Lower Than Shown

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	226	1st.R.F.	1.3	173	1.25	165	10	-	4.8	8.4	3.6
2	226	2nd.R.F.	1.3	173	1.25	165	10	-	4.8	8.4	3.6
3	226	3rd.R.F.	1.3	173	1.25	165	10	-	4.8	8.4	3.6
4	227	Detector	2.25	80	2.0	22.5	-	-	2.2	2.2	0.0
5	226	1st.A.F.	1.3	173	1.25	165	10	-	4.8	8.4	3.6
6	171	2nd.A.F.	4.6	192	4.3	180	36	-	18.0	19.5	1.5
7	280	Rectifier	-	-	4.3	-	-	-	20.0	-	-
8											
9											
10											

38 (A.C.)



CX-380
Rect.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
CX-326
4th R.F.
C-327
Det.
CX-326
1st A.F.
CX-371A
2nd A.F.

Power pack reference on page 1-8.

MODEL 37
Power Pack
Early and Late
Data

Schematic

ATWATER KENT MFG. CO.

RESISTORS	Early	Late
Detector plate	100000 ohms #8919 Green paint	65000 ohms # 15592 1 watt black or bl. and gr.
1st a-f plate	12500 ohms #15941 red See late.	12500 ohms # 15941 red or purple and yellow or red.
R-f and 1st a-f bias	1100 ohms # 9691 eliptical	625 ohms # 13128 eliptical
2nd a-f bias	1750 ohms # 9692 eliptical	2200 ohms # 13289 eliptical
Filament shunt	20 ohms # 9434	20 ohms # 9434 flat, wire
Speaker choke	500 ohms	500 ohms
Filter chokes	1600 ohms total	1600 ohms total
CONDENSERS	See schematic	See Schematic. Condenser unit is # 13315. Also houses transformer.

Special Note.

A 1. mfd condenser is also contained in the transformer-condenser housing but this condenser is not connected in the model 37 power pack.

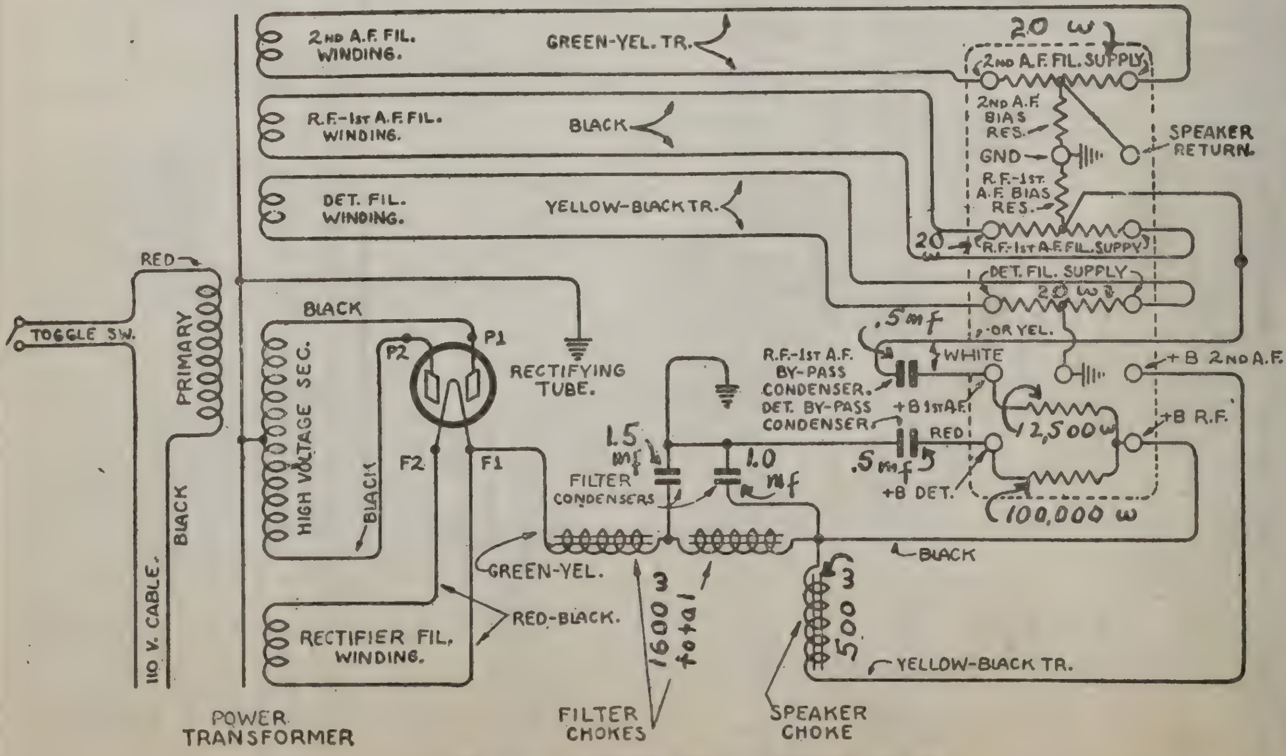
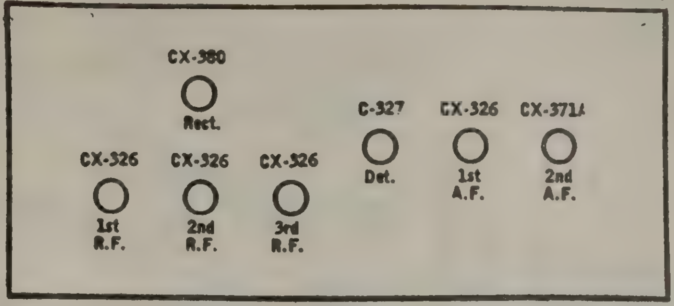

2ND A.F. FIL. WINDING.
GREEN-YEL. TR.
R.F.-1ST A.F. FIL. WINDING.
BLACK
DET. FIL. WINDING.
YELLOW-BLACK TR.
20 w
2ND A.F. FIL. SUPPLY
2ND A.F. BIAS RES.
GND
SPEAKER RETURN
R.F.-1ST. A.F. BIAS RES.
20 w
R.F.-1ST A.F. FIL. SUPPY
DET. FIL. SUPPLY
20 w
.5 mf
OR YEL.
WHITE
R.F.-1ST A.F. BY-PASS CONDENSER.
DET. BY-PASS CONDENSER
+B 1ST A.F.
RED
+B 2ND A.F.
12,500 w
+B R.F.
.5 mf
+B DET.
100,000 w
RED
TOGGLE SW.
PRIMARY
BLACK
HIGH VOLTAGE SEC.
P1
P2
RECTIFYING TUBE.
F2
F1
BLACK
1.5 mf
1.0 mf
FILTER CONDENSERS
GREEN-YEL.
BLACK
3
1600 total
3
500
RED-BLACK.
RECTIFIER FIL. WINDING.
YELLOW-BLACK TR.
110 V. CABLE.
BLACK
POWER TRANSFORMER
FILTER CHOKES
SPEAKER CHOKE

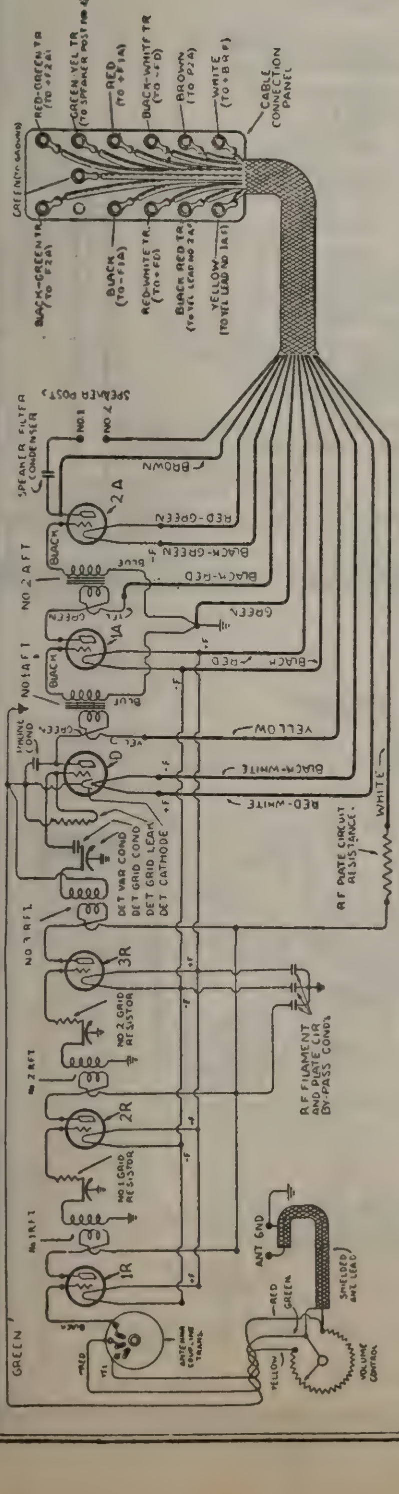
Diagram of Power Unit in Models 37 and 38

ATWATER KENT MFG. CO.

MODEL 40
MODEL 42
MODEL 52

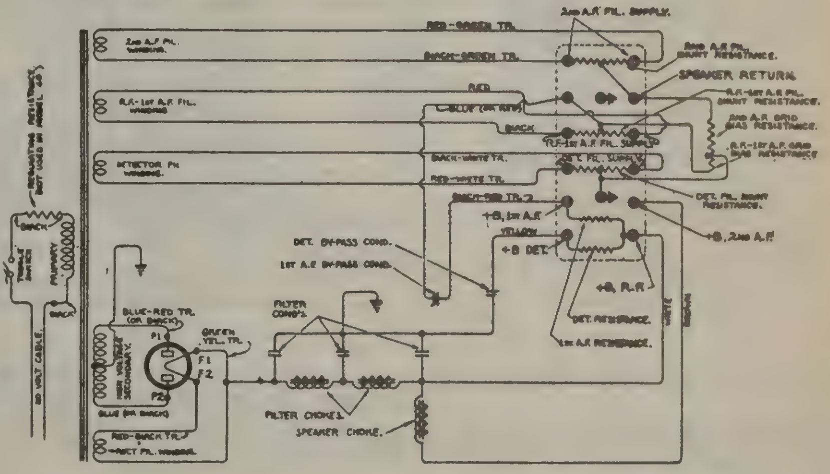
40, 42, 52 (A.C.)


CX-380
Rect.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.
CX-326
1st A.F.
CX-371A
2nd A.F.


RED-GREEN TR (TO +F2A)
GREEN-YEL TR (TO SPEAKER POST NO 2)
RED (TO +F1A)
BLACK-WHITE TR (TO -FD)
BROWN (TO P2A)
WHITE (TO +B RF)
CABLE CONNECTION PANEL
GREEN (TO GROUND)
BLACK-GREEN TR (TO F2A)
BLACK (TO -F1A)
RED-WHITE TR. (TO +FD)
BLACK RED TR (TO YEL LEAD NO 2 AF)
YELLOW (TO YEL LEAD NO 1 AF)
SPEAKER POSTS
NO 1
NO 2
SPEAKER FILTER CONDENSER
BROWN
2A
RED-GREEN
BLACK-GREEN
BLACK-RED
NO 2 A F T
BLACK
BLUE
GREEN
1A
BLACK
RED
NO 1 A F T
YELLOW
PHONE COND
D
BLACK-WHITE
RED-WHITE
WHITE
DET VAR COND
DET GRID COND
DET GRID LEAK
DET CATHODE
RF PLATE CIRCUIT RESISTANCE
NO 3 R F T
3R
NO 2 GRID RESISTOR
RF FILAMENT AND PLATE CIR BY-PASS CONDS
NO 2 R F T
2R
NO 1 GRID RESISTOR
NO 1 R F T
1R
ANT GND
RED
GREEN
SHIELDED ANT LEAD
YELLOW
VOLUME CONTROL
ANTENNA COUPLING TRANS
GREEN

WIRING DIAGRAM OF MODEL 40, 40-F, 42, 42-F, 52, 56 AND 57.

Model 52 does not have the shielded antenna lead, but is provided with two twenty-foot leads which are connected to the volume control, black for antenna and black-green tracer for ground. Model 56 and 57 have antenna and ground posts at the bottom of the cabinet.


2nd A.F. FIL. SUPPLY.
RED-GREEN TR.
2nd A.F. FIL. WINDING
BLACK-GREEN TR.
2nd A.F. FIL. SHUNT RESISTANCE.
SPEAKER RETURN.
R.F.-1st A.F. FIL. WINDING
RED
BLUE (OR RED)
R.F.-1st A.F. FIL. SHUNT RESISTANCE.
BLACK
2nd A.F. GRID BIAS RESISTANCE.
R.F.-1st A.F. FIL. SUPPLY
R.F.-1st A.F. GRID BIAS RESISTANCE
DETECTOR FIL. WINDING
BLACK-WHITE TR.
DET. FIL. SUPPLY
RED-WHITE TR.
DET. FIL. SHUNT RESISTANCE.
BLACK-RED TR.
+B, 1st A.F.
YELLOW
+B DET.
+B, 2nd A.F.
DET. BY-PASS COND.
1st A.F. BY-PASS COND.
+B, R.F.
DET. RESISTANCE.
1st A.F. RESISTANCE.
WHITE
BROWN
REGULATING RESISTANCE NOT USED IN MODEL 40
TOGGLE SWITCH
BLACK
PRIMARY
110 VOLT CABLE
BLUE-RED TR. (OR BLACK)
HIGH VOLTAGE SECONDARY
GREEN-YEL. TR.
P1
P2
F1
F2
FILTER CONDS.
FILTER CHOKES.
SPEAKER CHOKE.
BLUE (OR BLACK)
RED-BLACK TR.
RECT. FIL. WINDING

SCHEMATIC DIAGRAM OF POWER UNIT IN MODELS 40, 42, 44, AND 52.
SOME EARLY UNITS OF THIS TYPE HAVE COLOR SCHEME SIMILAR TO UNIT IN MODEL 38 SET.
NOTE THAT COLORS AS NOW STANDARDIZED CORRESPOND WITH THE COLORS OF SET-CABLE LEADS.

ATWATER-KENT—Model 40
Line Voltage 115

Tube No. in Order	Type of Tube	Position of Tube 1st R.F. Det., etc.	Readings Plug in Socket of Set: Tube Out A Volts	Tube Out B Volts	Tube in Tester A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.3	145	1.25	138	10	-	4.8	8.4	3.6
2	226	2nd.R.F.	1.3	145	1.25	138	10	-	4.8	8.4	3.6
3	226	3rd.R.F.	1.3	145	1.25	138	10	-	4.2	8.0	3.8
4	227	Detector	2.25	157	2.0	40	-	-	2.2	2.2	0.0
5	226	1st.A.F.	1.3	172	1.25	130	8	-	3.8	7.6	3.8
6	171A	2nd.A.F.	4.2	210	4.1	148	32	-	14.4	15.4	1.0
7	280	Rectifier	-	-	4.5	-	-	-	16.5	-	-

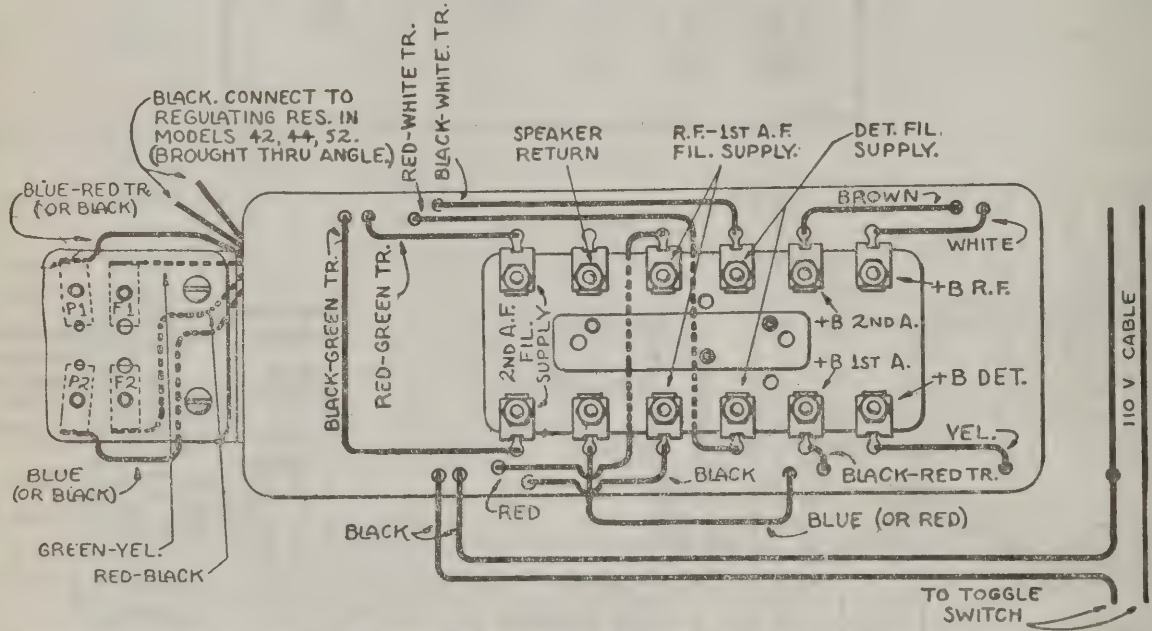
ATWATER-KENT—Models 42-44-52-56
Line Voltage 115—4th R. F.—Tube in Model 44 Only.

Tube No. in Order	Type of Tube	Position of Tube 1st R.F. Det., etc.	Readings Plug in Socket of Set: Tube Out A Volts	Tube Out B Volts	Tube in Tester A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.55	164	1.4	152	12	-	5.4	9.1	3.7
2	226	2nd.R.F.	1.55	164	1.4	152	12	-	5.7	9.2	3.5
3	226	3rd.R.F.	1.5	156	1.4	152	11.5	-	5.4	9.1	3.7
4	227	Det.	2.25	174	2.15	38	0	-	2.2	2.2	0.0
5	226	1st.A.F.	1.5	192	1.4	150	10.5	-	5.0	8.7	3.7
6	171A	2nd.A.F.	4.7	232	4.5	162	35	-	15.0	16.0	1.0
7	280	Rectifier	-	-	4.8	-	-	-	18.0	-	-
8											
9											

MODEL 40,42,44,52
Power Unit Layout
MODEL 40,45
2nd Type Power Unit

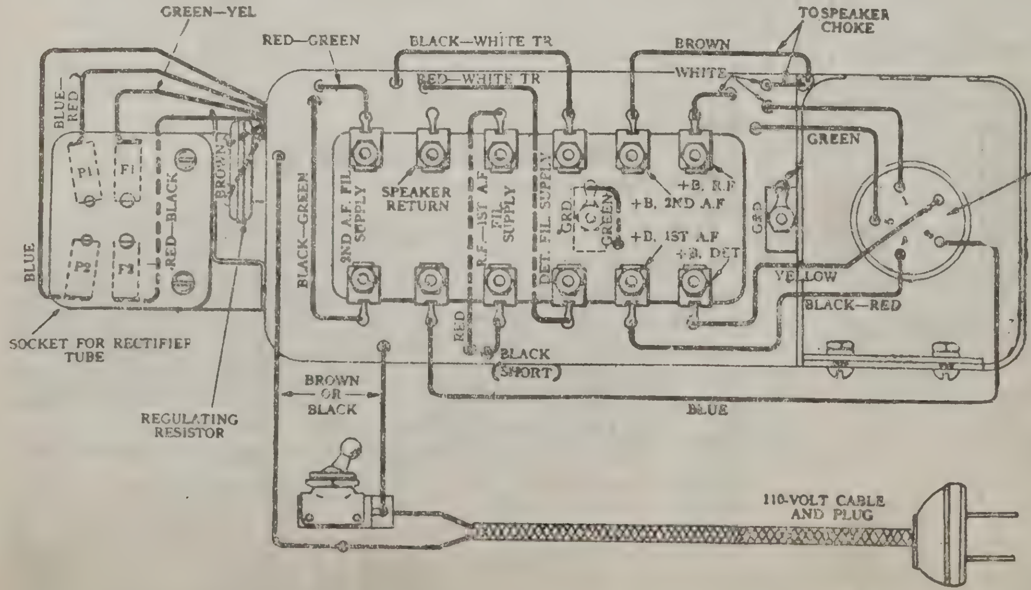
ATWATER KENT MFG. CO.

Schematic


BLACK. CONNECT TO REGULATING RES. IN MODELS 42, 44, 52. (BROUGHT THRU ANGLE.)
RED-WHITE TR.
BLACK-WHITE TR.
SPEAKER RETURN
R.F.-1ST A.F. FIL. SUPPLY.
DET. FIL. SUPPLY.
BLUE-RED TR. (OR BLACK)
BROWN
WHITE
+B R.F.
+B 2ND A.
+B 1ST A.
+B DET.
YEL.
P1
F1
P2
F2
BLACK-GREEN TR.
RED-GREEN TR.
2ND A.F. FIL. SUPPLY
110 V CABLE
BLACK
BLACK-RED TR.
BLUE (OR BLACK)
RED
BLUE (OR RED)
BLACK
GREEN-YEL.
RED-BLACK
TO TOGGLE SWITCH

Power Unit in Models 40, 42, 44 and 52, Showing Connections from Sealed Container to Panel Assembly, Rectifier Socket and Regulating Resistance

This view shows the approximate position of leads from sealed container. In Models 42, 44 and 52, a hole is cut in the rectifier-socket mounting angle and the two black leads are brought up through the hole and connect to the regulating resistance, which is mounted upright at the left-hand end of the sealed container.


GREEN—YEL
RED—GREEN
BLACK—WHITE TR
BROWN
TO SPEAKER CHOKE
WHITE
RED—WHITE TR
BLUE—RED
P1
F1
P2
F2
RED—BLACK
BROWN
BLUE
BLACK—GREEN
2ND A.F. FIL SUPPLY
SPEAKER RETURN
R.F.—1ST A.F FIL SUPPLY
DET. FIL. SUPPLY
GRD.
C
GREEN
+B. R.F
+B. 2ND A.F
+B. 1ST A.F
+B. DET
GRD
GREEN
CONDENSER ASSEMBLY
YELLOW
BLACK—RED
SOCKET FOR RECTIFIER TUBE
RED
BLACK (SHORT)
BROWN —OR— BLACK
BLUE
REGULATING RESISTOR
110-VOLT CABLE AND PLUG

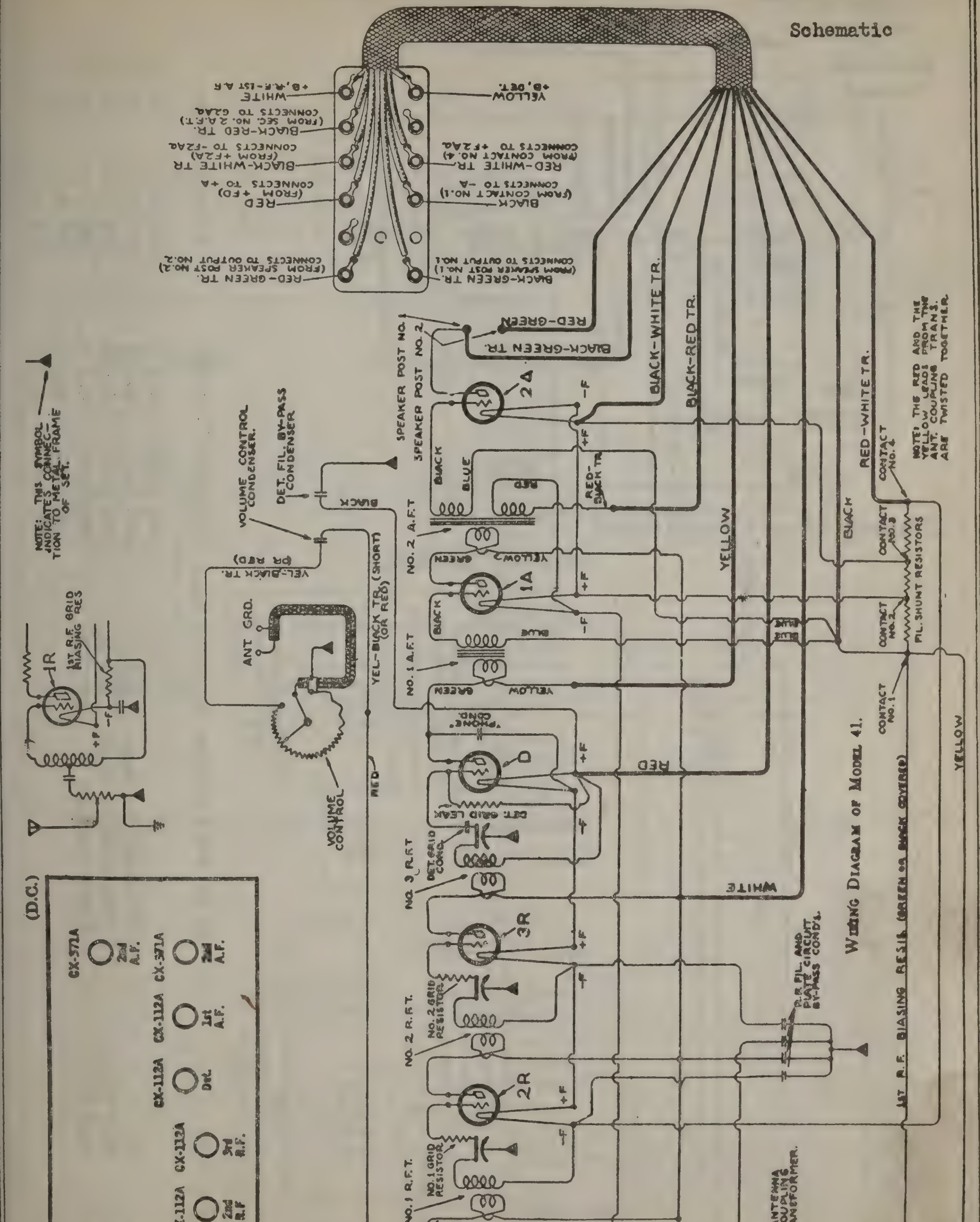
View Showing Connections in 2nd Type of Power Unit for Models 40 and 45.

This view shows the panel assembly moved to left of normal position.
The regulating resistor is not used in these models.

ATWATER KENT MFG. CO.

MODEL 41 DC

Schematic

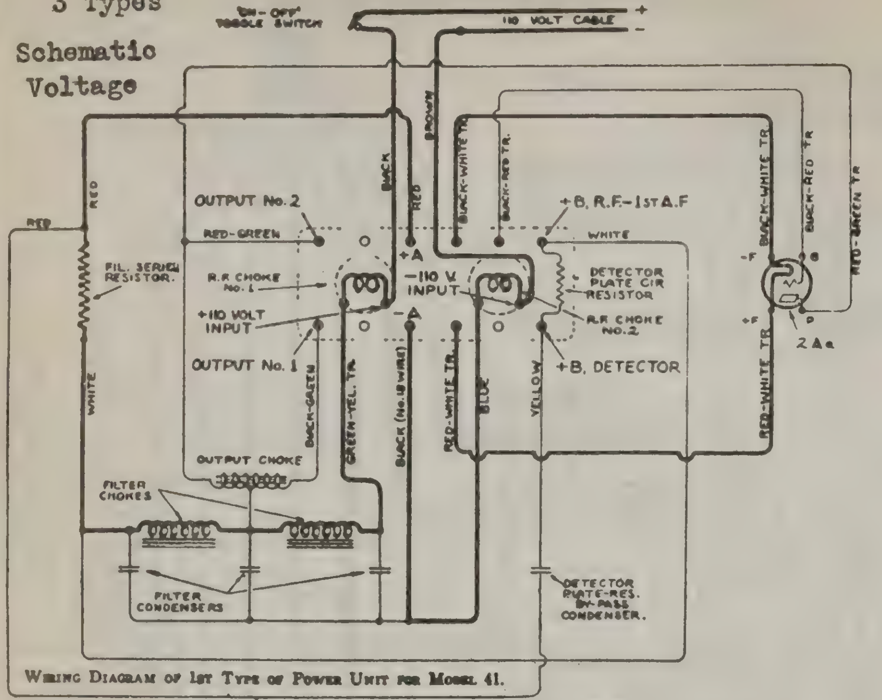

+B, R.F.-1ST A.F.
WHITE
BLACK-RED TR.
(FROM SEC. NO. 2 A.F.T.)
CONNECTS TO G2A.
BLACK-WHITE TR
(FROM +F2A)
CONNECTS TO -F2A.
RED
(FROM +FD)
CONNECTS TO +A
RED-GREEN TR.
(FROM SPEAKER POST NO. 2)
CONNECTS TO OUTPUT NO. 2
+B, DET.
YELLOW
RED-WHITE TR.
(FROM CONTACT NO. 4)
CONNECTS TO +F2A.
BLACK
(FROM CONTACT NO. 1)
CONNECTS TO -A
BLACK-GREEN TR.
(FROM SPEAKER POST NO. 1)
CONNECTS TO OUTPUT NO. 1
RED-GREEN
BLACK-GREEN TR.
SPEAKER POST NO. 1
SPEAKER POST NO. 2
BLACK-WHITE TR.
BLACK-RED TR.
RED-WHITE TR.
NOTE: THE RED AND THE YELLOW LEADS FROM THE ANT. COUPLING TRANS. ARE TWISTED TOGETHER.
CONTACT NO. 4
CONTACT NO. 3
CONTACT NO. 2
CONTACT NO. 1
FIL. SHUNT RESISTORS
2A
1A
D
3R
2R
1R
-F
+F
BLACK
BLUE
RED
RED-BLACK TR.
NO. 2 A.F.T.
YELLOW
GREEN
NO. 1 A.F.T.
"PHONE" COND.
DET. GRID LEAK
DET. GRID COND.
NO. 3 R.F.T.
NO. 2 GRID RESISTOR
NO. 2 R.F.T.
NO. 1 GRID RESISTOR
NO. 1 R.F.T.
YEL.
1ST R.F. PLATE CIR. RESISTOR
ANTENNA COUPLING TRANSFORMER.
R.F. FIL. AND PLATE CIRCUIT BY-PASS CONDS.
1ST R.F. BIASING RESIS. (GREEN OR BLACK COVERED)
WHITE
WIRING DIAGRAM OF MODEL 41.
DET. FIL. BY-PASS CONDENSER
VOLUME CONTROL CONDENSER.
VEL-BLACK TR.
(OR RED)
YEL-BLACK TR. (SHORT) (OR RED)
ANT GRD.
VOLUME CONTROL
NOTE: THIS SYMBOL INDICATES CONNECTION TO METAL FRAME OF SET.
1R
1ST. R.F. GRID BIASING RES
(D.C.)
CX-371A
2nd A.F.
CX-371A
3rd A.F.
CX-112A
1st A.F.
CX-112A
Det.
CX-112A
3rd R.F.
CX-112A
2nd R.F.
CX-112A
1st R.F.
41

Power pack reference on page 1-12.

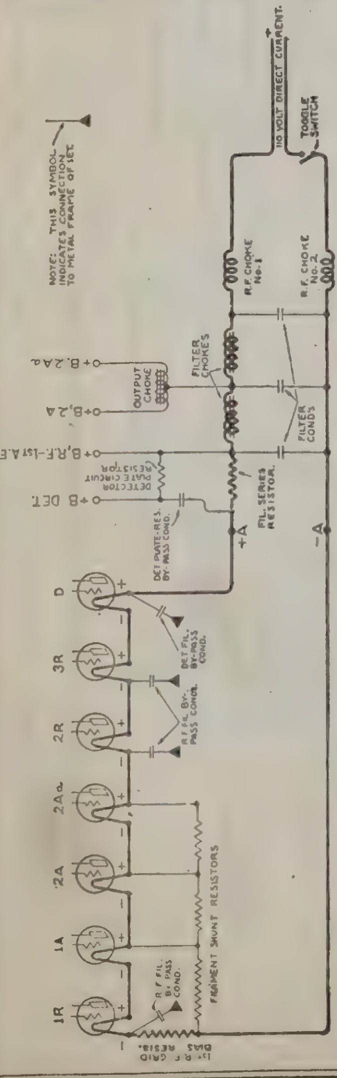
MODEL 41
Power Pack
3 Types

ATWATER KENT MFG. CO.

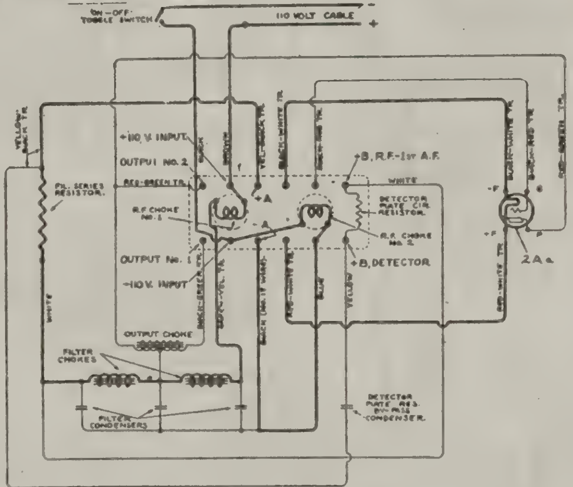
Schematic
Voltage


"ON-OFF" TOGGLE SWITCH
110 VOLT CABLE
+
−
RED
FIL. SERIES RESISTOR.
WHITE
OUTPUT No. 2
RED-GREEN
R.F. CHOKE No. 1
+110 VOLT INPUT
OUTPUT No. 1
BLACK-GREEN
OUTPUT CHOKE
FILTER CHOKES
FILTER CONDENSERS
BLACK
RED
BROWN
+A
−A
−110 V. INPUT
GREEN-YEL. TR.
BLACK (No. 18 WIRE)
RED-WHITE TR.
BLUE
YELLOW
BLACK-WHITE TR.
BLACK-RED TR.
+B, R.F.-1st A.F.
WHITE
DETECTOR PLATE CIR RESISTOR
R.F. CHOKE No. 2
+B, DETECTOR
DETECTOR PLATE-RES. BY-PASS CONDENSER.
RED-GREEN TR.
−F
+F
2Aa

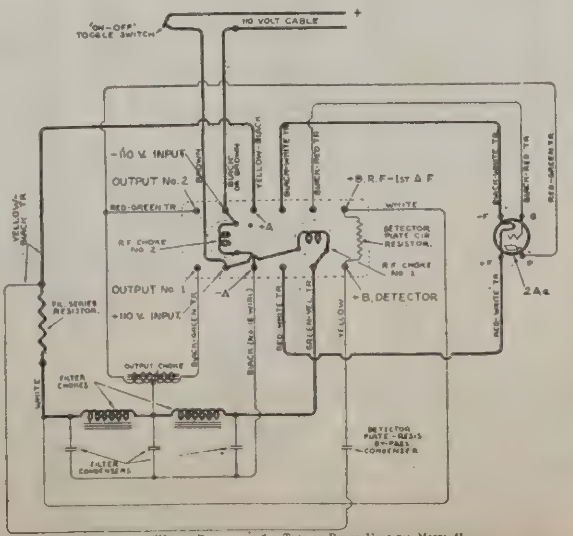
Wiring Diagram of 1st Type of Power Unit for Model 41.


NOTE: THIS SYMBOL INDICATES CONNECTION TO METAL FRAME OF SET.
110 VOLT DIRECT CURRENT.
TOGGLE SWITCH
R.F. CHOKE No. 1
R.F. CHOKE No. 2
FILTER CHOKES
FILTER CONDS
OUTPUT CHOKE
o+B.2Aa.
o+B.2A
o+B.R.F.-1st A.F.
DETECTOR PLATE CIRCUIT RESISTOR
o+B DET.
FIL. SERIES RESISTOR.
DET PLATE-RES. BY-PASS COND.
+A
−A
D
3R
2R
2Aa
2A
1A
1R
DET. FIL. BY-PASS COND.
R.F. FIL. BY-PASS COND.
FILAMENT SHUNT RESISTORS
R.F. FIL. BY PASS COND.
1st R.F. GRID BIAS RESIS.

SIMPLIFIED DIAGRAM OF POWER UNIT AND FILAMENT CIRCUIT IN MODEL 41 RECEIVER.
Tubes of the 112-A type are used in all sockets except 2A and 2Aa.


"ON-OFF" TOGGLE SWITCH
110 VOLT CABLE
+
YELLOW-BLACK TR.
+110 V. INPUT
OUTPUT No. 2
RED-GREEN TR.
FIL. SERIES RESISTOR.
R.F. CHOKE No. 1
OUTPUT No. 1
−110 V. INPUT
WHITE
OUTPUT CHOKE
FILTER CHOKES
FILTER CONDENSERS
+A
−A
+B, R.F.-1st A.F.
WHITE
DETECTOR PLATE CIR RESISTOR
R.F. CHOKE No. 2
+B, DETECTOR
DETECTOR PLATE-RES. BY-PASS CONDENSER.
−F
+F
2Aa

Wiring Diagram of 2nd Type of Power Unit for Model 41.


"ON-OFF" TOGGLE SWITCH
110 VOLT CABLE
+
YELLOW-BLACK TR.
−110 V. INPUT
OUTPUT No. 2
RED-GREEN TR.
R.F. CHOKE No. 2
OUTPUT No. 1
+110 V. INPUT
FIL. SERIES RESISTOR.
WHITE
OUTPUT CHOKE
FILTER CHOKES
FILTER CONDENSERS
+A
−A
+B, R.F.-1st A.F.
WHITE
DETECTOR PLATE CIR RESISTOR.
R.F. CHOKE No. 1
+B, DETECTOR
DETECTOR PLATE-RESIS BY-PASS CONDENSER
−F
+F
2Aa

Wiring Diagram of 3rd Type of Power Unit for Model 41

Plate Voltage	
1st R.F.	60 V.
2nd R.F.	65 V.
3rd R.F.	65 V.
Detector	24 V.
1st A.F.	81 V.
2nd A.F.	81 V.

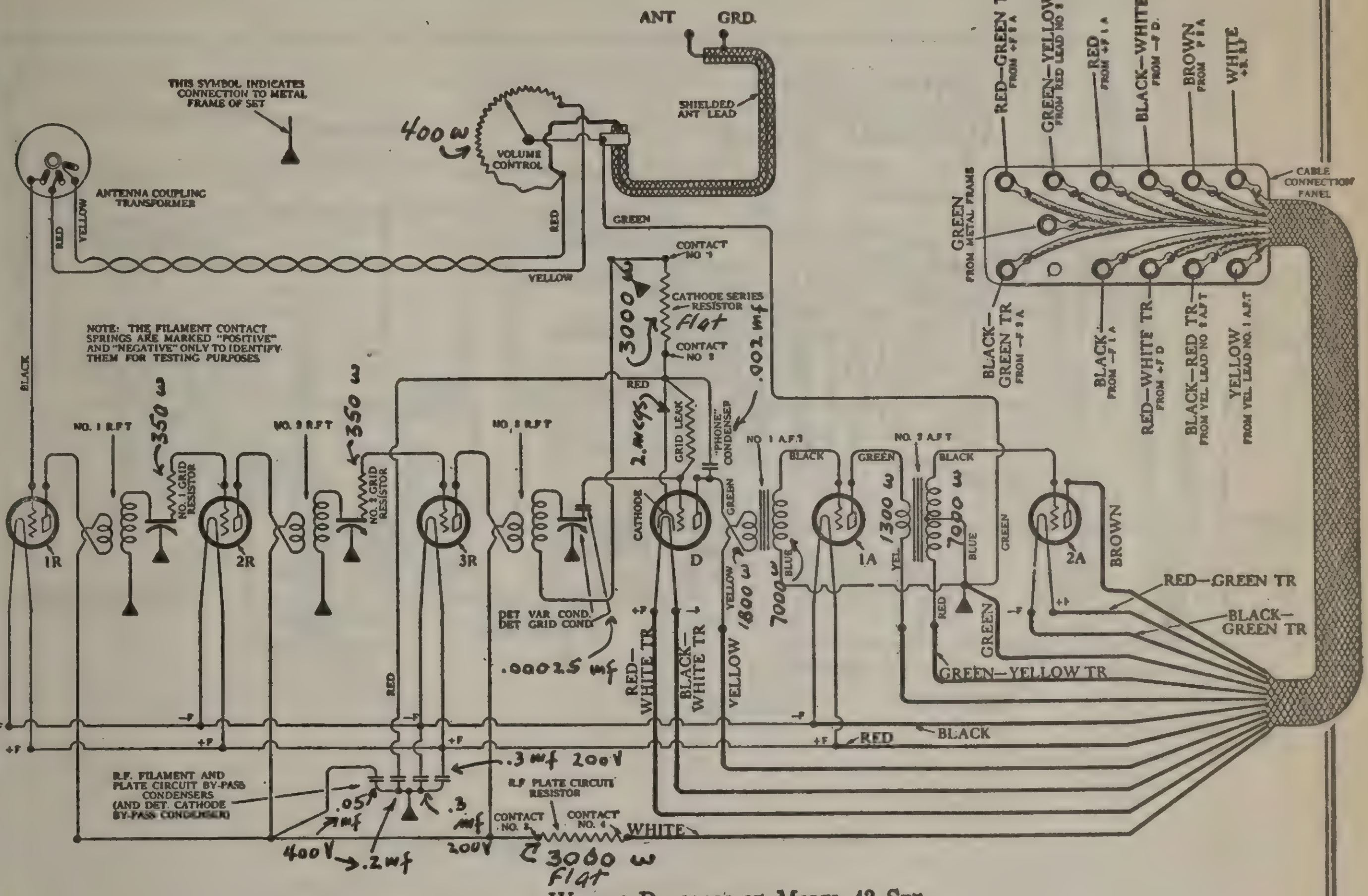
Filament Voltage	
1st R.F.	4.8 V.
2nd R.F.	4.9 V.
3rd R.F.	4.6 V.
Detector	4.6 V.
1st A.F.	4.9 V.
2nd A.F.	4.8 V.

Voltage at 2nd A.F. Tube on Power Unit	
Filament Voltage	4.8 V.
Grid Bias Voltage	9.7 V.
Plate Voltage	85 V.

Grid Bias	
1st R.F.	2 V.
1st A.F.	4.8 V.
2nd A.F.	9.7 V.

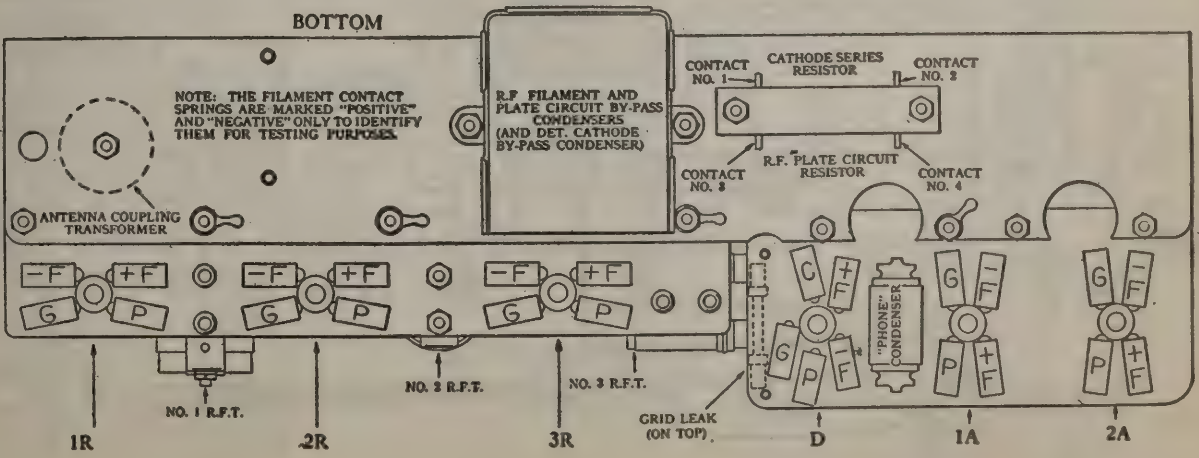
ATWATER KENT MFG. CO. MODEL 43 Receiver

Schematic


ANT
GRD.
SHIELDED ANT LEAD
THIS SYMBOL INDICATES CONNECTION TO METAL FRAME OF SET
400 w
VOLUME CONTROL
ANTENNA COUPLING TRANSFORMER
RED
YELLOW
GREEN
BLACK
CONTACT NO. 1
CATHODE SERIES RESISTOR
3000 w
flat
.002 mf
CONTACT NO. 2
NOTE: THE FILAMENT CONTACT SPRINGS ARE MARKED "POSITIVE" AND "NEGATIVE" ONLY TO IDENTIFY THEM FOR TESTING PURPOSES
NO. 1 R.F.T
350 w
NO. 1 GRID RESISTOR
NO. 2 R.F.T
350 w
NO. 2 GRID RESISTOR
NO. 3 R.F.T
2 megs
GRID LEAK
"PHONE" CONDENSER
CATHODE
NO. 1 A.F.T
NO. 2 A.F.T
1300 w
7000 w
1800 w
7000 w
BLUE
YEL
BROWN
1R
2R
3R
D
1A
2A
DET VAR COND.
DET GRID COND.
.00025 mf
RED—WHITE TR
BLACK—WHITE TR
YELLOW
RED—GREEN TR
BLACK—GREEN TR
GREEN—YELLOW TR
-F
+F
R.F. FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS (AND DET. CATHODE BY-PASS CONDENSER)
.05 mf
400 V
.2 mf
.3 mf
200 V
.3 mf 200 V
R.F. PLATE CIRCUIT RESISTOR
CONTACT NO. 3
CONTACT NO. 4
WHITE
3000 w
flat
RED—GREEN TR FROM +F 2 A
GREEN—YELLOW TR FROM RED LEAD NO 2 A.F.T
RED FROM +F 1 A
BLACK—WHITE TR FROM -F D.
BROWN FROM P 2 A
WHITE +B R.F.
GREEN FROM METAL FRAME
CABLE CONNECTION PANEL
BLACK—GREEN TR FROM -F 2 A
BLACK FROM -F 1 A
RED—WHITE TR FROM +F D
BLACK—RED TR FROM YEL LEAD NO 2 A.F.T
YELLOW FROM YEL LEAD NO. 1 A.F.T

Wiring Diagram of Model 43 Set.
The +B, 1st A. F. cable lead is black with a red tracer.

Wiring diagram of Model 43 power pack is shown on 152

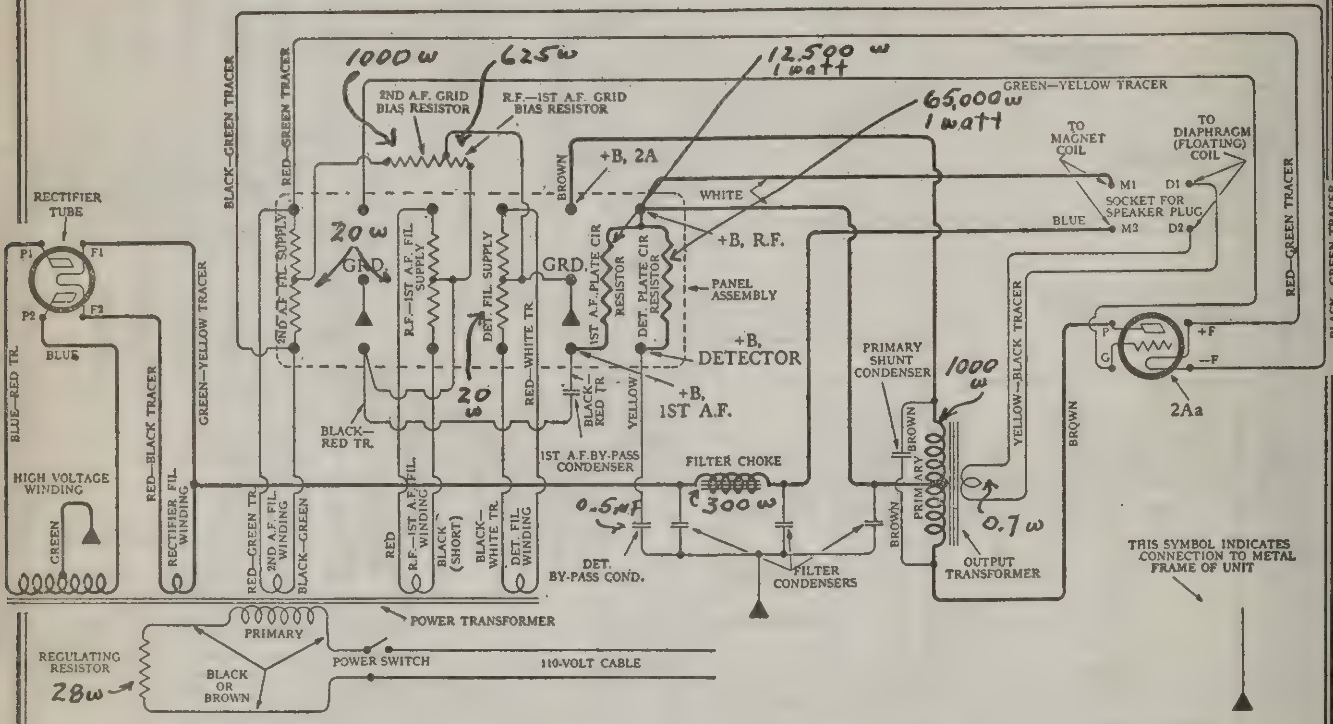

BOTTOM
NOTE: THE FILAMENT CONTACT SPRINGS ARE MARKED "POSITIVE" AND "NEGATIVE" ONLY TO IDENTIFY THEM FOR TESTING PURPOSES.
ANTENNA COUPLING TRANSFORMER
R.F. FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS (AND DET. CATHODE BY-PASS CONDENSER)
CONTACT NO. 1
CATHODE SERIES RESISTOR
CONTACT NO. 2
CONTACT NO. 3
R.F. PLATE CIRCUIT RESISTOR
CONTACT NO. 4
-F
+F
G
P
C
"PHONE" CONDENSER
NO. 1 R.F.T.
NO. 2 R.F.T.
NO. 3 R.F.T.
GRID LEAK (ON TOP)
1R
2R
3R
D
1A
2A

Test Chart for Model 43.

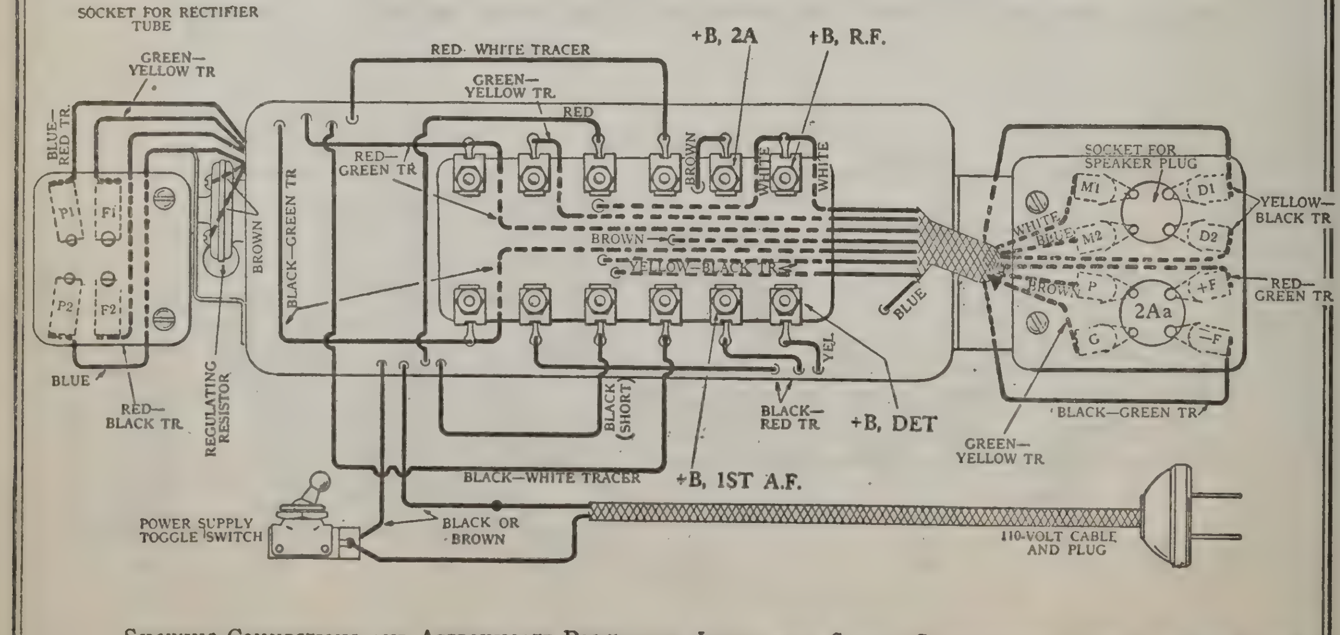
Power pack reference on page 1-14.

MODEL 43
Power Pack
Schematic

ATWATER KENT MFG. CO.


1000 w
625 w
12,500 w
1 watt
65,000 w
1 watt
2ND A.F. GRID BIAS RESISTOR
R.F.—1ST A.F. GRID BIAS RESISTOR
GREEN—YELLOW TRACER
BLACK—GREEN TRACER
RED—GREEN TRACER
BROWN
+B, 2A
WHITE
+B, R.F.
TO MAGNET COIL
TO DIAPHRAGM (FLOATING) COIL
M1
D1
M2
D2
SOCKET FOR SPEAKER PLUG
BLUE
RED—GREEN TRACER
BLACK—GREEN TRACER
RECTIFIER TUBE
P1
F1
P2
F2
BLUE
BLUE—RED TR.
20 w
GRD.
2ND A.F. FIL SUPPLY
R.F.—1ST A.F. FIL SUPPLY
DET. FIL SUPPLY
RED—WHITE TR.
GRD.
1ST A.F. PLATE CIR RESISTOR
DET. PLATE CIR RESISTOR
PANEL ASSEMBLY
+B, DETECTOR
+B, 1ST A.F.
20 w
BLACK—RED TR.
BLACK—RED TR.
YELLOW
GREEN—YELLOW TRACER
RED—BLACK TRACER
PRIMARY SHUNT CONDENSER
1000 w
YELLOW—BLACK TRACER
BROWN
P
G
+F
−F
2Aa
HIGH VOLTAGE WINDING
GREEN
RECTIFIER FIL WINDING
RED—GREEN TR.
2ND A.F. FIL. WINDING
BLACK—GREEN
RED
R.F.—1ST A.F. FIL. WINDING
BLACK (SHORT)
BLACK—WHITE TR.
DET. FIL WINDING
1ST A.F. BY-PASS CONDENSER
FILTER CHOKE
300 w
0.5 mf
DET. BY-PASS COND.
FILTER CONDENSERS
BROWN
PRIMARY
BROWN
0.7 w
OUTPUT TRANSFORMER
THIS SYMBOL INDICATES CONNECTION TO METAL FRAME OF UNIT
POWER TRANSFORMER
PRIMARY
REGULATING RESISTOR
28 w
BLACK OR BROWN
POWER SWITCH
110-VOLT CABLE

Wiring Diagram of Power Unit in Model 43.


SOCKET FOR RECTIFIER TUBE
GREEN—YELLOW TR
BLUE—RED TR.
RED WHITE TRACER
GREEN—YELLOW TR.
RED
+B, 2A
+B, R.F.
RED—GREEN TR
BROWN
WHITE
WHITE
P1
F1
P2
F2
BROWN
BLACK—GREEN TR
BROWN
YELLOW—BLACK TR
BLUE
SOCKET FOR SPEAKER PLUG
M1
D1
WHITE
BLUE
M2
D2
YELLOW—BLACK TR
BROWN
P
+F
2Aa
G
−F
RED—GREEN TR
BLUE
RED—BLACK TR.
REGULATING RESISTOR
BLACK (SHORT)
YEL
BLACK—RED TR
+B, DET
BLACK—GREEN TR
GREEN—YELLOW TR
BLACK—WHITE TRACER
+B, 1ST A.F.
POWER SUPPLY TOGGLE SWITCH
BLACK OR BROWN
110-VOLT CABLE AND PLUG

Showing Connections and Approximate Position of Leads from Sealed Container in Model 43 Power Unit. early type of power unit for Model 43, two brown leads from the primary-shunt condenser connect to the +B, 2A terminal and to the brown P2Aa lead respectively. In later models these connections are made internally.

MODEL 44 and 45

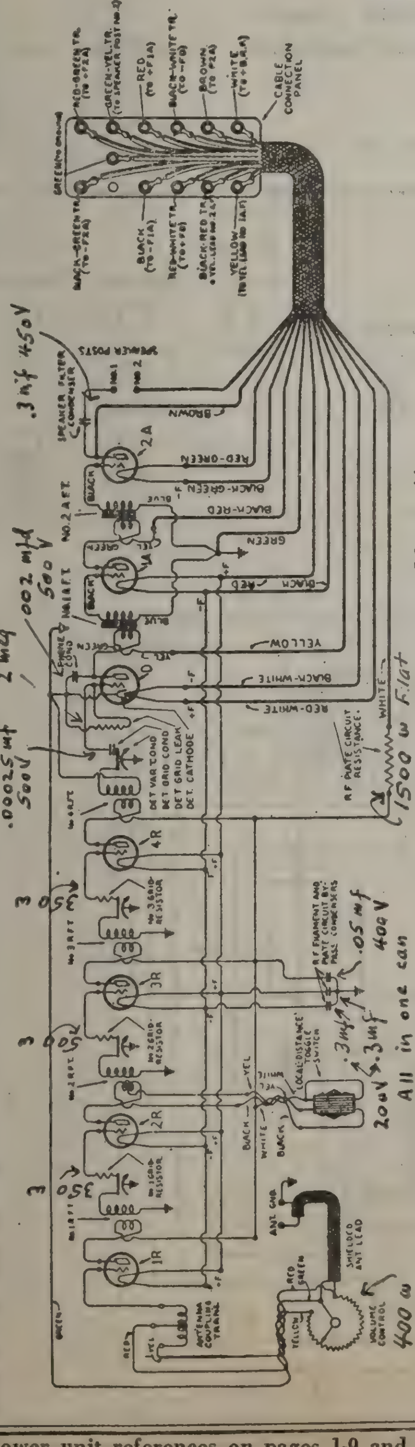
ATWATER KENT MFG. CO.

SPECIAL NOTE.

1st type power unit for Model 44 is shown on page 145. Second type power unit for Model 45 is shown on page 148.

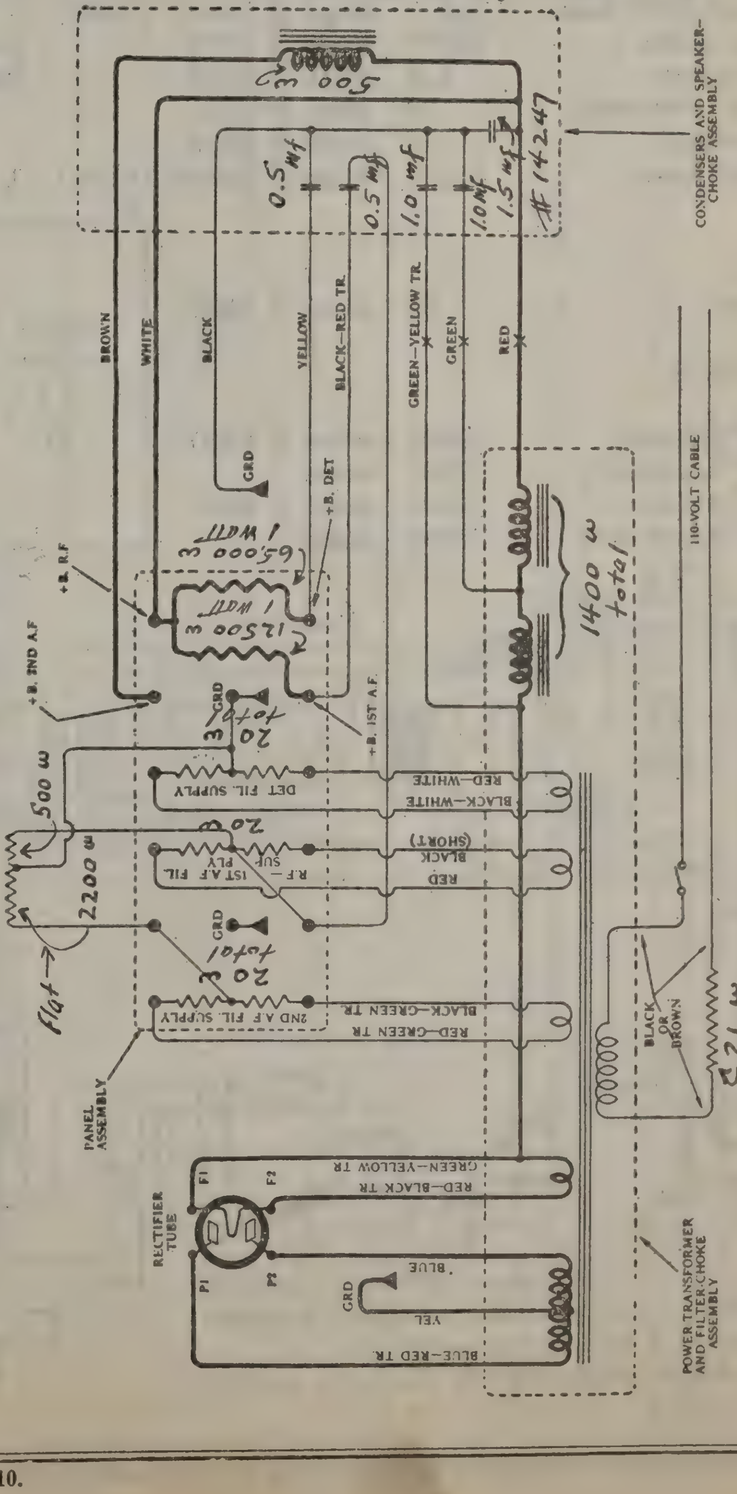
TRANSFORMERS IN MODELS 44 and 45

1st a-f primary	1000 ohms # 8060	2nd a-f primary	1700 ohms # 7661
1st a-f secondary	7000 ohms	2nd a-f secondary	3250 ohms



CABLE CONNECTION PANEL
RED-GREEN TR.
GREEN-YEL TR.
RED
BLACK-WHITE TR.
BROWN
WHITE
BLACK-GREEN TR.
BLACK
RED-WHITE TR.
BLACK-RED TR.
YELLOW
SPEAKER POSTS
SPEAKER FILTER CONDENSER
.3 mf 450 V
BROWN
RED-GREEN
BLACK-GREEN
BLACK-RED
GREEN
RED
YELLOW
BLACK-WHITE
RED-WHITE
WHITE
2A
No. 2 A.F.T.
.002 mf 500 V
No. 1 A.F.T.
2 meg
.00025 mf 500 V
DET VAR COND
DET GRID COND
DET GRID LEAK
DET CATHODE
R.F. PLATE CIRCUIT RESISTANCE
1500 w flat
4R
3R
2R
1R
3 350
3 50
3 350
R.F. FILAMENT AND PLATE CIRCUIT BY-PASS CONDENSERS
.05 mf 400 V
.3 mf .3 mf 200 V
All in one can #15158
LOCAL-DISTANCE TOGGLE SWITCH
ANT. GND.
SHIELDED ANT. LEAD
ANTENNA COUPLING TRANS.
VOLUME CONTROL
400 w

WIRING DIAGRAM OF MODEL 44



500 w
0.5 mf
0.5 mf
1.0 mf
1.0 mf
1.5 mf
# 14247
CONDENSERS AND SPEAKER-CHOKE ASSEMBLY
BROWN
WHITE
BLACK
YELLOW
BLACK-RED TR.
GREEN-YELLOW TR.
GREEN
RED
GRD
+B. DET
+B. R.F.
65000 w 1 watt
12500 w 1 watt
+B. 2ND A.F.
+B. 1ST A.F.
20 total
1400 w total
110-VOLT CABLE
500 w
2200 w
flat
DET FIL. SUPPLY
RED-WHITE
BLACK-WHITE
R.F.-1ST A.F. FIL SUPPLY
(SHORT)
BLACK
RED
20 total
2ND A.F. FIL. SUPPLY
BLACK-GREEN TR.
RED-GREEN TR.
PANEL ASSEMBLY
BLACK OR BROWN
21 w
RECTIFIER TUBE
GREEN-YELLOW TR.
RED-BLACK TR.
BLUE
YEL
BLUE-RED TR.
POWER TRANSFORMER AND FILTER-CHOKE ASSEMBLY

WIRING DIAGRAM OF 2ND TYPE OF POWER UNIT FOR MODEL 44

Power unit references on pages 1-9 and 1-10.

Model 50

CONDENSERS

Detector grid	.00025	mfd	# 8593	500 volts
Detector phone	.002	mfd	# 8590	500 volts
Plate bypass	.3	mfd	# 14902	450 volts

RESISTORS

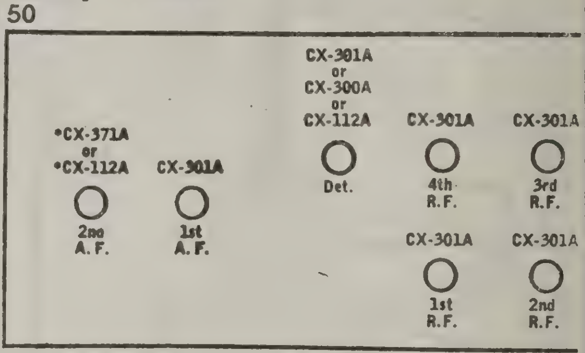
Detector grid leak	2.0	megs	# 15892 (8195)	1 watt
1st r-f plate	12500	ohms	# 8796	yellow glass
A-f filament	1.5	ohms	# 8627	black covered, flexible
Detector rheostat	20	ohms	# 8310	
R-f rheostat	5	ohms	# 8599	
R-f grid leak	2.0	megs	# 15892 (8195)	1 watt

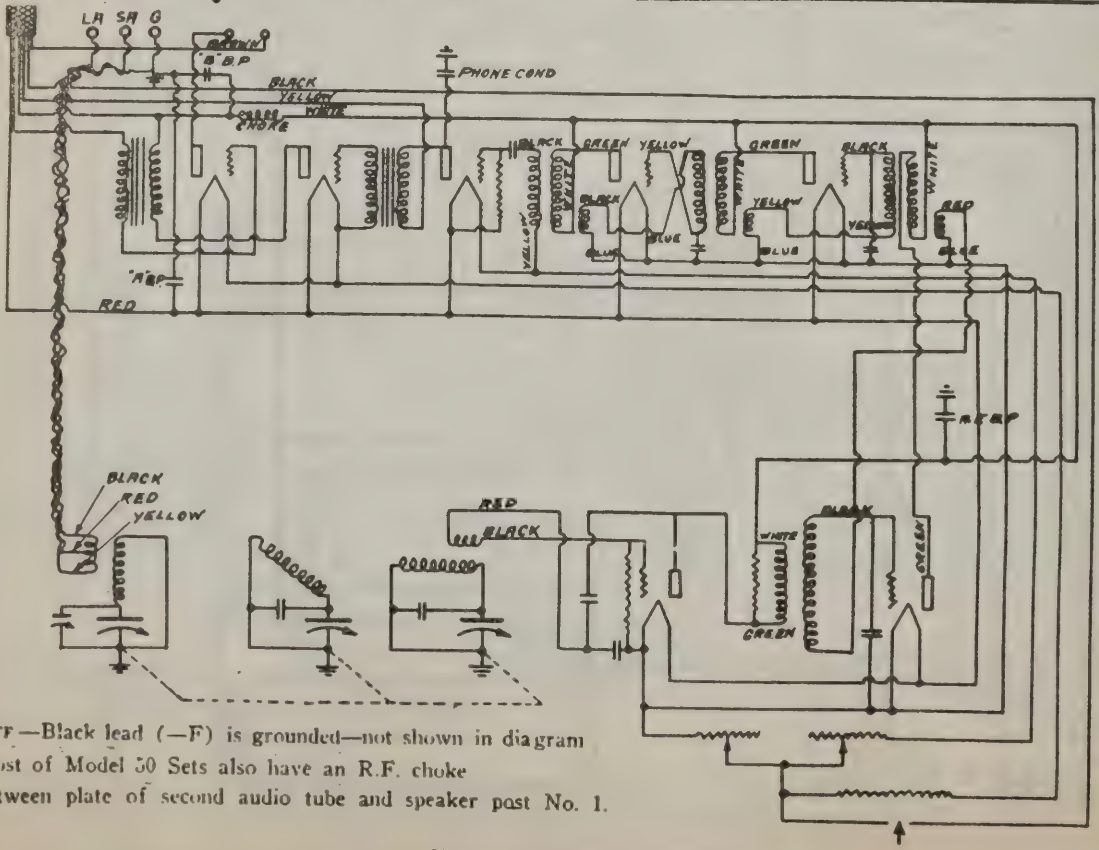
CHOKES

A-f plate	35	ohms	# 8232

TRANSFORMERS

1st a-f primary	1000	ohms	# 8650
1st a-f secondary	7000	ohms	
2nd a-f primary	1400	ohms	# 8940
2nd a-f secondary	7000	ohms	


50
•CX-371A or •CX-112A
2nd A.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
4th R.F.
CX-301A
3rd R.F.
CX-301A
1st R.F.
CX-301A
2nd R.F.


LA
SA
G
BROWN
"B" B.P
PHONE COND
BLACK
YELLOW
WHITE
GREEN
CHOKE
BLACK
GREEN
YELLOW
GREEN
BLACK
WHITE
WHITE
WHITE
YELLOW
BLACK
BLUE
BLUE
YELLOW
BLUE
YELLOW
RED
BLUE
"A" B.P
RED
R.F. B.P
BLACK
RED
YELLOW
RED
BLACK
BLACK
WHITE
GREEN
GREEN

NOTE—Black lead (—F) is grounded—not shown in diagram
Most of Model 50 Sets also have an R.F. choke
between plate of second audio tube and speaker post No. 1.

WIRING DIAGRAM OF MODEL 50.

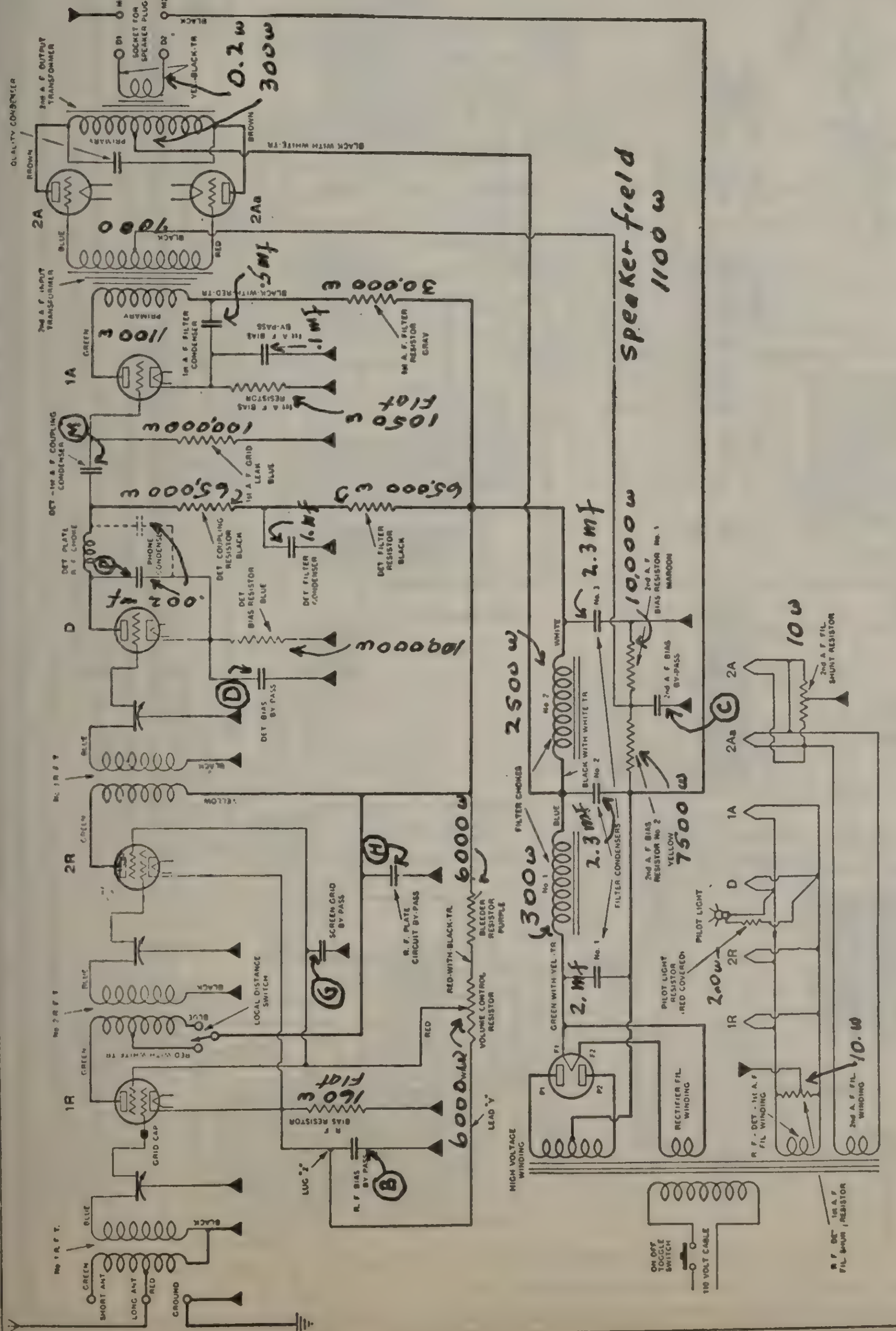
ATWATER KENT MFG. CO.

MODEL 55, 55-C
Early

VOLTAGE TABLE

Tube	Filament Early	Filament Late	Plate Early	Plate Late	Grid Early	Grid Late	Screen Early	Screen Late
R-F	2.2	2.2	160	160	2.8	3.7	78	96
Det	2.2	2.2	101	101	11.	11.		
1st A-F	2.2	2.2	64	69	1.8*	2.8*		
2nd A-F	2.2	2.2	213	230	39.	46		
Rec	4.5	4.5						

* Measured voltage, not operating voltage. Line voltage 110 V.



0.2 w
300 w
1400 ω
Speaker field 1100 ω
.5 mf
30,000 ω
1100 ω
1 mf
1050 ω flat
100,000 ω
65,000 ω
65,000 ω
1 mf
.002 mf
160,000 ω
2.3 mf
10,000 ω
2500 ω
2.3 mf
7500 ω
6000 ω
2 mf
300 ω
6000 ω
160 ω flat
10 ω
2.0 ω
10 ω
2A
2Aa
1A
D
2R
1R

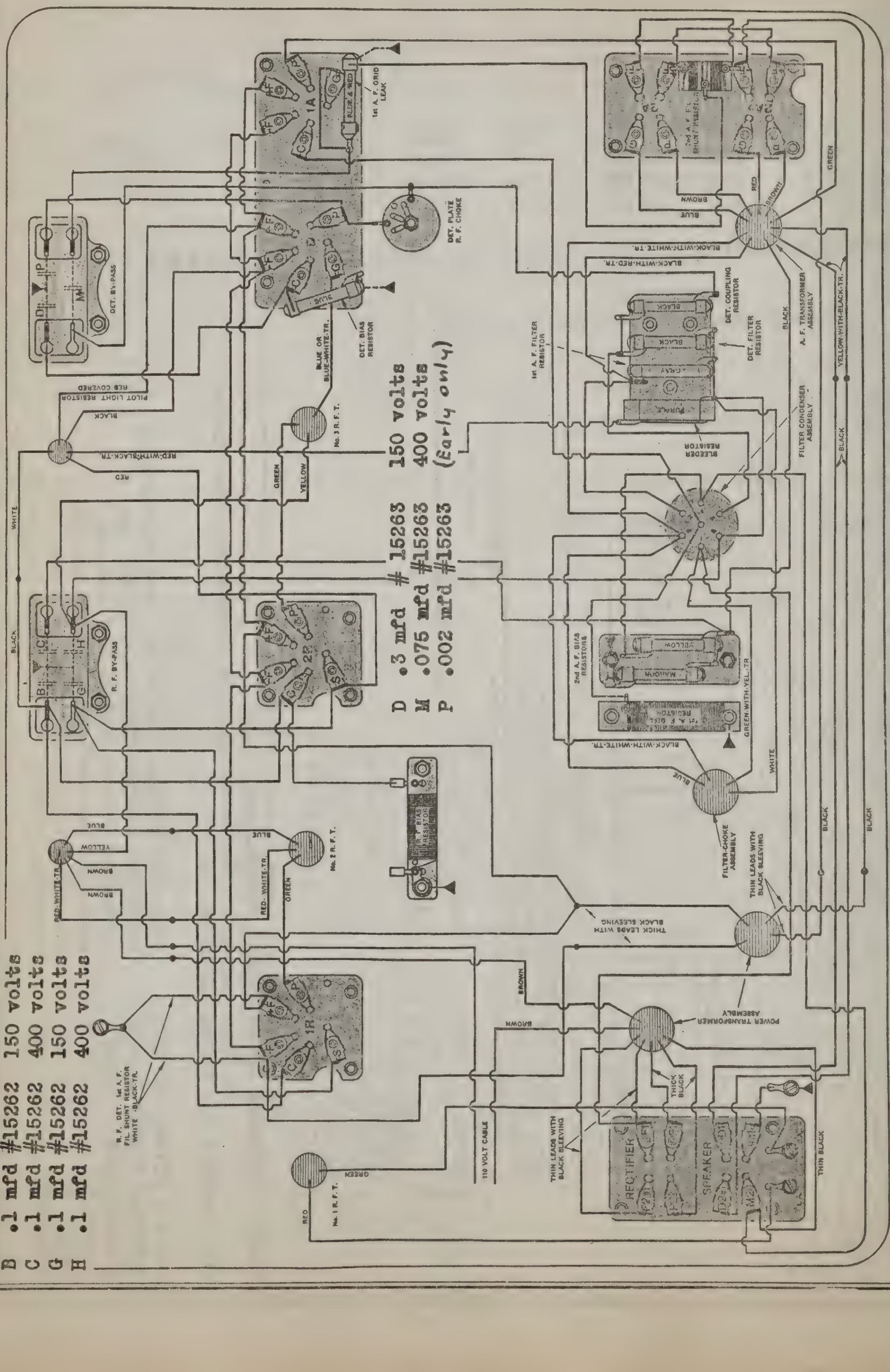
FILTER CONDENSER CONNECTIONS. See chassis

• These numbers refer to the figures shown within the circle representing the filter condenser can.

1st a-f filter	.5 mfd	connected between centre stud and terminal (3)
Detector filter	1. mfd	connected between terminal (4) and can
1st a-f bias	.5 mfd	connected between centre stud and can
Filter #1	2.0 mfd	connected between terminals (1) and (4)
Filter #2	2.3 mfd	connected between terminals (2) and (4)
Filter #3	2.3 mfd	connected between terminals (6) and can.

MODEL 55, 55-C
Early

ATWATER KENT MFG. CO.


1st A. F. GRID LEAK
BLUE & RED
1A
DET. PLATE R. F. CHOKE
DET. BY-PASS
DET. BIAS RESISTOR
BLUE
BLUE OR BLUE-WHITE-TR.
PILOT LIGHT RESISTOR RED COVERED
BLACK
RED-WITH-BLACK-TR.
RED
WHITE
No. 3 R. F. T.
GREEN
YELLOW
2R
R. F. BY-PASS
BLACK
R. F. BIAS RESISTOR
No. 2 R. F. T.
BLUE
YELLOW
BROWN
RED-WHITE-TR.
1R
R. F. DET. 1st A. F. FIL. SHUNT RESISTOR WHITE -BLACK-TR.
No. 1 R. F. T.
RED
GREEN
110 VOLT CABLE
BROWN
THICK LEADS WITH BLACK SLEEVING
THIN LEADS WITH BLACK SLEEVING
POWER TRANSFORMER ASSEMBLY
THICK BLACK
RECTIFIER
SPEAKER
THIN BLACK
FILTER-CHOKE ASSEMBLY
BLACK-WITH-WHITE-TR.
GREEN-WITH-YEL.-TR.
1st A. F. BIAS RESISTOR
2nd A. F. BIAS RESISTORS
YELLOW
MAROON
WHITE
BLEEDER RESISTOR
PURPLE
GRAY
BLACK
1st A. F. FILTER RESISTOR
DET. FILTER RESISTOR
DET. COUPLING RESISTOR
FILTER CONDENSER ASSEMBLY
BLACK-WITH-RED-TR.
BLACK-WITH-WHITE-TR.
A. F. TRANSFORMER ASSEMBLY
YELLOW-WITH-BLACK-TR.
2nd A. F. SHUNT RESISTOR
BROWN
BLUE
RED
GREEN
D .3 mfd #15263 150 volts
M .075 mfd #15263 400 volts (Early only)
P .002 mfd #15263
B .1 mfd #15262 150 volts
C .1 mfd #15262 400 volts
G .1 mfd #15262 150 volts
H .1 mfd #15262 400 volts

Bottom Wiring of Early-Type Model 55 and 55-C.

This drawing shows the new-style R. F. bias resistor. In some early sets, a separate double-type phone condenser is used.

ATWATER KENT MFG. CO.

MODEL 55 and 55-C
Late
Schematic

Chassis

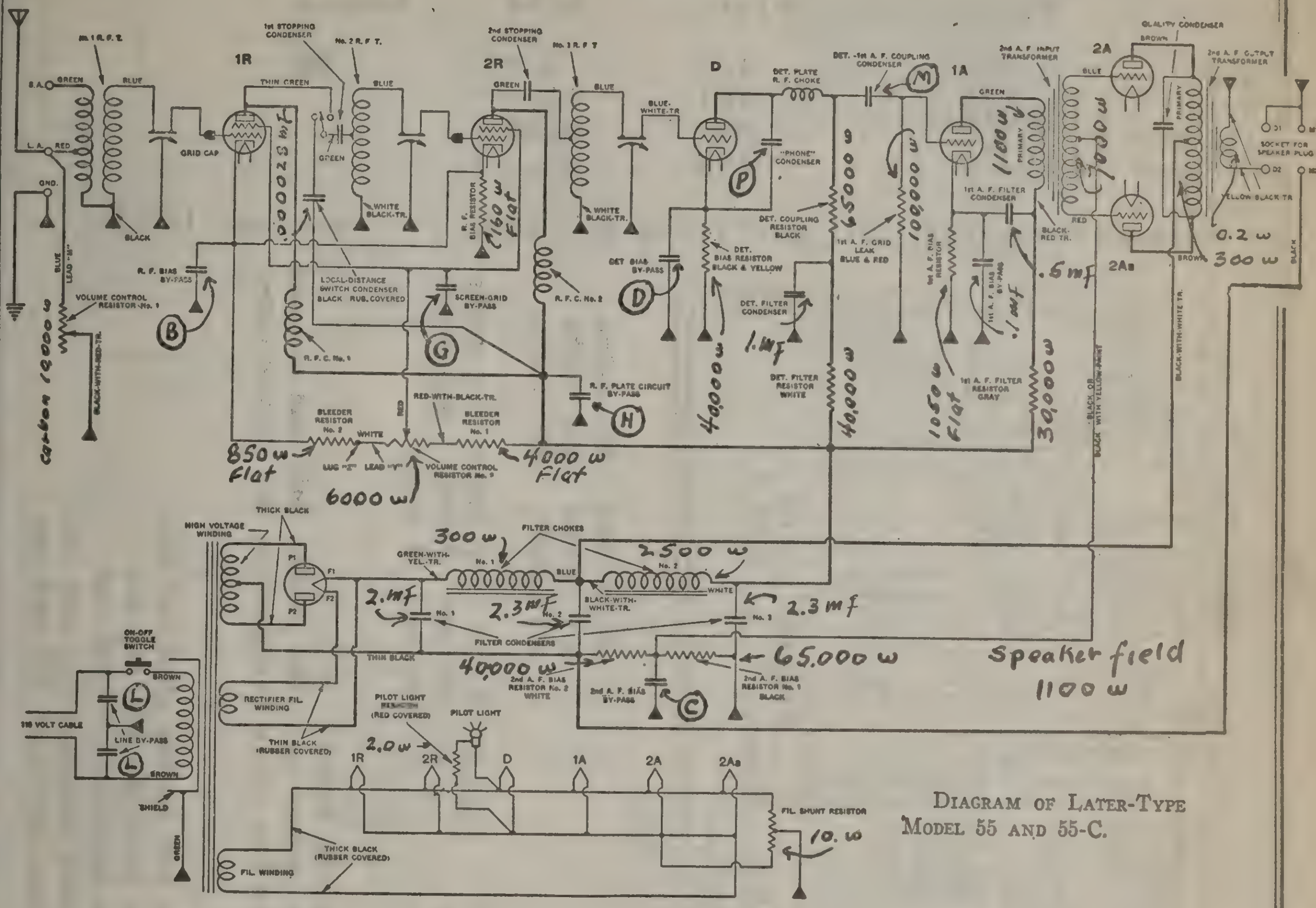
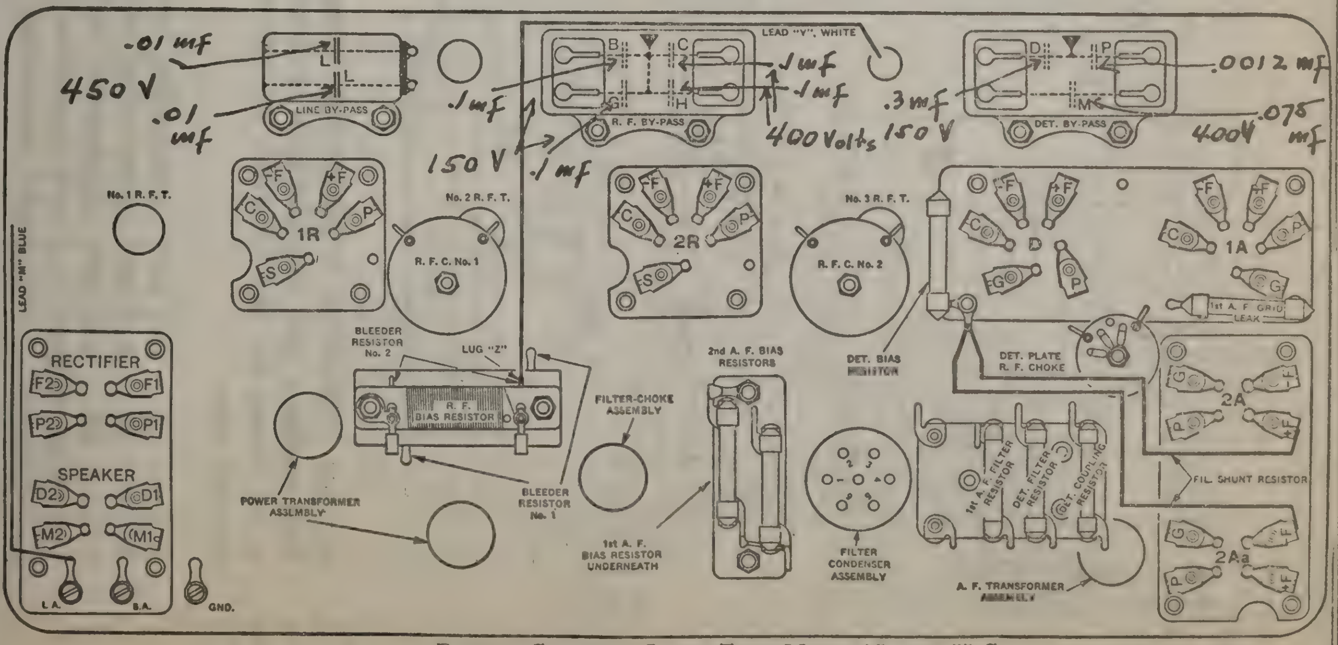

No. 1 R.F.T.
1st STOPPING CONDENSER
No. 2 R.F.T.
2nd STOPPING CONDENSER
No. 3 R.F.T.
DET.-1st A.F. COUPLING CONDENSER
2nd A.F. INPUT TRANSFORMER
QUALITY CONDENSER
2nd A.F. OUTPUT TRANSFORMER
1R
2R
D
1A
2A
2Aa
B.A.
L.A.
GND.
GREEN
RED
BLUE
BLACK
THIN GREEN
GRID CAP
WHITE BLACK-TR.
BLUE-WHITE-TR.
DET. PLATE R.F. CHOKE
"PHONE" CONDENSER
SOCKET FOR SPEAKER PLUG
D1
M1
D2
M2
YELLOW BLACK TR.
BROWN
.0002 5 mf
R.F. BIAS RESISTOR
160 w Flat
R.F. BIAS BY-PASS
LOCAL-DISTANCE SWITCH CONDENSER BLACK RUB. COVERED
SCREEN-GRID BY-PASS
R.F.C. No. 1
R.F.C. No. 2
DET. BIAS BY-PASS
DET. BIAS RESISTOR BLACK & YELLOW
DET. COUPLING RESISTOR BLACK
65000 w
1st A.F. GRID LEAK BLUE & RED
100,000 w
1st A.F. BIAS RESISTOR
1st A.F. BIAS BY-PASS
1st A.F. FILTER CONDENSER
1100 w PRIMARY
7000 w
BLACK-RED TR.
.5 mf
.1 mf
0.2 w
300 w
DET. FILTER CONDENSER
1. mf
DET. FILTER RESISTOR WHITE
40,000 w
40,000 w
1050 w Flat
1st A.F. FILTER RESISTOR GRAY
30,000 w
BLACK OR BLACK WITH YELLOW PAINT
BLACK-WITH-WHITE TR.
R.F. PLATE CIRCUIT BY-PASS
VOLUME CONTROL RESISTOR No. 1
Carbon 12000 w
LEAD "M"
BLACK-WITH-RED-TR.
BLEEDER RESISTOR No. 2
BLEEDER RESISTOR No. 1
RED-WITH-BLACK-TR.
850 w Flat
LUG "Z"
LEAD "Y"
VOLUME CONTROL RESISTOR No. 2
4000 w Flat
6000 w
B
G
D
H
P
M
HIGH VOLTAGE WINDING
THICK BLACK
P1
P2
F1
F2
FILTER CHOKES
300 w
No. 1
2,500 w
No. 2
GREEN-WITH-YEL.-TR.
BLACK-WITH-WHITE-TR.
2. mf
2.3 mf
2.3 mf
No. 3
FILTER CONDENSERS
THIN BLACK
40,000 w
2nd A.F. BIAS RESISTOR No. 2 WHITE
65,000 w
2nd A.F. BIAS RESISTOR No. 1 BLACK
2nd A.F. BIAS BY-PASS
C
Speaker field 1100 w
ON-OFF TOGGLE SWITCH
BROWN
L
LINE BY-PASS
110 VOLT CABLE
RECTIFIER FIL. WINDING
THIN BLACK (RUBBER COVERED)
PILOT LIGHT (RED COVERED)
PILOT LIGHT
2.0 w
SHIELD
THICK BLACK (RUBBER COVERED)
FIL. WINDING
FIL. SHUNT RESISTOR
10. w

Diagram of Later-Type Model 55 and 55-C.


.01 mf
450 V
.01 mf
L
LINE BY-PASS
.1 mf
B
C
G
H
.1 mf
.1 mf
R.F. BY-PASS
400 Volts
150 V
.1 mf
LEAD "Y", WHITE
.3 mf
150 V
D
P
M
.0012 mf
.075 mf
400 V
DET. BY-PASS
No. 1 R.F.T.
No. 2 R.F.T.
No. 3 R.F.T.
1R
2R
D
1A
2A
2Aa
-F
+F
C
P
S
G
R.F.C. No. 1
R.F.C. No. 2
LEAD "M" BLUE
1st A.F. GRID LEAK
DET. PLATE R.F. CHOKE
DET. BIAS RESISTOR
RECTIFIER
F2
F1
P2
P1
SPEAKER
D2
D1
M2
M1
L.A.
B.A.
GND.
BLEEDER RESISTOR No. 2
LUG "Z"
R.F. BIAS RESISTOR
BLEEDER RESISTOR No. 1
POWER TRANSFORMER ASSEMBLY
FILTER-CHOKE ASSEMBLY
2nd A.F. BIAS RESISTORS
1st A.F. BIAS RESISTOR UNDERNEATH
FILTER CONDENSER ASSEMBLY
1st A.F. FILTER RESISTOR
DET. FILTER RESISTOR
DET. COUPLING RESISTOR
A.F. TRANSFORMER ASSEMBLY
FIL. SHUNT RESISTOR

Bottom Chart of Later-Type Model 55 and 55-C.

Condenser references on pages 1-17 and 1-18.

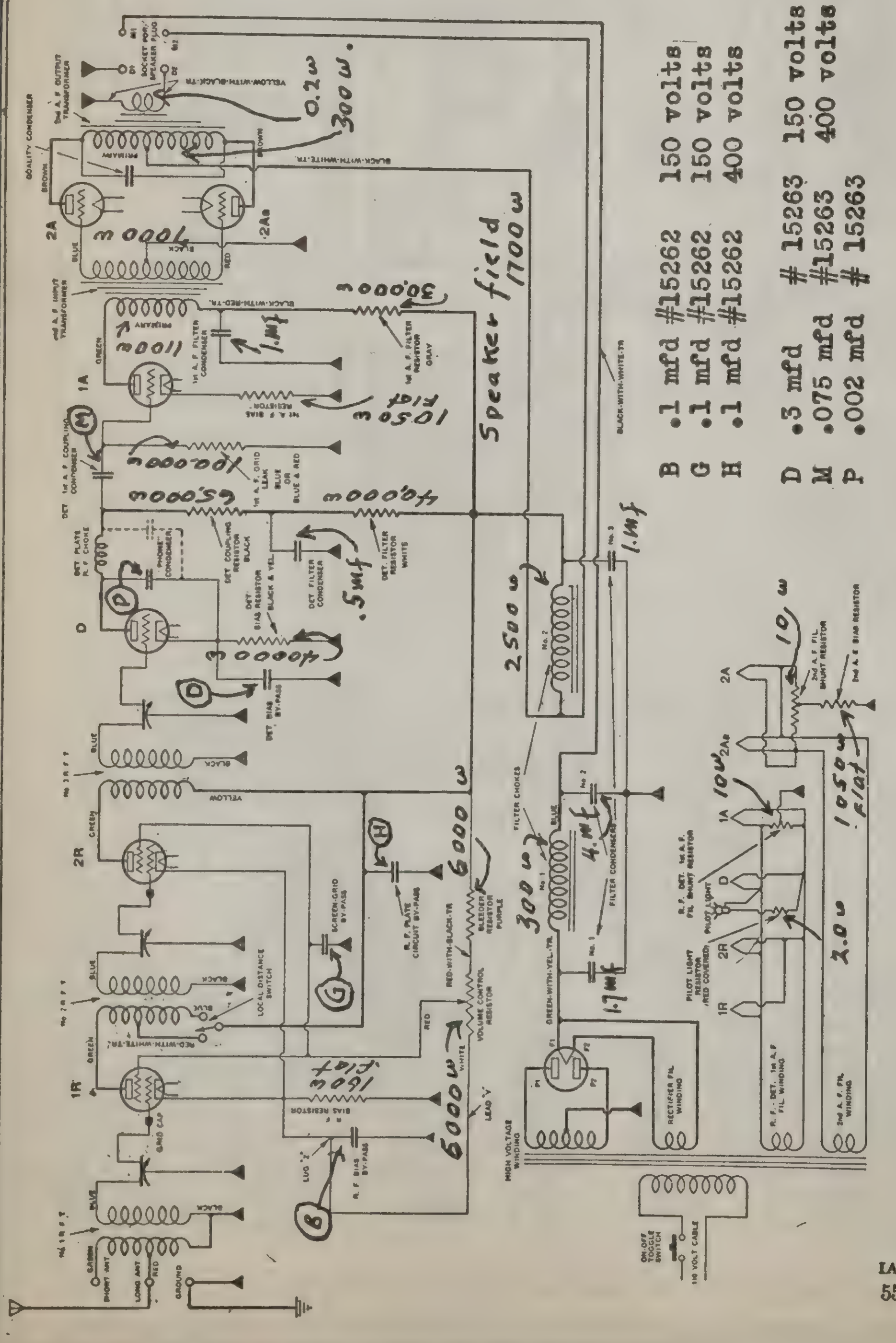
MODEL 55-F and 55-FC
Early

ATWATER KENT MFG. CO.

VOLTAGE TABLE

Tube	Filament	Plate	Grid	Screen
R-F	2.2	160	3.7	96
Det	2.2	101	11.	
1st A-F	2.2	69	2.8*	
2nd A-F	4.5	174	41.	
Rect.	4.5			

* Measured voltage, not operating voltage. Line voltage 110 V.


2nd A.F. OUTPUT TRANSFORMER
SOCKET FOR SPEAKER PLUG
YELLOW-WITH-BLACK-TR.
0.2w
300 w.
QUALITY CONDENSER
PRIMARY
BLACK-WITH-WHITE-TR.
BROWN
2A
2Ae
1000 w
BLUE
BLACK
RED
1st A.F. INPUT TRANSFORMER
BLACK-WITH-RED-TR.
30,000 w
1100 w
1.mf
1st A.F. FILTER CONDENSER
1st A.F. FILTER RESISTOR GRAY
Speaker field 1700 w
1A
1st A.F. BIAS RESISTOR
1050 flat
M
1st A.F. COUPLING CONDENSER
100,000 w
1st A.F. GRID LEAK
650,000 w
40,000 w
DET COUPLING RESISTOR BLACK
DET FILTER RESISTOR WHITE
DET PLATE R.F. CHOKE
PHONE CONDENSER
P
DET FILTER CONDENSER
.5mf
D
DET BIAS RESISTOR BLACK & YEL.
40000 w
D
DET BIAS BY-PASS
BLACK-WITH-WHITE-TR.
1.mf
2500 w
No. 2
No. 3
FILTER CHOKES
No. 1
300 w
4.mf
FILTER CONDENSERS
1.7mf
YELLOW
2R
H
R.F. PLATE CIRCUIT BY-PASS
6000 w
BLEEDER RESISTOR PURPLE
SCREEN GRID BY-PASS
G
LOCAL DISTANCE SWITCH
RED-WITH-BLACK-TR.
RED-WITH-WHITE-TR.
VOLUME CONTROL RESISTOR
1R
GRID CAP
1600 flat
R.F. BIAS RESISTOR
6000 w
LEAD "Y"
LUG "Z"
R.F. BIAS BY-PASS
B
SHORT ANT
LONG ANT
GROUND
HIGH VOLTAGE WINDING
RECTIFIER FIL WINDING
R.F.-DET.-1st A.F. FIL WINDING
2nd A.F. FIL WINDING
PILOT LIGHT RESISTOR (RED COVERED)
PILOT LIGHT
R.F. DET. 1st A.F. FIL SHUNT RESISTOR
2A
10 w
2nd A.F. FIL SHUNT RESISTOR
2nd A.F. BIAS RESISTOR
10w 2Ae
1050 flat
2.0 w
ON-OFF TOGGLE SWITCH
110 VOLT CABLE

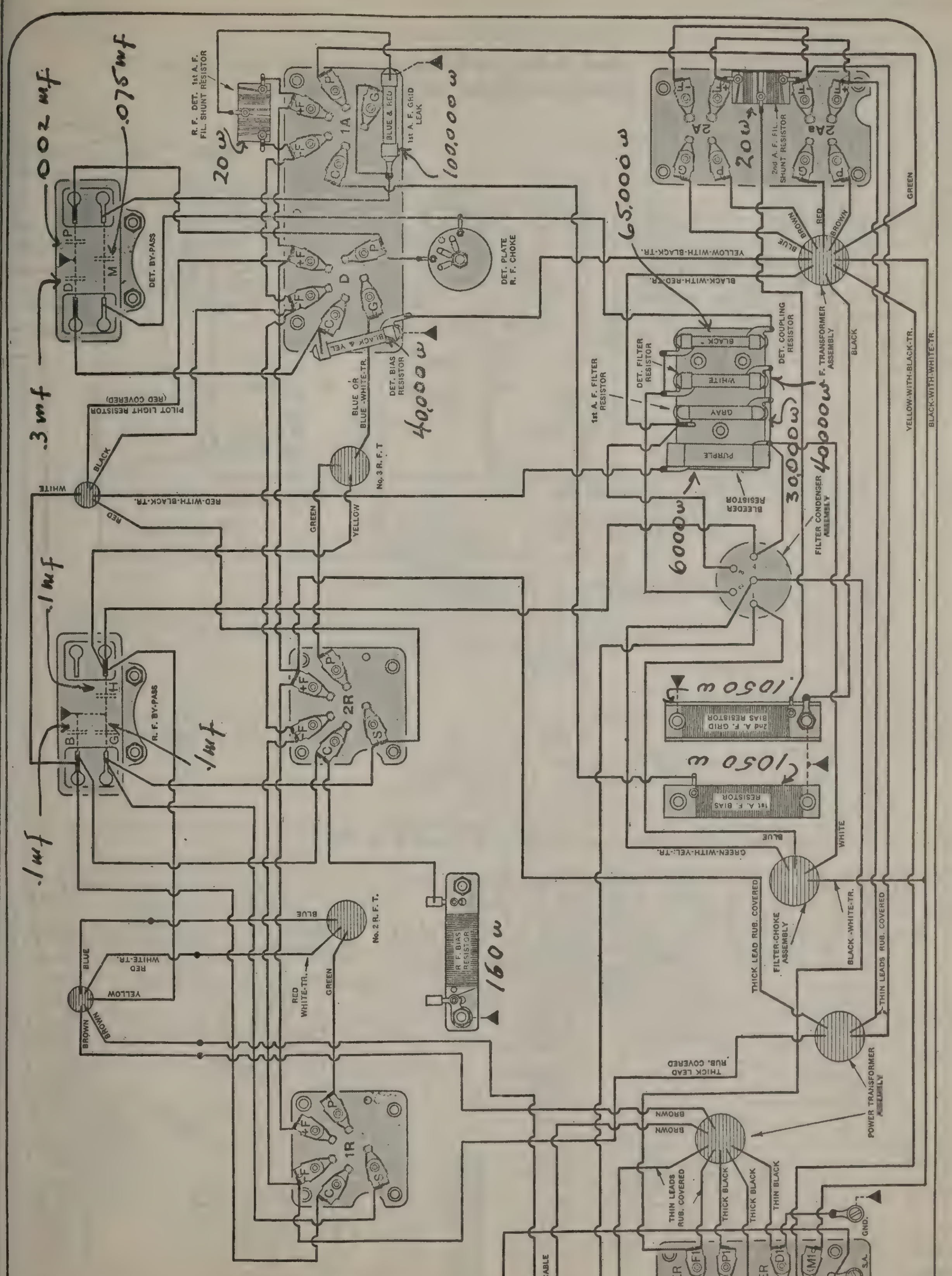
B	.1 mfd	#15262	150 volts
G	.1 mfd	#15262	150 volts
H	.1 mfd	#15262	400 volts
D	.3 mfd	# 15263	150 volts
M	.075 mfd	#15263	400 volts
P	.002 mfd	# 15263	

FILTER CONDENSER CONNECTIONS. (See chassis layout
The numbers and connections stated are marked upon the filter unit can and are also shown on the chassis layout within the cirle designating the filter condenser can.

Filter #1	1.7 mfd	connected between the center stud and can
Filter #2	4.0 mfd	connected between terminal (1) and can
Filter #3	1.0 mfd	connected between terminal (4) and can
Detector filter	.5 mfd	connected between terminal (2) and can
A-f filter	1.0 mfd	connected between terminal (3) and can

IAGRAM OF EARLY-TYPE MODEL 55-F AND 55-F-C.

ATWATER KENT MFG. CO. MODEL 55-F and 55-FC Early Chassis


.002 mf
.075 mf
.3 mf
.1 mf
.1 mf
.1 mf
20 w
100,000 w
65,000 w
20 w
40,000 w
40,000 w
30,000 w
6000 w
1050 w
1050 w
160 w
R. F. DET. 1st A. F. FIL. SHUNT RESISTOR
1st A. F. GRID LEAK
BLUE & RED
DET. BY-PASS
DET. PLATE R. F. CHOKE
DET. BIAS RESISTOR
BLACK & YEL.
BLUE OR BLUE-WHITE-TR.
PILOT LIGHT RESISTOR (RED COVERED)
No. 3 R. F. T.
R. F. BY-PASS
1A
D
2R
1R
2A
2nd A. F. FIL. SHUNT RESISTOR
YELLOW-WITH-BLACK-TR.
BLACK-WITH-RED-TR.
A. F. TRANSFORMER ASSEMBLY
DET. COUPLING RESISTOR
DET. FILTER RESISTOR
1st A. F. FILTER RESISTOR
BLACK
WHITE
GRAY
PURPLE
BLEEDER RESISTOR
FILTER CONDENSER ASSEMBLY
2nd A. F. GRID BIAS RESISTOR
1st A. F. BIAS RESISTOR
RED-WITH-BLACK-TR.
GREEN
YELLOW
RED
BLUE
BROWN
YELLOW-WITH-BLACK-TR.
BLACK-WITH-WHITE-TR.
GREEN-WITH-YEL.-TR.
FILTER-CHOKE ASSEMBLY
BLACK-WHITE-TR.
THICK LEAD RUB. COVERED
THIN LEADS RUB. COVERED
POWER TRANSFORMER ASSEMBLY
No. 2 R. F. T.
RED WHITE-TR.
R. F. BIAS RESISTOR
THICK BLACK
THIN BLACK
110 VOLT CABLE
No. 1 R. F. T.
RECTIFIER
SPEAKER
GND.
S.A.
L.A.

BOTTOM WIRING OF EARLY-TYPE MODEL 55-F AND 55-F-C.

Some of these sets had a combination resistor, No. 15274, which is superseded by two separate resistors, No. 16988 being used as R. F. bias resistor, and No. 17077 as filament shunt resistor.

MODEL 55-F and 55-FC
Late
Chassis

ATWATER KENT MFG. CO.

FILTER CONDENSER CONNECTIONS. See data pertaining thereto on page 162
Bypass condenser specifications are shown below.

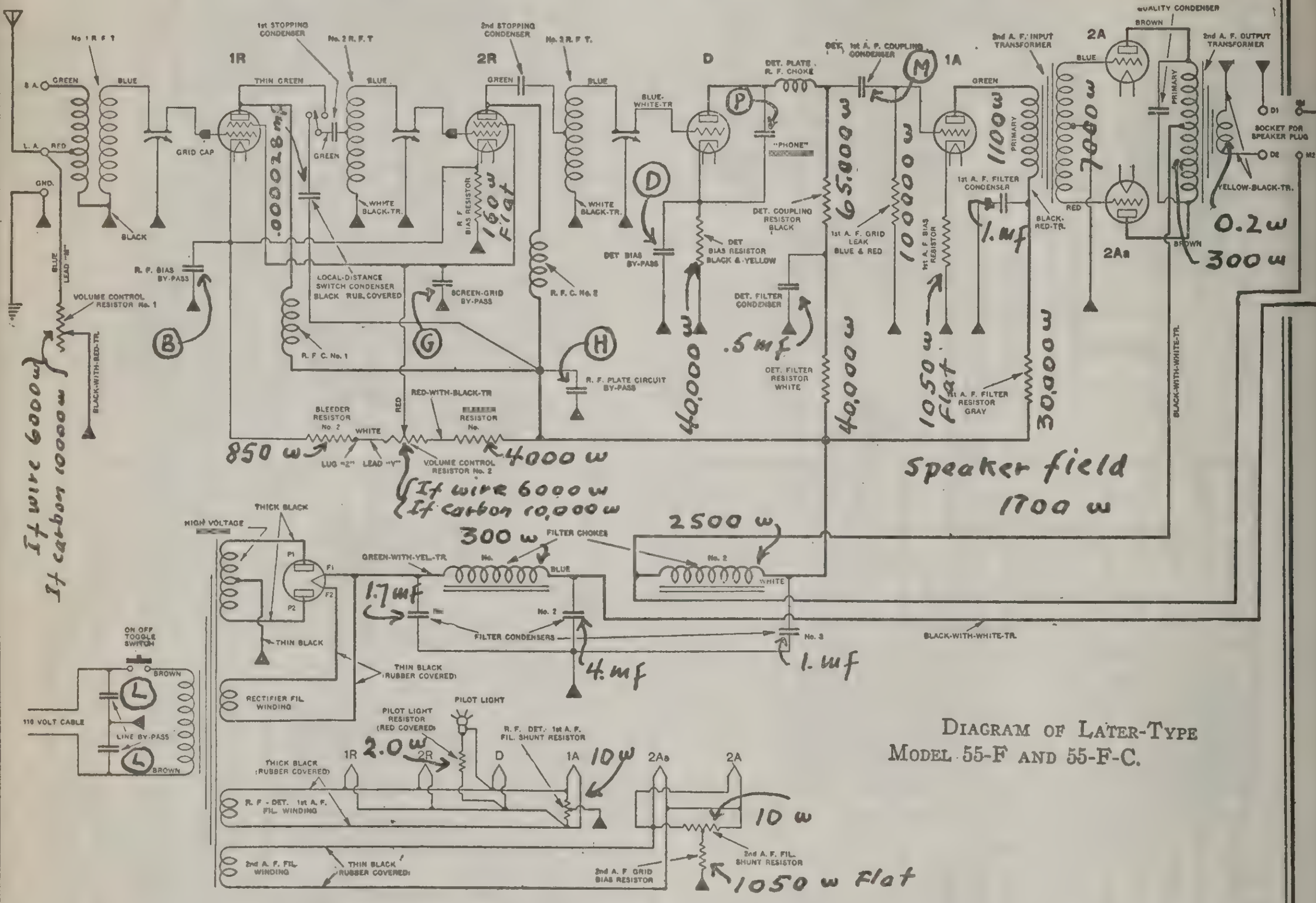
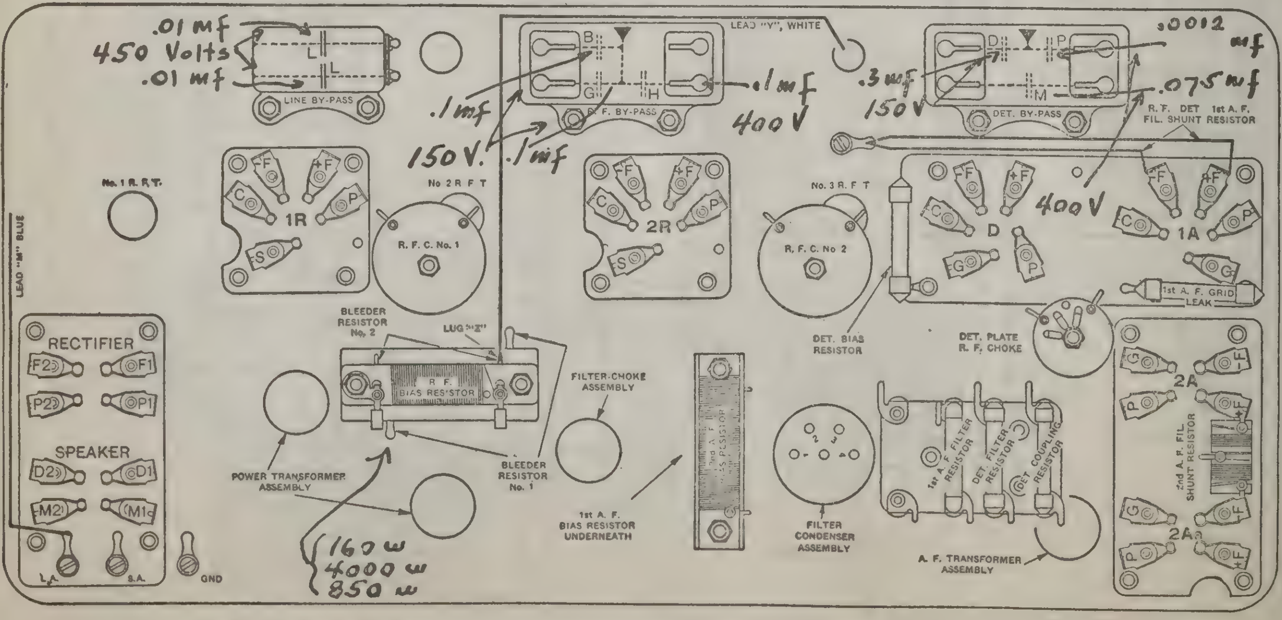

No. 1 R. F. T.
1st STOPPING CONDENSER
No. 2 R. F. T.
2nd STOPPING CONDENSER
No. 3 R. F. T.
1R
2R
D
1A
2A
2A
S. A.
L. A.
GND.
GREEN
BLUE
RED
THIN GREEN
GRID CAP
BLACK
WHITE BLACK-TR.
BLUE-WHITE-TR.
.000028 mf
R. F. BIAS RESISTOR
160 w Flat
DET. PLATE R. F. CHOKE
1st A. F. COUPLING CONDENSER
"PHONE"
2nd A. F. INPUT TRANSFORMER
QUALITY CONDENSER
BROWN
2nd A. F. OUTPUT TRANSFORMER
PRIMARY
SOCKET FOR SPEAKER PLUG
YELLOW-BLACK-TR.
0.2 w
300 w
65,000 w
100,000 w
1100 w
7000 w
DET. COUPLING RESISTOR BLACK
1st A. F. GRID LEAK BLUE & RED
1st A. F. BIAS RESISTOR
1st A. F. FILTER CONDENSER
1. mf
BLACK-RED-TR.
DET BIAS BY-PASS
DET BIAS RESISTOR BLACK & YELLOW
DET. FILTER CONDENSER
.5 mf
DET. FILTER RESISTOR WHITE
40,000 w
40,000 w
1050 w Flat
30,000 w
1st A. F. FILTER RESISTOR GRAY
BLACK-WITH-WHITE-TR.
R. F. BIAS BY-PASS
VOLUME CONTROL RESISTOR No. 1
LEAD "M"
LOCAL-DISTANCE SWITCH CONDENSER BLACK RUB. COVERED
SCREEN-GRID BY-PASS
R. F. C. No. 2
R. F. C. No. 1
R. F. PLATE CIRCUIT BY-PASS
BLACK-WITH-RED-TR.
If wire 6000 w
If carbon 10000 w
BLEEDER RESISTOR No. 2
RED-WITH-BLACK-TR.
BLEEDER RESISTOR No. 1
850 w
4000 w
LUG "Z"
LEAD "Y"
VOLUME CONTROL RESISTOR No. 2
If wire 6000 w
If carbon 10,000 w
Speaker field 1700 w
HIGH VOLTAGE
THICK BLACK
P1
P2
F1
F2
GREEN-WITH-YEL.-TR.
300 w
FILTER CHOKES
No. 1
No. 2
2500 w
1.7 mf
FILTER CONDENSERS
No. 2
No. 3
4. mf
1. mf
THIN BLACK
THIN BLACK (RUBBER COVERED)
RECTIFIER FIL. WINDING
ON OFF TOGGLE SWITCH
110 VOLT CABLE
LINE BY-PASS
PILOT LIGHT
PILOT LIGHT RESISTOR (RED COVERED)
2.0 w
R. F. DET. 1st A. F. FIL. SHUNT RESISTOR
10 w
THICK BLACK (RUBBER COVERED)
R. F. - DET. 1st A. F. FIL. WINDING
2nd A. F. FIL. WINDING
2nd A. F. FIL. SHUNT RESISTOR
10 w
2nd A. F. GRID BIAS RESISTOR
1050 w Flat
B
G
H
D
P
M
L

Diagram of Later-Type Model 55-F and 55-F-C.

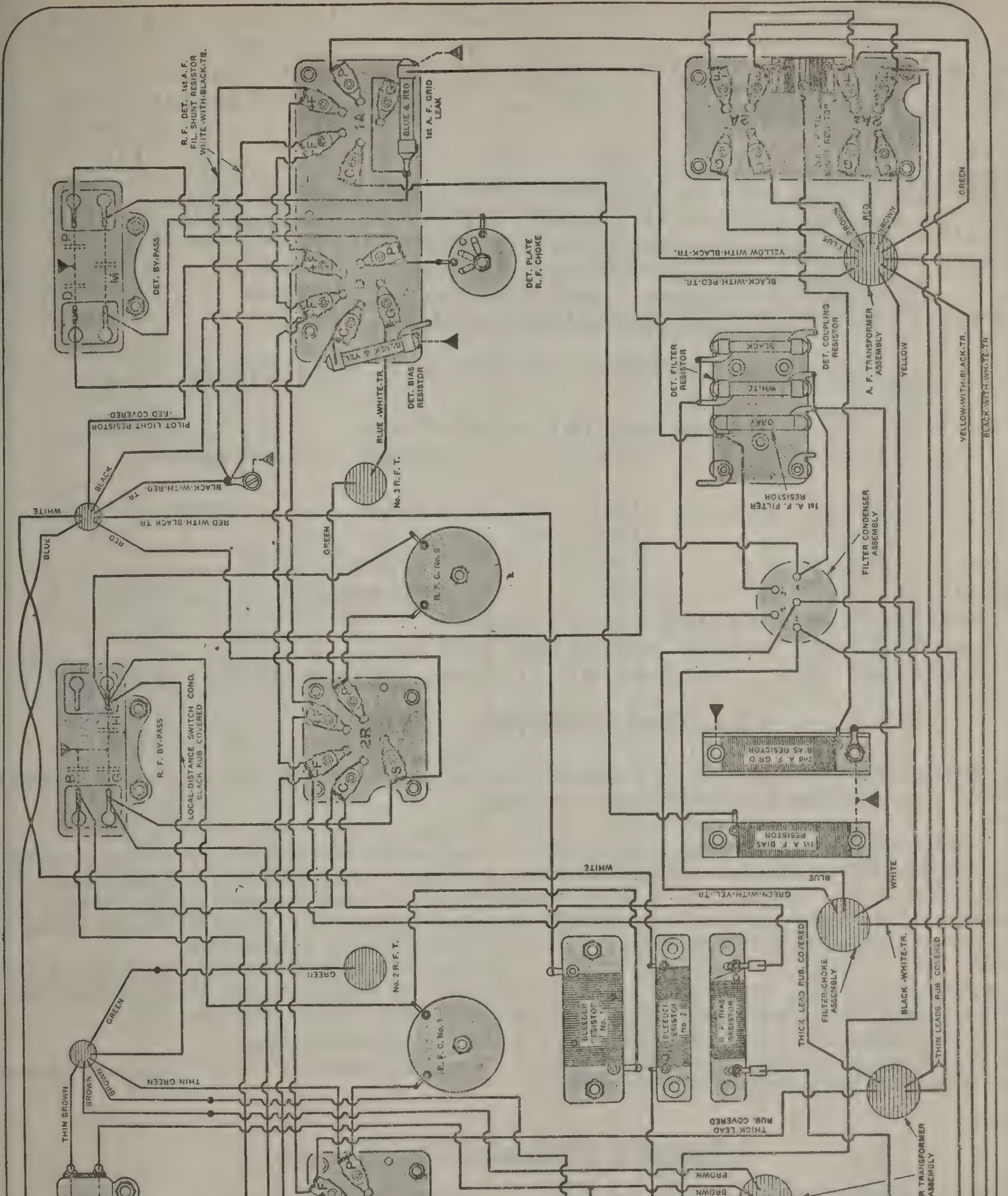

.01 mf
450 Volts
.01 mf
LINE BY-PASS
LEAD "Y", WHITE
R. F. BY-PASS
.1 mf
150 V.
.1 mf
.1 mf
400 V
DET. BY-PASS
.3 mf
150 V
.0012 mf
.075 mf
400 V
R. F. DET 1st A. F. FIL. SHUNT RESISTOR
No. 1 R. F. T.
No. 2 R. F. T
No. 3 R. F. T
R. F. C. No. 1
R. F. C. No 2
1R
2R
D
1A
2A
2A
1st A. F. GRID LEAK
LEAD "M" BLUE
RECTIFIER
SPEAKER
F2
F1
P2
P1
D2
D1
M2
M1
L.A.
S.A.
GND
BLEEDER RESISTOR No. 2
LUG "Z"
R. F. BIAS RESISTOR
BLEEDER RESISTOR No. 1
FILTER-CHOKE ASSEMBLY
POWER TRANSFORMER ASSEMBLY
160 w
4000 w
850 w
1st A. F. BIAS RESISTOR UNDERNEATH
FILTER CONDENSER ASSEMBLY
DET. BIAS RESISTOR
DET. PLATE R. F. CHOKE
1st A. F. FILTER RESISTOR
DET. FILTER RESISTOR
DET. COUPLING RESISTOR
A. F. TRANSFORMER ASSEMBLY
2nd A. F. FIL. SHUNT RESISTOR

Bottom Chart of Later-Type Model 55-F and 55-F-C.

Condenser reference on page 1-20.

ATWATER KENT MFG. CO.

**MODEL 55-F and 55-FC
Late Chassis**


R. F. DET. 1st A. F. FIL. SHUNT RESISTOR WHITE-WITH-BLACK-TR.
1st A. F. GRID LEAK
BLUE & RED
1A
DET. BY-PASS
DET. PLATE R. F. CHOKE
BLACK & YEL
DET. BIAS RESISTOR
BLUE-WHITE-TR.
PILOT LIGHT RESISTOR -RED COVERED-
BLACK-WITH-RED-TR.
BLACK
WHITE
BLUE
RED
RED WITH-BLACK TR
No. 3 R. F. T.
GREEN
R. F. C. No. 2
2R
R. F. BY-PASS
LOCAL-DISTANCE SWITCH COND. BLACK RUB COVERED
WHITE
GREEN-WITH-YEL-TR.
No. 2 R. F. T.
R. F. C. No. 1
BLEEDER RESISTOR No. 1
BLEEDER RESISTOR No. 2
F. BIAS RESISTOR
THIN GREEN
THIN BROWN
BROWN
LINE BY-PASS
1R
THICK LEAD RUB. COVERED
110 VOLT CABLE
No. 1 R. F. T.
YELLOW WITH-BLACK-TR.
BLACK-WITH-RED-TR.
A. F. TRANSFORMER ASSEMBLY
YELLOW
GREEN
DET. FILTER RESISTOR
DET. COUPLING RESISTOR
BLACK
WHITE
GRAY
1st A. F. FILTER RESISTOR
FILTER CONDENSER ASSEMBLY
2nd A. F. GRID BIAS RESISTOR
1st A. F. BIAS RESISTOR
YELLOW-WITH-BLACK-TR.
BLACK-WITH-WHITE-TR.
FILTER-CHOKE ASSEMBLY
THICK LEAD RUB. COVERED
BLACK-WHITE-TR.
THIN LEADS RUB. COVERED
POWER TRANSFORMER ASSEMBLY
THIN LEADS RUB. COVERED
THICK BLACK
THIN BLACK
RECTIFIER
F1
F2
P1
P2
SPEAKER
D1
D2
M1
M2
GND.
S.A.
L.A.

BOTTOM WIRING OF LATER-TYPE MODEL 55-F AND 55-F-C.

The 1st-A. F. bias resistor is mounted under the 2nd-A. F. bias resistor. The three other wire-wound resistors are mounted together, being insulated from each other by sheets of fibre.

Some of these sets had a combination resistor, No. 16868, which is superseded by two separate resistors, No. 16988 being used as R. F. bias, and No. 16989 as bleeder No. 2.

VOLTAGE DATA FOR MODELS 60 and 60-C (1st and 2nd Types)

Line voltage 110. 120 volt line is 10 percent higher.

Tube	Filament	Plate	Grid	Screen
R-F (1st)	2.2	160	7.3	119 119
R-F (2nd-3rd)	2.2	160	3.7	83
Det.	2.2	101	11.	
A-F (1st)	2.2	69	1.8*	
A-F (2nd)	2.2	230	44.	
Rect.	4.5			

* Measured, not actual operating voltage.

VOLTAGE DATA FOR MODEL 60 and 60-C (3rd Type)

Line voltage 110. Volume control at minimum.

Tube	Filament	Plate	Grid	Sceeen
R-F	2.3	170	16.5*	142
Det.	2.3	119	1.5	
A-F (1st)	2.3	73	1.9**	
A-B (2nd)	2.3	224	36. ***	

* Local distance switch at distance

** Measured, not actual operating voltage.

*** If 2nd A-F bias resistor #1 is open, bias will be about 85 v.

Checking Sensitivity of Set

When checking the sensitivity of the set, it is necessary to use an oscillator, and a meter to indicate maximum output volume.

A local oscillator is necessary to ensure constancy of signal strength; signals from broadcast stations are not sufficiently constant for this work.

An output meter is necessary to ensure a reliable indication of output volume; the ear is not reliable enough for this purpose.

The oscillator feeds a weak signal into the receiver. The signal is amplified in the receiver and produces a reading on a meter which is connected to the output of the set. This meter indicates the strength of output volume. The reading on the output meter is greatest when all the tuned circuits in the set are adjusted to the same frequency as the oscillator signal.

1. *Oscillator.*

The oscillator must provide modulated R. F. signals at four different frequencies in the broadcast range. *These four frequencies should correspond to dial settings of 5, 45, 65 and 95 on the dial of a 3rd type Model 60-C **which has the original factory synchronism.***

Each of the four R. F. oscillators should have an adjustable pick-up so that the strength of each oscillator may be controlled independently of the other three.

2. *Output Measuring Circuit.*

The output measuring circuit is shown and described

Adjusting Trimmer Condensers

1. Connect the common pick-up lead from the four R. F. oscillators to one end of a No. 8112 condenser. Connect the other end of this condenser to the Long-Antenna post. Connect the oscillator container to the Ground post.
2. Put plug "A" of the output measuring circuit in the speaker-plug socket on the set. Plug an F-4 type speaker in socket "B." Throw switch "D" to the right.
3. Put all tubes in the set; power switch on; volume control at maximum; local-distance switch at distance. Break away the sealing wax on the trimmer-condenser screws
4. *Tune set exactly to 5 on dial.* Reduce or increase the amount of pick-up from the 1st oscillator to secure a reading of about 20 on the output meter.
5. With a screw-driver, turn the pressure screw of the 4th trimmer condenser one way or the other, as necessary, to the point where the reading on the output meter is greatest. Repeat this process on the 3rd trimmer, then on the 2nd, and finally on the 1st. Reduce the pick-up from the 1st oscillator if necessary in order to keep the needle of the galvanometer near the centre of its scale.

This adjustment of the trimmer-condenser screws is termed the CORRECT POSITION.

ATWATER KENT MFG. CO.

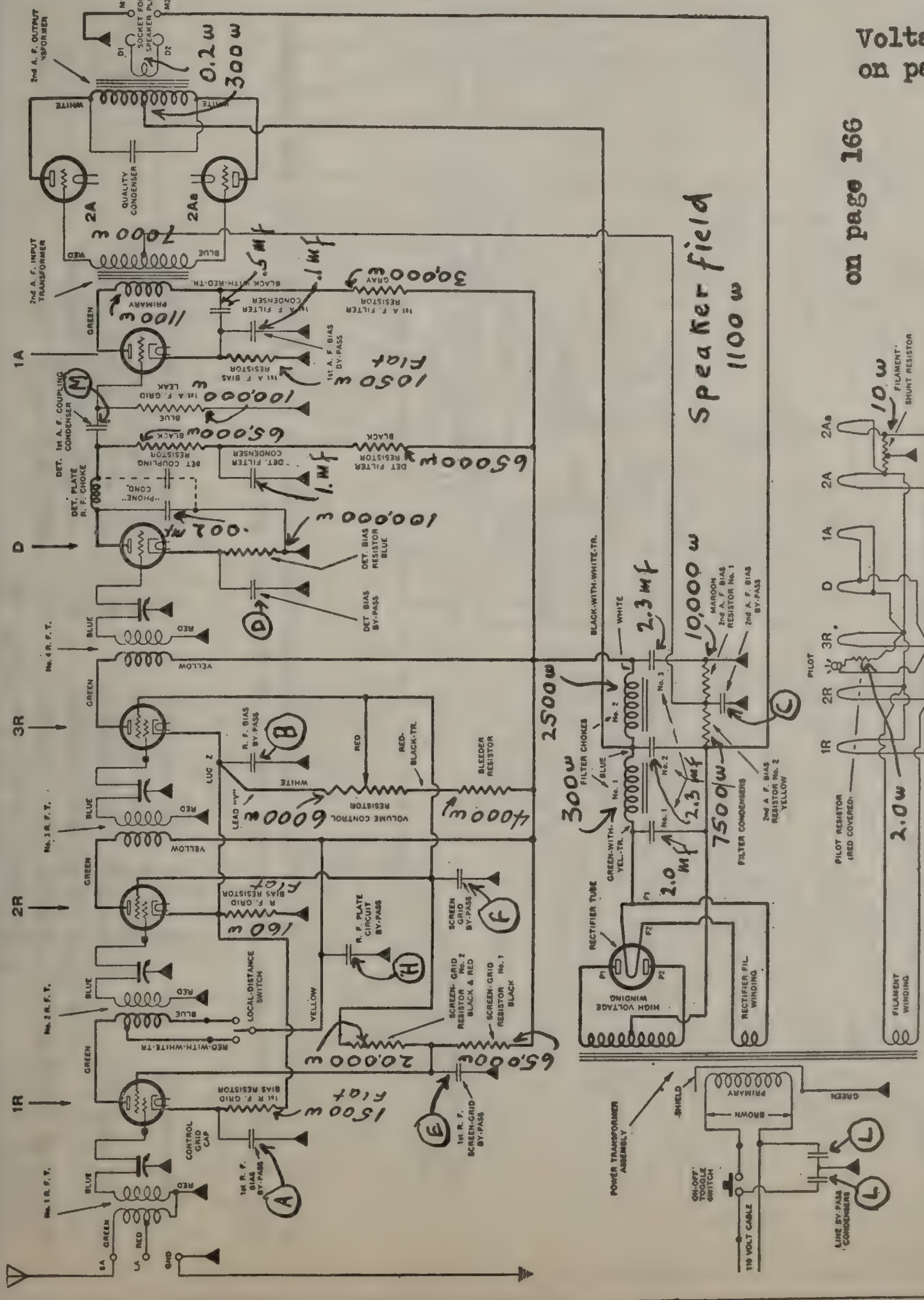
MODEL 60 and 60-C
Early
Schematic
Data

FILTER CONDENSER CONNECTIONS. See chassis layout

The numbers listed as connections are marked upon the filter condenser unit and shown within the circle designating the condenser unit on the chassis layout.

1st a-f filter	.5 mfd	connected between center stud and terminal (3)
Detector filter	1. mfd	connected between terminal (4) and can
1st a-f bias	.5 mfd	connected between center stud and can
Filter #1	2.0 mfd	connected between terminals (1) and (4)
Filter #2	2.3 mfd	connected between terminals (2) and (4)
Filter #3	2.3 mfd	connected between terminals (6) and can

Voltage data on page 173



2nd A. F. OUTPUT TRANSFORMER
SOCKET FOR SPEAKER PLUG
M1
M2
D1
D2
0.2 w
300 w
WHITE
QUALITY CONDENSER
2A
2As
RED
BLUE
7000 w
2nd A. F. INPUT TRANSFORMER
BLACK-WITH-RED-TR.
.5 mf
.1 mf
GRAY
30,000 w
1st A. F. FILTER RESISTOR
1st A. F. FILTER CONDENSER
PRIMARY
GREEN
1100 w
1A
1st A. F. BIAS BY-PASS
1st A. F. BIAS RESISTOR
1050 w
Flat
1st A. F. COUPLING CONDENSER
M
1st A. F. GRID LEAK
100,000 w
BLUE
BLACK
65,000 w
DET. COUPLING RESISTOR
DET. FILTER CONDENSER
DET. FILTER RESISTOR
65000 w
1. mf
DET. PLATE R. F. CHOKE
PHONE COND.
.002 mf
100,000 w
DET. BIAS RESISTOR BLUE
DET. BIAS BY-PASS
D
No. 4 R. F. T.
BLUE
RED
YELLOW
GREEN
3R
R. F. BIAS BY-PASS
B
RED
RED-BLACK-TR.
BLEEDER RESISTOR
No. 3 R. F. T.
LUG 2
WHITE
LEAD
6000 w
VOLUME CONTROL RESISTOR
4000 w
2R
R. F. GRID BIAS RESISTOR
Flat
160 w
R. F. PLATE CIRCUIT BY-PASS
H
SCREEN GRID BY-PASS
F
No. 2 R. F. T.
LOCAL-DISTANCE SWITCH
YELLOW
RED-WITH-WHITE-TR.
SCREEN-GRID RESISTOR No. 2 BLACK & RED
SCREEN-GRID RESISTOR No. 1 BLACK
20,000 w
65,000 w
1R
1st R. F. GRID BIAS RESISTOR
Flat
1500 w
CONTROL GRID CAP
1st R. F. BIAS BY-PASS
A
1st R. F. SCREEN-GRID BY-PASS
E
No. 1 R. F. T.
GREEN
RED
GND
BLACK-WITH-WHITE-TR.
WHITE
2.3 mf
10,000 w
MAROON 2nd A. F. BIAS RESISTOR No. 1
2nd A. F. BIAS BY-PASS
C
2500 w
FILTER CHOKES
No. 1
No. 2
No. 3
300 w
BLUE
GREEN-WITH-YEL-TR.
2.3 mf
2.0 mf
7500 w
FILTER CONDENSERS
2nd A. F. BIAS RESISTOR No. 2 YELLOW
Speaker field
1100 w
RECTIFIER TUBE
HIGH VOLTAGE WINDING
RECTIFIER FIL. WINDING
PILOT
1R
2R
3R
D
1A
2A
2As
10 w
FILAMENT SHUNT RESISTOR
PILOT RESISTOR (RED COVERED)
2.0 w
FILAMENT WINDING
POWER TRANSFORMER ASSEMBLY
SHIELD
PRIMARY
GREEN
BROWN
ON-OFF TOGGLE SWITCH
110 VOLT CABLE
LINE BY-PASS CONDENSERS
L
L

EARLY-TYPE MODEL 60 AND 60-C.

BYPASS CONDENSER VALUES. The bypass condensers are designated by letters, exclusive of those within the filter condenser can. For bypass condensers, see schematic above and chassis layout on page 166

RF Bypass # 1	A	.1 mfd	150 volts	E	.1 mfd	150 volts
	F	.1 mfd	400 volts	H	.1 mfd	400 volts
RF Bypass #2	B	.1 mfd	150 volts	C	.1 mfd	150 volts
	L	.01 mfd	400 volts	L	.01 mfd	400 volts
Detector Bypass	D	.3 mfd	150 volts	M	.075 mfd	400 volts

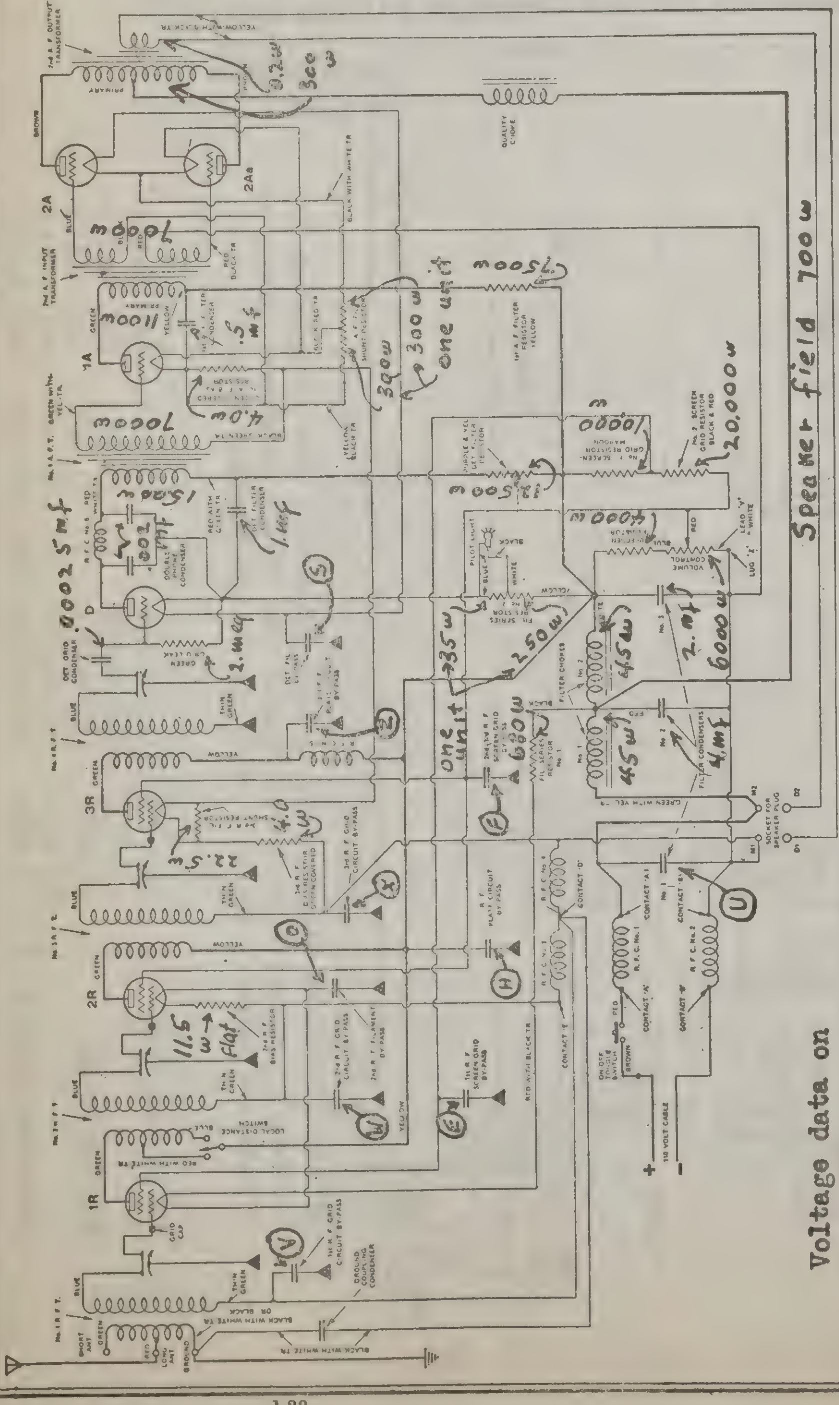
MODEL 61,61-C DC
Early
Schematic

ATWATER KENT MFG. CO.

FILTER CONDENSER DATA. The filter condenser unit in the Model 61 and 61-C, (Direct Current) Early, contains two of the filter condensers and two other bypass condensers. The numbers to bd quoted in connection with the connections are marked upon the condenser can and are shown upon the chassis layout

1st a-f filter	.5 mfd	connected between terminals(1)and (3)
Detector filter	1.0 mfd	connected between terminals (2) and (6)
Filter # 2	4.0 mfd	connected between terminal (4) and center stud
Filter # 3	2.0 mfd	connected between terminal (5) and center stud

Filter #1 is a part of one of the bypass units as stated elsewhere on this page.



9.2w
See 3
2A
2As
1000w
1100w
.5 mf
1A
1000w
4.0w
1500w
.0025 mf
.002
1 Mf
D
2.meg
3R
22.5w
4.0
2R
11.5 w flat
1R
300w one unit
390w
1500w
10000
18,500w
20,000w
4000w
Speaker field 700w
250w
235w
45w
2. mf
6000w
one unit
680w
45w
4.mf
E
F
X
O
H
W
V
S
U
Quality choke
Filter chokes
Filter condensers
Socket for speaker plug
110 volt cable

Diagram of Early Model 61 and 61-C (Direct Current).

Voltage data on page 176

BYPASS CONDENSERS. The following designating letters are shown upon the schematic wiring diagram and also upon the chassis layout

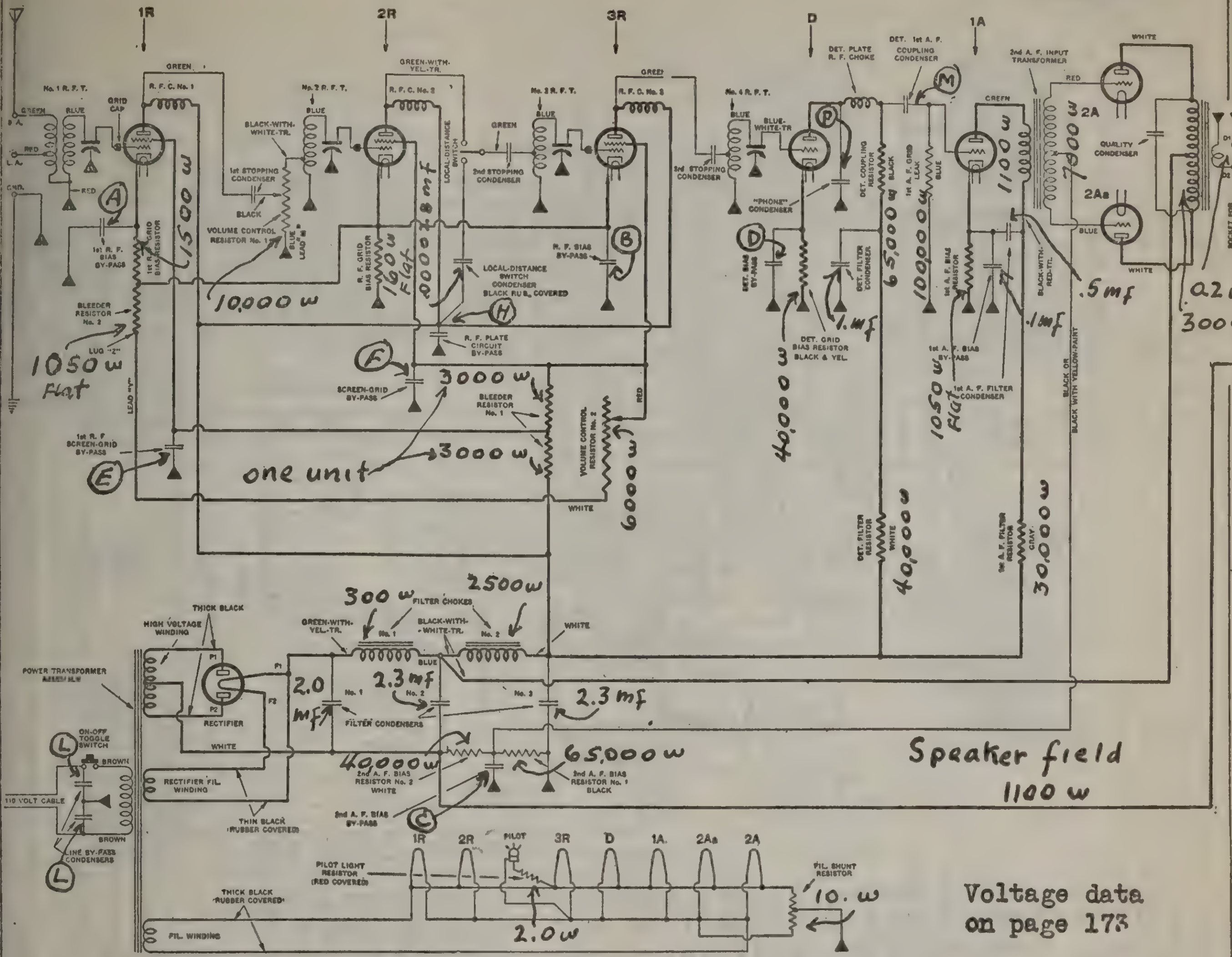
RF Bypass #1	E	.1 mfd 150 volts	O	.1 mfd	400 volts
	V	.1 mfd 150 volts	W	.1 mfd	400 volts
RF Bypass #2	F	.1 mfd 400 volts	H	.1 mfd	400 volts
	X	.1 mfd 150 volts	Z	.1 mfd	150 volts
Detector Bypass	S	.3 mfd 150 volts	U*	.075 mfd	400 volts

* Condenser U is Filter #1

Voltage reference on page 1-28.

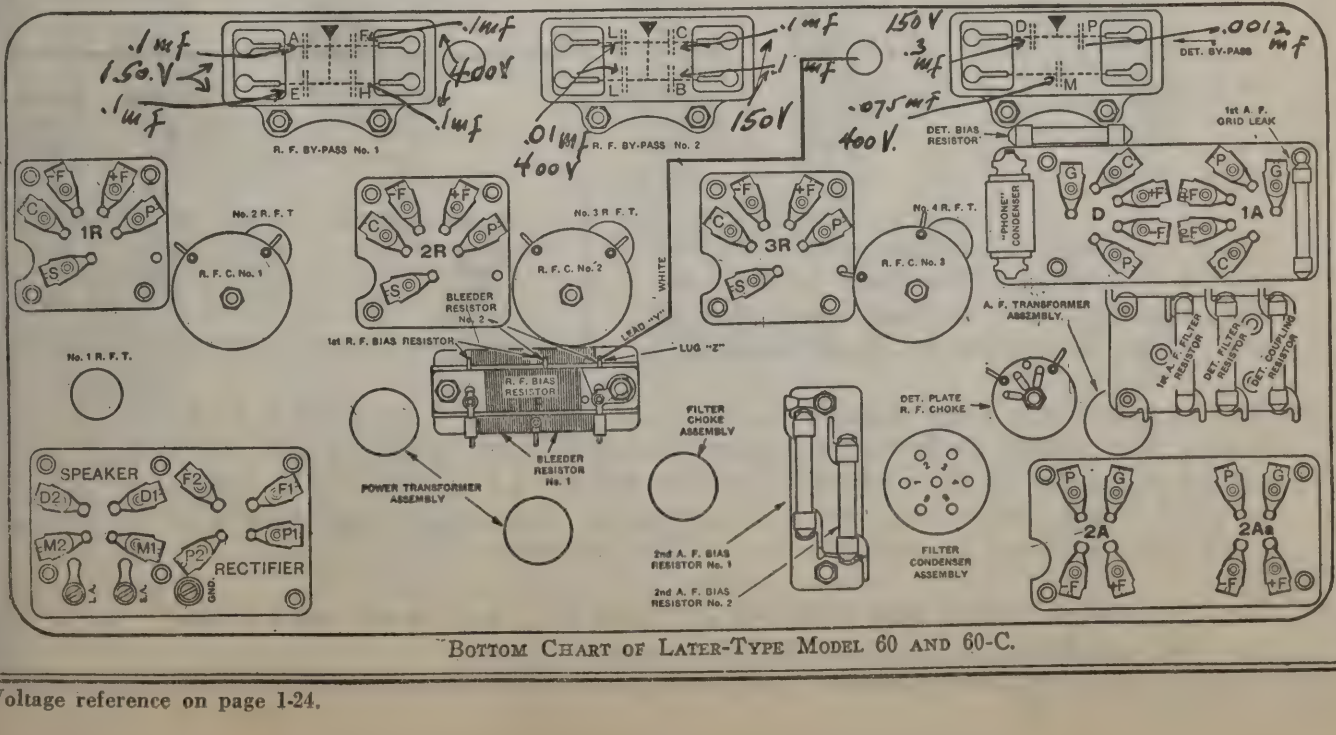
ATWATER KENT MFG. CO.

MODEL 60 and 60-C
Late
Schematic


1R
2R
3R
D
1A
No. 1 R.F.T.
No. 2 R.F.T.
No. 3 R.F.T.
No. 4 R.F.T.
R.F.C. No. 1
R.F.C. No. 2
R.F.C. No. 3
GRID CAP
GREEN
BLUE
RED
BLACK
WHITE
GREEN-WITH-YEL.-TR.
BLACK-WITH-WHITE-TR.
1st STOPPING CONDENSER
2nd STOPPING CONDENSER
3rd STOPPING CONDENSER
VOLUME CONTROL RESISTOR No. 1
LOCAL-DISTANCE SWITCH
LOCAL-DISTANCE SWITCH CONDENSER BLACK RUB. COVERED
1st R.F. BIAS BY-PASS
1st R.F. GRID BIAS RESISTOR
R.F. GRID BIAS RESISTOR
R.F. BIAS BY-PASS
BLEEDER RESISTOR No. 2
LUG "Z"
LEAD "Y"
R.F. PLATE CIRCUIT BY-PASS
SCREEN-GRID BY-PASS
1st R.F. SCREEN-GRID BY-PASS
BLEEDER RESISTOR No. 1
VOLUME CONTROL RESISTOR No. 2
A
B
D
E
F
H
M
P
C
L
1500 w
10,000 w
1050 w Flat
160 w Flat
.00028 mf
3000 w
3000 w
one unit
6000 w
DET. PLATE R.F. CHOKE
DET. 1st A.F. COUPLING CONDENSER
"PHONE" CONDENSER
DET. BIAS BY-PASS
DET. GRID BIAS RESISTOR BLACK & YEL.
DET. FILTER CONDENSER
DET. COUPLING RESISTOR
1st A.F. GRID LEAK
1st A.F. BIAS RESISTOR
1st A.F. BIAS BY-PASS
1st A.F. FILTER CONDENSER
2nd A.F. INPUT TRANSFORMER
QUALITY CONDENSER
BLACK-WITH-RED-TR.
BLACK OR BLACK WITH YELLOW-PAINT
SOCKET FOR SPEAKER PLUG
2A
2As
.1 mf
65,000 w
100,000 w
1100 w
7000 w
40,000 w
1050 w Flat
.1 mf
.5 mf
.02 w
300 w
DET. FILTER RESISTOR
1st A.F. FILTER RESISTOR
GRAY
40,000 w
30,000 w
THICK BLACK
HIGH VOLTAGE WINDING
POWER TRANSFORMER ASSEMBLY
RECTIFIER
ON-OFF TOGGLE SWITCH
BROWN
110 VOLT CABLE
LINE BY-PASS CONDENSERS
RECTIFIER FIL. WINDING
THIN BLACK (RUBBER COVERED)
FILTER CHOKES
No. 1
No. 2
No. 3
300 w
2500 w
2.0 mf
2.3 mf
2.3 mf
FILTER CONDENSERS
40,000 w
65,000 w
2nd A.F. BIAS RESISTOR No. 2 WHITE
2nd A.F. BIAS RESISTOR No. 1 BLACK
2nd A.F. BIAS BY-PASS
Speaker field 1100 w
PILOT
PILOT LIGHT RESISTOR (RED COVERED)
THICK BLACK (RUBBER COVERED)
FIL. WINDING
FIL. SHUNT RESISTOR
10. w
2.0 w

Voltage data on page 173

Circuit of Later Model 60 and 60-C.

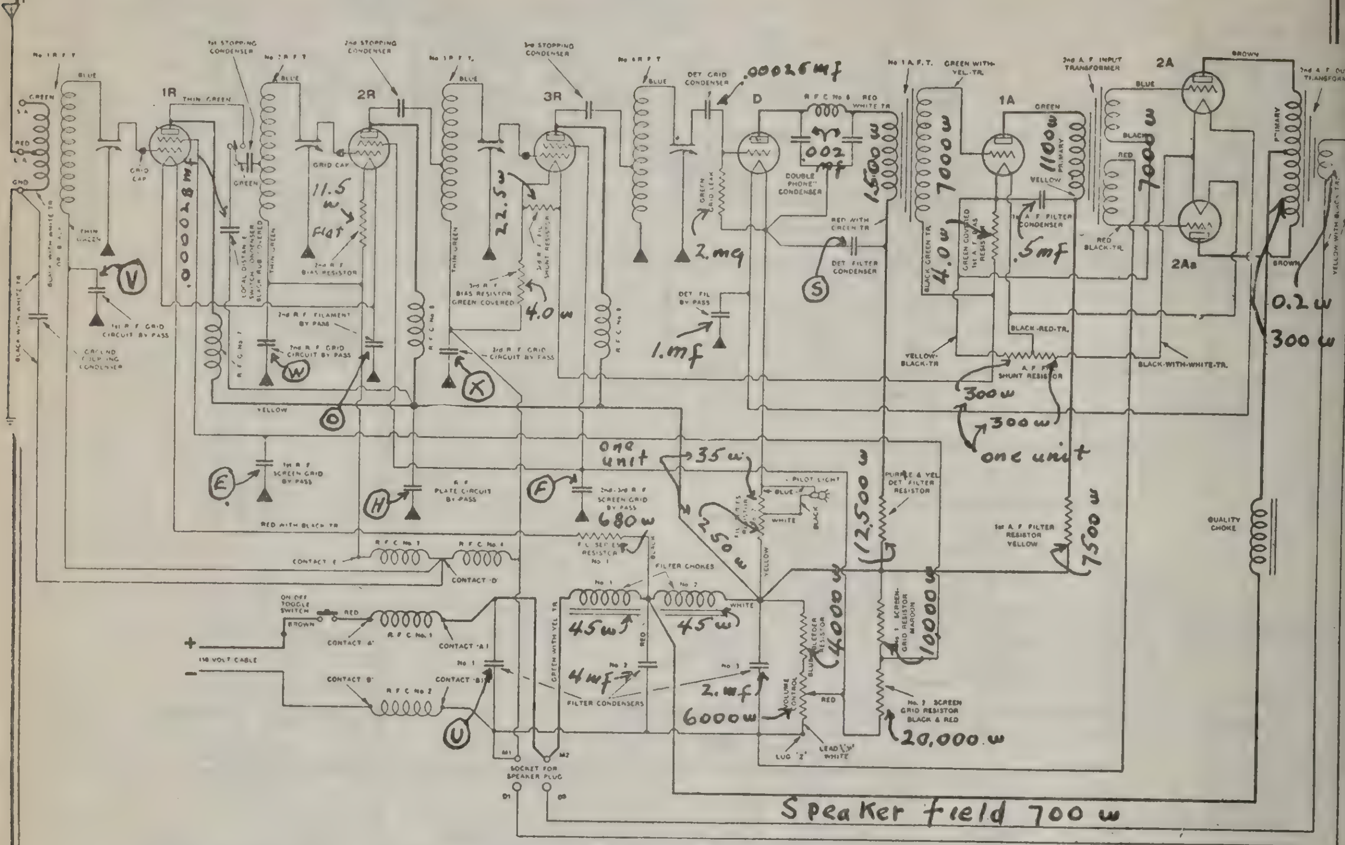

.1 mf
150 V
.1 mf
.1 mf
400 V
.1 mf
R.F. BY-PASS No. 1
.01 mf
400 V
.1 mf
.1 mf
150 V
R.F. BY-PASS No. 2
150 V
.3 mf
.075 mf
400 V
.0012 mf
DET. BY-PASS
DET. BIAS RESISTOR
1st A.F. GRID LEAK
1R
2R
3R
D
1A
No. 2 R.F.T.
No. 3 R.F.T.
No. 4 R.F.T.
No. 1 R.F.T.
R.F.C. No. 1
R.F.C. No. 2
R.F.C. No. 3
"PHONE" CONDENSER
BLEEDER RESISTOR No. 2
1st R.F. BIAS RESISTOR
LUG "Z"
LEAD "Y"
WHITE
R.F. BIAS RESISTOR
BLEEDER RESISTOR No. 1
A.F. TRANSFORMER ASSEMBLY
1st A.F. FILTER RESISTOR
DET. FILTER RESISTOR
DET. COUPLING RESISTOR
DET. PLATE R.F. CHOKE
FILTER CHOKE ASSEMBLY
POWER TRANSFORMER ASSEMBLY
SPEAKER
RECTIFIER
2nd A.F. BIAS RESISTOR No. 1
2nd A.F. BIAS RESISTOR No. 2
FILTER CONDENSER ASSEMBLY
2A
2As

Bottom Chart of Later-Type Model 60 and 60-C.

Voltage reference on page 1-24.

MODEL 61-61-C
Late Schematic

ATWATER KENT MFG. CO

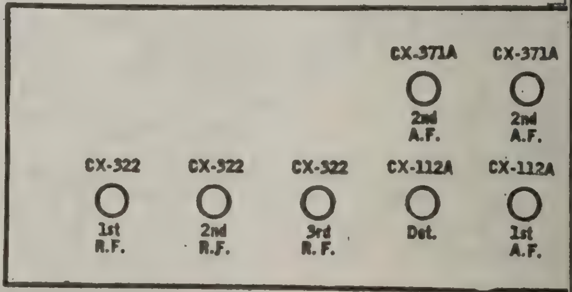

No 1 R F T
BLUE
GREEN
RED
GND
1st STOPPING CONDENSER
No 2 R F T
1R
THIN GREEN
GRID CAP
THIN GREEN
.00028 mf
GREEN
LOCAL DISTANCE SWITCH CONDENSER BLACK RUB COVERED
THIN GREEN
V
1st R F GRID CIRCUIT BY PASS
GROUND COUPLING CONDENSER
BLACK WITH WHITE TR
2nd STOPPING CONDENSER
2R
GRID CAP
11.5 w
Flat
2nd R F BIAS RESISTOR
2nd R F FILAMENT BY PASS
2nd R F GRID CIRCUIT BY PASS
W
R F C No 7
No 3 R F T
3R
3rd STOPPING CONDENSER
22.5 w
3rd R F FIL SHUNT RESISTOR
3rd R F BIAS RESISTOR GREEN COVERED
4.0 w
3rd R F GRID CIRCUIT BY PASS
X
R F C No 8
No 4 R F T
DET GRID CONDENSER
.00025 mf
D
GREEN GRID LEAK
2. mg
DET FIL BY PASS
1. mf
R F C No 6
RED WHITE TR
.002 mf
DOUBLE "PHONE" CONDENSER
15,000 w
RED WITH GREEN TR
DET FILTER CONDENSER
S
No 1 A.F.T.
GREEN WITH YEL. TR.
7000 w
BLACK GREEN TR
4.0 w
GREEN COVERED 1st A F BIAS RESIS
1A
GREEN
1100 w
PRIMARY
YELLOW
1st A F FILTER CONDENSER
.5 mf
2nd A F INPUT TRANSFORMER
BLUE
BLACK
RED
7000 w
RED BLACK TR
2A
2As
BROWN
2nd A F OUTPUT TRANSFORMER
PRIMARY
YELLOW WITH BLACK TR
0.2 w
300 w
BLACK-RED-TR.
YELLOW-BLACK-TR
A F FIL SHUNT RESISTOR
BLACK-WITH-WHITE-TR.
300 w
300 w
one unit
YELLOW
O
1st R F SCREEN GRID BY PASS
E
R F PLATE CIRCUIT BY PASS
H
One unit
35 w
2nd-3rd R F SCREEN GRID BY PASS
F
680 w
FIL SERIES RESISTOR No 1
BLACK
PILOT LIGHT
BLUE
WHITE
BLACK
250 w
YELLOW
12,500 w
PURPLE & YEL DET FILTER RESISTOR
1st A F FILTER RESISTOR YELLOW
7500 w
QUALITY CHOKE
RED WITH BLACK TR
R F C No 7
R F C No 4
CONTACT E
CONTACT D
ON OFF TOGGLE SWITCH
RED
BROWN
R F C No 1
CONTACT A
CONTACT A1
+
−
110 VOLT CABLE
CONTACT B
CONTACT B1
R F C No 2
No 1
U
GREEN WITH YEL TR
FILTER CHOKES
No 1
No 2
45 w
45 w
WHITE
No 2
RED
4 mf
No 3
2. mf
FILTER CONDENSERS
6000 w
VOLUME CONTROL
BLUE
BLEEDER RESISTOR
4000 w
RED
LUG 'Z'
LEAD 'Y' WHITE
No 1 SCREEN GRID RESISTOR MAROON
10,000 w
No 2 SCREEN GRID RESISTOR BLACK & RED
20,000 w
M1
M2
SOCKET FOR SPEAKER PLUG
D1
D2
Speaker field 700 w

SCHEMATIC DIAGRAM OF LATER MODEL 61 AND 61-C (DIRECT CURRENT).

FILTER CONDENSER SPECIFICATIONS are shown on page 174. BYPASS CONDENSER designations shown upon wiring diagram also appear upon chassis layout on page177. For BYPASS CONDENSER data refer only to page 177 and not to page174.

	R-F	Det.	1st A-F	2nd A-F
Fil.	2.9	4.6	4.6	4.6
Plate	78	32	50	80
Grid	4.6*		1.4	9
Screen	60**			

61


CX-371A
2nd A.F.
CX-371A
2nd A.F.
CX-322
1st R.F.
CX-322
2nd R.F.
CX-322
3rd R.F.
CX-112A
Det.
CX-112A
1st A.F.

* This voltage applies only to the 1st R-F stage. The 2nd R-F bias voltage is 1.4 voltas and the 3rd R-F bias voltage is 0.9 volts.

**The screen voltage quoted applies only to the third R-F tube. he other R-F tubes secure different values of screen voltage. R-F tube number 1 or rather the first R-F stage has 46 volts applied to its screen. Likewise the 2nd R-F stagehas 46 volts applied to its screen.

The forementioned voltage measurements are made with the volume control adjusted to minimum.

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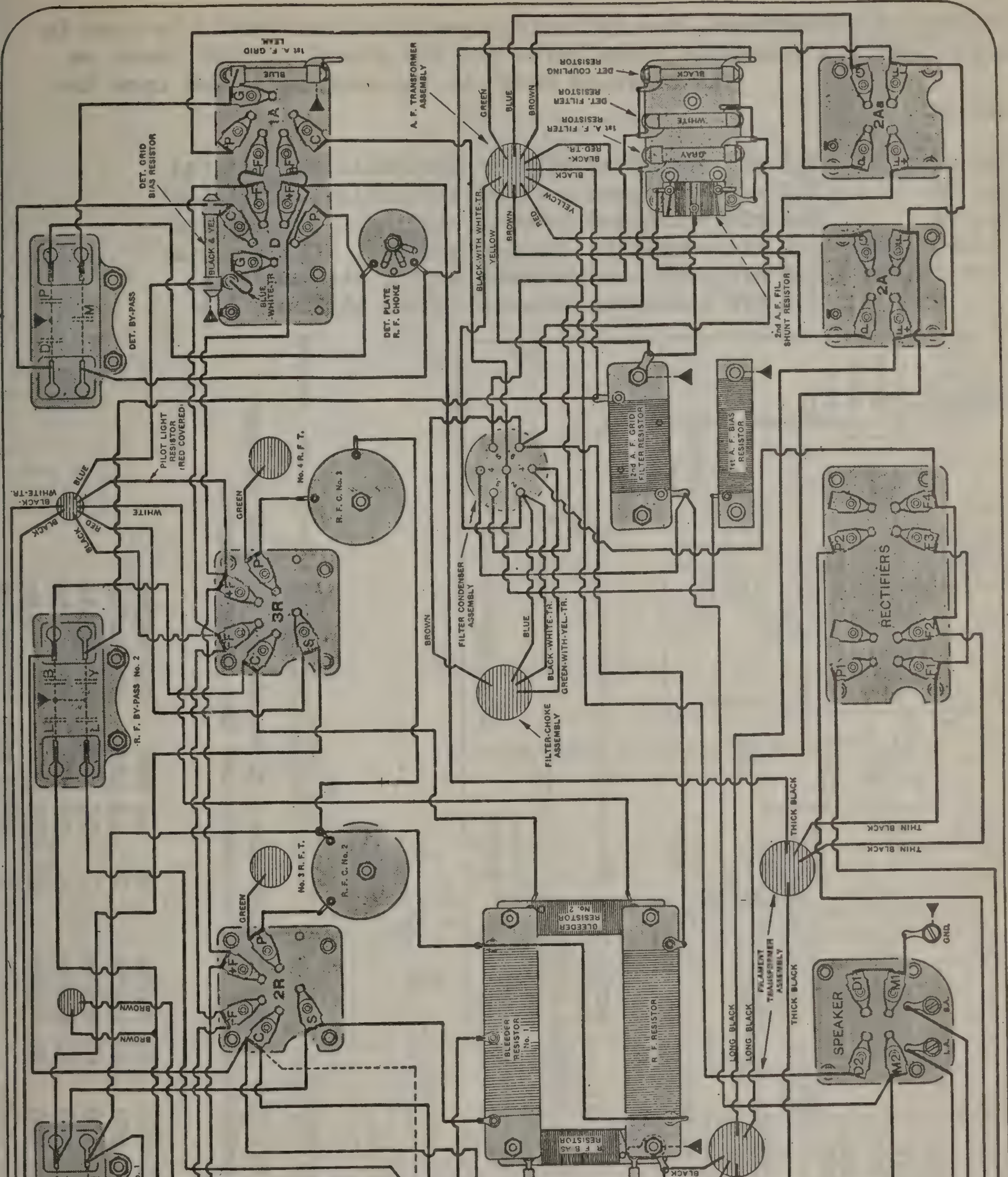
MODEL 66
Chassis


1st A. F. GRID LEAK
BLUE
DET. COUPLING RESISTOR
DET. FILTER RESISTOR
1st A. F. FILTER RESISTOR
A. F. TRANSFORMER ASSEMBLY
GREEN
BLUE
BROWN
BLACK-RED-TR.
BLACK
WHITE
GRAY
YELLOW
RED
BLACK-WITH WHITE-TR.
YELLOW
BROWN
2nd A. F. FIL. SHUNT RESISTOR
2As
2A
DET. GRID BIAS RESISTOR
BLACK & YEL.
BLUE WHITE-TR.
1A
D
DET. BY-PASS
DET. PLATE R. F. CHOKE
PILOT LIGHT RESISTOR (RED COVERED)
BLUE
BLACK-WHITE-TR.
BLACK
RED
BLACK
WHITE
GREEN
No. 4 R. F. T.
R. F. C. No. 3
3R
FILTER CONDENSER ASSEMBLY
2nd A. F. GRID FILTER RESISTOR
1st A. F. BIAS RESISTOR
RECTIFIERS
R. F. BY-PASS No. 2
BROWN
BLUE
BLACK-WHITE-TR.
GREEN-WITH-YEL.-TR.
FILTER-CHOKE ASSEMBLY
THICK BLACK
THIN BLACK
THIN BLACK
No. 3 R. F. T.
R. F. C. No. 2
GREEN
BLEEDER RESISTOR No. 2
2R
BROWN
BROWN
BLEEDER RESISTOR No. 1
R. F. RESISTOR
FILAMENT TRANSFORMER ASSEMBLY
LONG BLACK
LONG BLACK
THICK BLACK
SPEAKER
GND.
R. F. BIAS RESISTOR
SHORT BLACK
R. F. BY-PASS No. 1
BLACK
No. 2 R. F. T.
R. F. C. No. 1
1st R. F. BIAS RESISTOR
BROWN
BROWN
GREEN
1R
BLACK-WHITE-TR.
HIGH-VOLTAGE TRANSFORMER ASSEMBLY
GREEN
THIN BLACK
THICK BLACK
THICK BLACK
BROWN
110 VOLT CABLE
No. 1 R. F. T
RED
GREEN
R. F. DET. 1st A. F. FIL. SHUNT RESISTOR

BOTTOM WIRING OF LATER-TYPE MODEL 66.

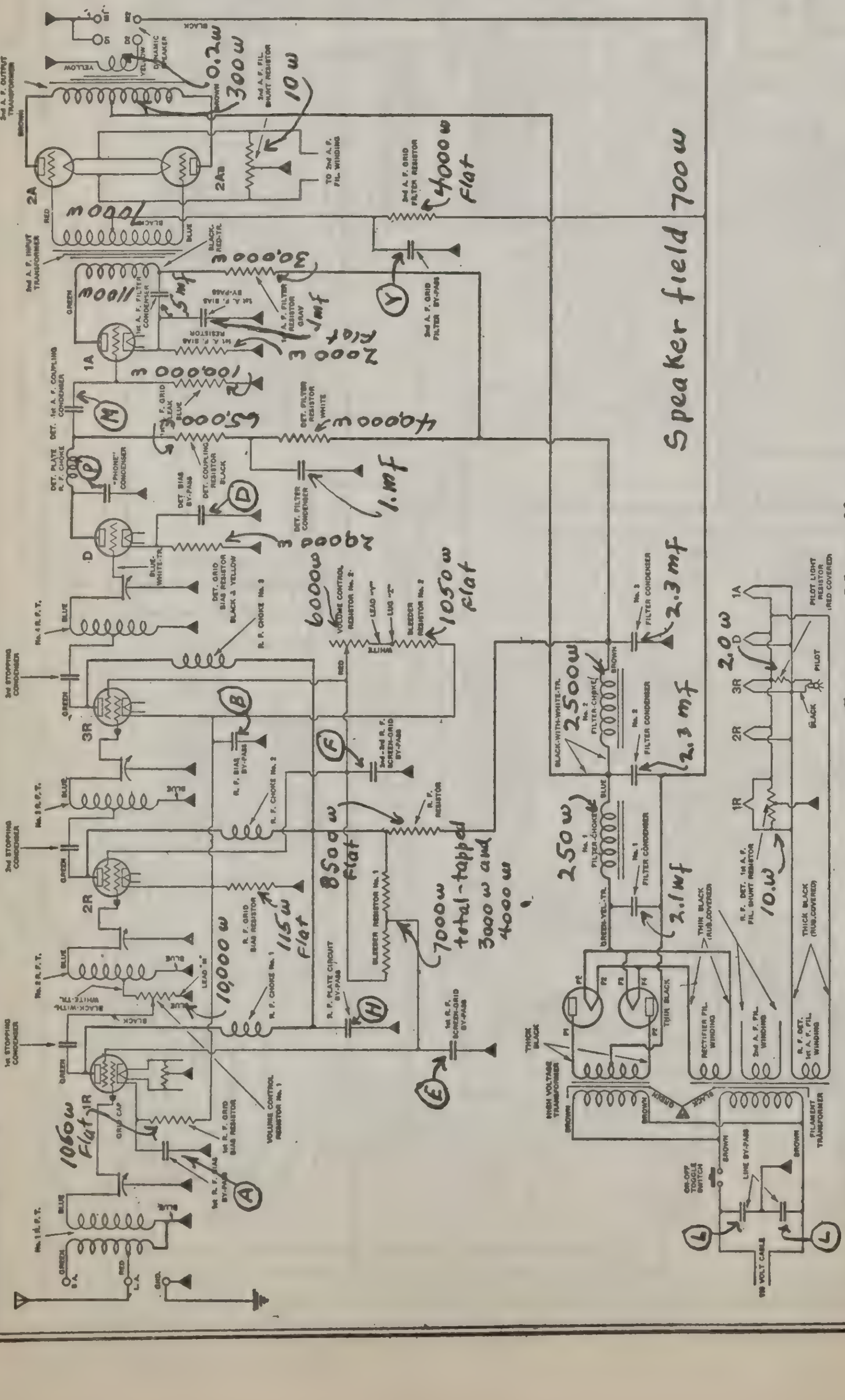
The resistor shown in dotted lines is the old-style R. F. bias resistor. This is shown merely to indicate how the old-style R. F. bias resistor was connected. The 1st-R. F. bias resistor is mounted on top of the new-style R. F. bias resistor. The 1st-A. F. bias resistor is mounted under the 2nd-A. F. grid-filter resistor.

MODEL 66
Schematic
Data

ATWATER KENT MFG. CO

FILTER CONDENSER CONNECTIONS. The following specifications should be used in conjunction with the schematic shown below and the chassis layout shown on The numerals refer to the numbers marked upon the condenser can

Filter #1	2.1 mfd connected between terminals (1) and (4)
Filter #2	2.3 mfd connected between terminals (2) and (4)
Filter #3	2.3 mfd connected between terminal (6) and can
Detector filter	1.0 mfd connected between terminal (5) and can
1st a-f filter	0.5 mfd connected between center stud and can
1st a-f bias	0.1 mfd connected between center stud and (3)


1060 w Flat
10,000 w
115 w Flat
8500 w Flat
7000 w total-tapped 3000 w and 4000 w
6000 w
1050 w Flat
2000 w
1.mf
40000 w
65,000 w
100,000 w
2000 Flat
1 mf
1100 w
.5 mf
30,000 w
4000 w Flat
1000 w
0.2 w
300 w
10 w
250 w
2500 w
2.1 mf
2.3 mf
2.3 mf
Speaker field 700 w
2.0 w
10. w
A
B
D
E
F
H
L
M
P
Y
1R
2R
3R
D
1A
2A
2A
1st STOPPING CONDENSER
2nd STOPPING CONDENSER
3rd STOPPING CONDENSER
No. 1 R. F. T.
No. 2 R. F. T.
No. 3 R. F. T.
No. 4 R. F. T.
GREEN
BLUE
RED
BLACK
YELLOW
BROWN
GRID CAP
1st R. F. BIAS BY-PASS
1st R. F. GRID BIAS RESISTOR
VOLUME CONTROL RESISTOR No. 1
R. F. CHOKE No. 1
R. F. CHOKE No. 2
R. F. CHOKE No. 3
R. F. GRID BIAS RESISTOR
R. F. BIAS BY-PASS
R. F. PLATE CIRCUIT BY-PASS
BLEEDER RESISTOR No. 1
BLEEDER RESISTOR No. 2
1st R. F. SCREEN-GRID BY-PASS
2nd-3rd R. F. SCREEN-GRID BY-PASS
R. F. RESISTOR
VOLUME CONTROL RESISTOR No. 2
LEAD "Y"
LUG "Z"
DET. GRID BIAS RESISTOR BLACK & YELLOW
DET. BIAS BY-PASS
DET. COUPLING RESISTOR BLACK
DET. FILTER CONDENSER
DET. FILTER RESISTOR WHITE
DET. PLATE R. F. CHOKE
"PHONE" CONDENSER
DET. 1st A. F. COUPLING CONDENSER
1st A. F. GRID LEAK BLUE
1st A. F. BIAS RESISTOR
1st A. F. BIAS BY-PASS
1st A. F. FILTER CONDENSER
1st A. F. FILTER RESISTOR GRAY
2nd A. F. INPUT TRANSFORMER
2nd A. F. OUTPUT TRANSFORMER
DYNAMIC SPEAKER
2nd A. F. FIL. SHUNT RESISTOR
TO 2nd A. F. FIL. WINDING
2nd A. F. GRID FILTER RESISTOR
2nd A. F. GRID FILTER BY-PASS
HIGH VOLTAGE TRANSFORMER
THICK BLACK
THIN BLACK
No. 1 FILTER CHOKE
No. 2 FILTER CHOKE
No. 1 FILTER CONDENSER
No. 2 FILTER CONDENSER
No. 3 FILTER CONDENSER
GREEN-YEL.-TR.
BLACK-WITH-WHITE-TR.
ON-OFF TOGGLE SWITCH
LINE BY-PASS
110 VOLT CABLE
FILAMENT TRANSFORMER
RECTIFIER FIL. WINDING
2nd A. F. FIL. WINDING
R. F. DET. 1st A. F. FIL. WINDING
THIN BLACK (RUB. COVERED)
THICK BLACK (RUB. COVERED)
R. F. DET. 1st A. F. FIL. SHUNT RESISTOR
PILOT
PILOT LIGHT RESISTOR (RED COVERED)
ANT.
GND.
P1
P2
F1
F2
F3
F4

CIRCUIT OF MODEL 66.

In some early Model 66, volume control resistor No. 1 is connected across the R. F. choke coil in the plate circuit of the 1st-R. F. tube. The slider of this resistor is connected to a tap on No. 2 R. F. T. through a coupling condenser.

BYPASS CONDENSER VALUES. The letter designations given should be used in conjunction with the schematic wiring diagram above and the chassis layout

RF Bypass #1	A	.1 mfd	150 volts	F	.1 mfd	400 volts
	E	.1 mfd	150 volts	H	.1 mfd	400 volts
RF Bypass #2	B	.1 mfd	150 volts	L	.01 mfd	400 volts
	Y	.1 mfd	150 volts	L	.01 mfd	400 volts
Detector Bypass	D	.3 mfd	150 volts	M	.075 mfd	400 volts
				P	.0012 mfd	400 volts

ATWATER KENT MFG. CO.

MODEL 67,67-C
Early and Late
Schematic

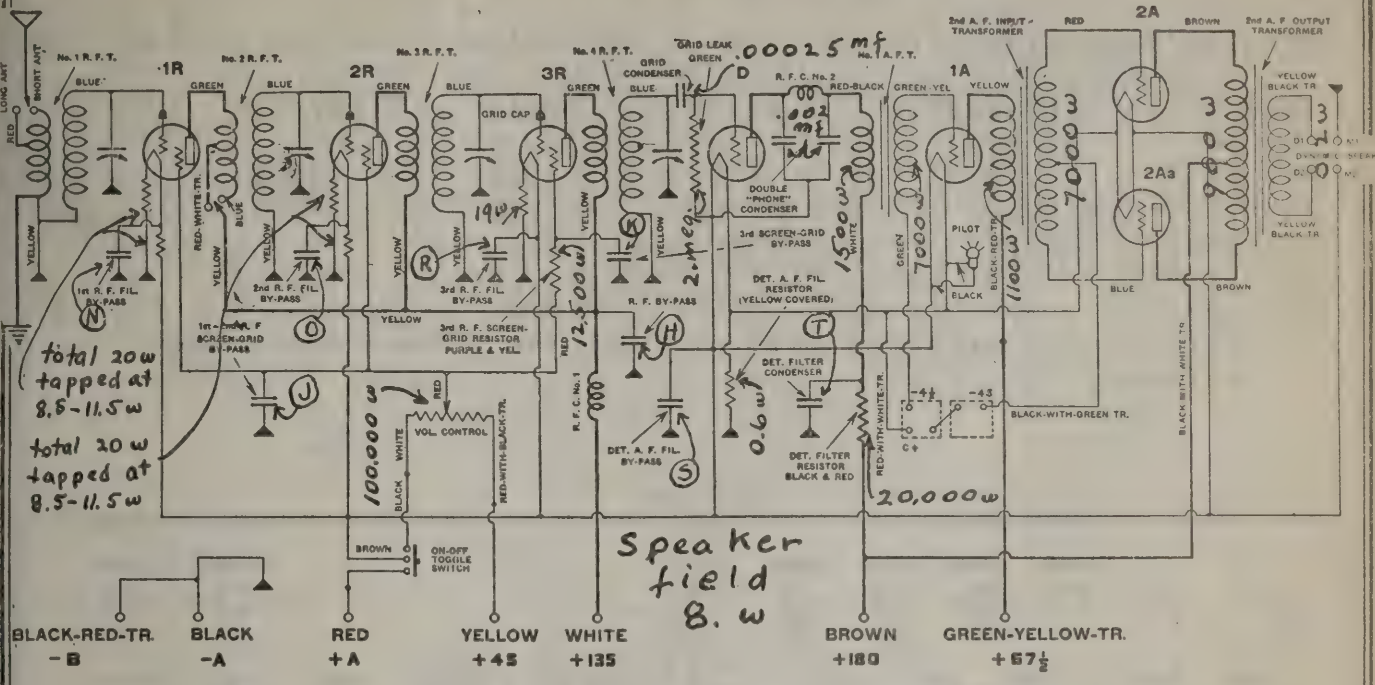

No. 1 R. F. T.
1R
No. 2 R. F. T.
2R
No. 3 R. F. T.
3R
No. 4 R. F. T.
D
GRID CONDENSER
GRID LEAK GREEN
.00025 mf
No. 1 A. F. T.
1A
2nd A. F. INPUT TRANSFORMER
2A
2Aa
2nd A. F. OUTPUT TRANSFORMER
DYNAMIC SPEAKER
LONG ANT
SHORT ANT
GRID CAP
R. F. C. No. 2
.002 mf
DOUBLE "PHONE" CONDENSER
3rd SCREEN-GRID BY-PASS
DET. A. F. FIL. RESISTOR (YELLOW COVERED)
PILOT
1st R. F. FIL. BY-PASS
2nd R. F. FIL. BY-PASS
3rd R. F. FIL. BY-PASS
1st-2nd R. F. SCREEN-GRID BY-PASS
3rd R. F. SCREEN-GRID RESISTOR PURPLE & YEL.
R. F. BY-PASS
R. F. C. No. 1
VOL. CONTROL
DET. FILTER CONDENSER
DET. A. F. FIL. BY-PASS
DET. FILTER RESISTOR BLACK & RED
ON-OFF TOGGLE SWITCH
19w
2. meg.
12,500 w
1500 w
7000 w
1100 w
7000 w
3
3
0.6 w
100,000 w
20,000 w
total 20 w tapped at 8.5-11.5 w
total 20 w tapped at 8.5-11.5 w
Speaker field 8. w
N
O
J
R
K
H
T
S
BLACK-RED-TR. -B
BLACK -A
RED +A
YELLOW +45
WHITE +135
BROWN +180
GREEN-YELLOW-TR. +67½

DIAGRAM OF EARLY MODEL 67 AND 67-C (BATTERY OPERATED).

Voltage data on page 180

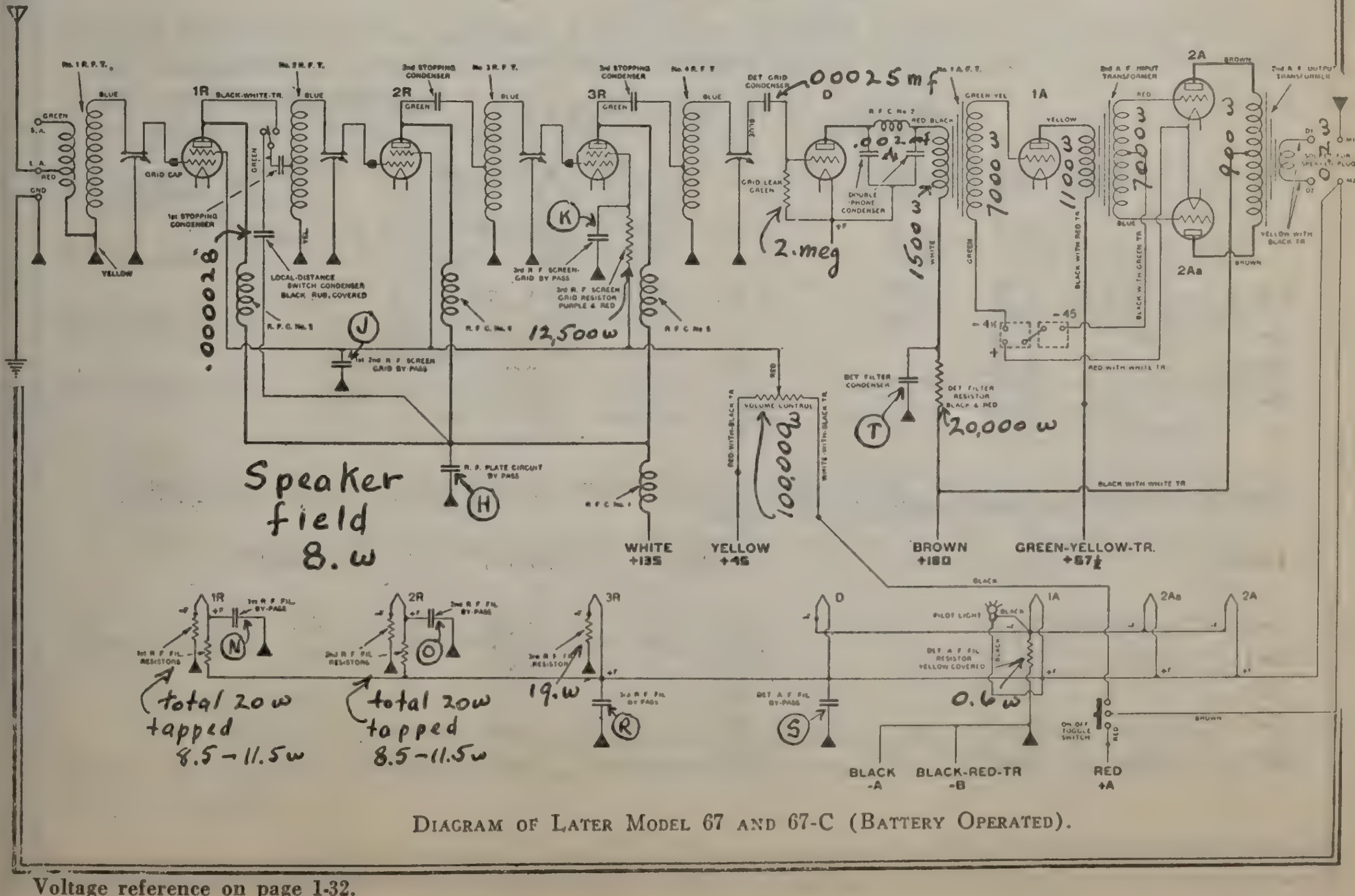

No. 1 R. F. T.
1R
No. 2 R. F. T.
2R
2nd STOPPING CONDENSER
No. 3 R. F. T.
3R
3rd STOPPING CONDENSER
No. 4 R. F. T.
DET. GRID CONDENSER
.00025 mf
D
No. 1 A. F. T.
1A
2nd A. F. INPUT TRANSFORMER
2A
2Aa
2nd A. F. OUTPUT TRANSFORMER
GRID CAP
1st STOPPING CONDENSER
LOCAL-DISTANCE SWITCH CONDENSER BLACK RUB. COVERED
.000018
GRID LEAK GREEN
2. meg
.002 mf
DOUBLE "PHONE" CONDENSER
1500 w
7000 w
1100 w
7000 w
3
3
3rd R. F. SCREEN-GRID BY-PASS
3rd R. F. SCREEN GRID RESISTOR PURPLE & RED
12,500 w
1st 2nd R. F. SCREEN GRID BY-PASS
R. F. PLATE CIRCUIT BY-PASS
VOLUME CONTROL
100,000 w
DET. FILTER CONDENSER
DET. FILTER RESISTOR BLACK & RED
20,000 w
Speaker field 8. w
K
J
H
T
N
O
R
S
WHITE +135
YELLOW +45
BROWN +180
GREEN-YELLOW-TR. +67½
1st R. F. FIL. RESISTORS
2nd R. F. FIL. RESISTORS
3rd R. F. FIL. RESISTOR
total 20 w tapped 8.5-11.5 w
total 20 w tapped 8.5-11.5 w
19. w
PILOT LIGHT
DET. A. F. FIL. RESISTOR YELLOW COVERED
0.6 w
DET. A. F. FIL. BY-PASS
ON-OFF TOGGLE SWITCH
BLACK -A
BLACK-RED-TR -B
RED +A

DIAGRAM OF LATER MODEL 67 AND 67-C (BATTERY OPERATED).

Voltage reference on page 1-32.

MODEL 66 Voltage
MODEL 67 and 67-C
Voltage

ATWATER KENT MFG. CO.

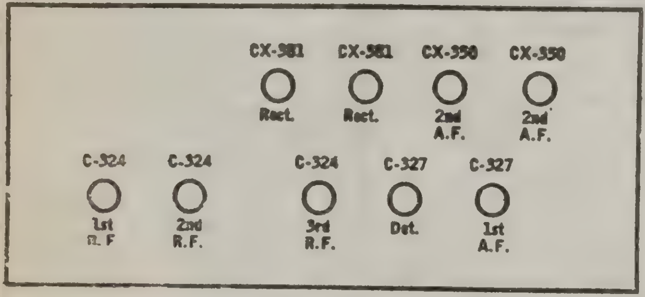
VOLTAGE DATA FOR MODEL 66

Line voltage 110. Line voltage of 120 volts increases voltage 10%.

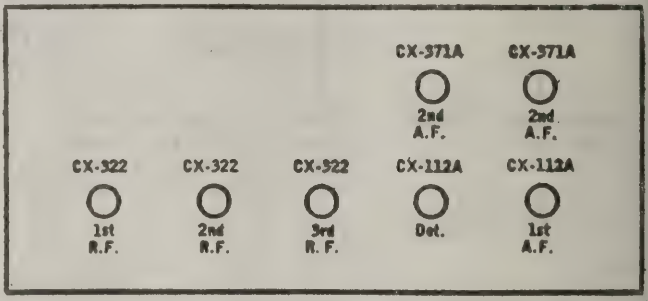
Tube	Filament	Plate	Grid	Screen
R-F (1st)	2.2	158	5.5	110
R-F (2nd-3rd)	2.2	160	2.8	78
Detector	2.2	206	23.	
A-F (1st)	2.2	137	2.8*	
A-F (2nd)	6.9	412	78.	

* This is the measured voltage, not the actual operating voltage.

66 (A.C.)


CX-381
Rect.
CX-381
Rect.
CX-350
2nd A.F.
CX-350
2nd A.F.
C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-327
Det.
C-327
1st A.F.

67 (Batt.


CX-371A
2nd A.F.
CX-371A
2nd A.F.
CX-322
1st R.F.
CX-322
2nd R.F.
CX-322
3rd R.F.
CX-112A
Det.
CX-112A
1st A.F.

VOLTAGE DATA FOR MODELS 67 and 67-C

These values apply when the total "B" voltage is 150 volts.

Tube	Filament	Plate	Grid	Screen
RF (1st-2nd)	3.3	110	1.5	30
R-F (3rd)	3.3	110	2.5	25
Det.	5.0	50	--	
A-F (1st)	5.0	55	4.5	
A-F (2nd)	5.0	150	45.	

These values apply when the total "B" voltage is 180 volts.

Tube	Filament	Plate	Grid	Screen
R-F (1st-2nd)	3.3	135	1.5	45
R-F (3rd)	3.3	135	2.5	40
Det.	5.0	60	--	
A-F (1st)	5.0	65	4.5	
A-F (2nd)	5.0	180	45.	

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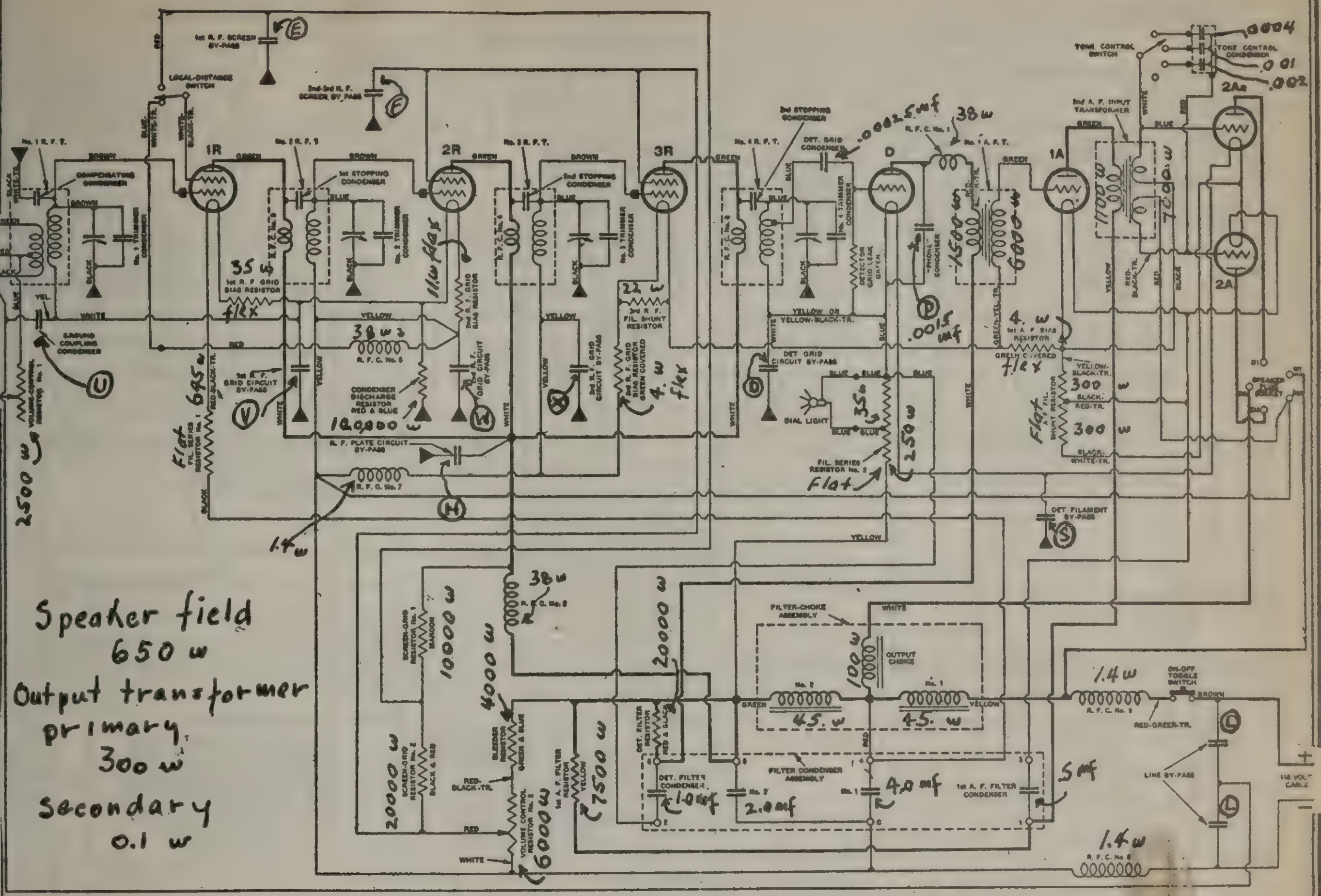
MODEL 70, 74, 76
Chassis D


1st R. F. SCREEN BY-PASS
LOCAL-DISTANCE SWITCH
2nd R. F. SCREEN BY-PASS
COMPENSATING CONDENSER
GROUND COUPLING CONDENSER
VOLUME CONTROL RESISTOR No. 1
1R
2R
3R
D
1A
2A
2As
E
F
U
V
X
W
H
P
D
S
L
35 w
flex
38 w
11 w flex
22 w
4. w flex
2500 w
695 w
Flat
10,000 w
1.4 w
.00025 mf
38 w
1500 w
6000 w
.0015 mf
4. w
flex
1100 w
700 w
300 w
300 w
Flat
35 w
250 w
Flat
.0004
.001
.002
TONE CONTROL SWITCH
TONE CONTROL CONDENSER
DIAL LIGHT
DET. FILAMENT BY-PASS
SPEAKER PLUG SOCKET
38 w
10000 w
4000 w
20000 w
20000 w
7500 w
6000 w
FILTER-CHOKE ASSEMBLY
OUTPUT CHOKE
100 w
45. w
45. w
FILTER CONDENSER ASSEMBLY
1.0 mf
2.0 mf
4.0 mf
5 mf
1.4 w
1.4 w
ON-OFF TOGGLE SWITCH
LINE BY-PASS
110 VOLT CABLE

Speaker field
650 w
Output transformer
primary
300 w
Secondary
0.1 w

Diagram of D-1 Chassis.

BYPASS CONDENSERS. The letters within the circles adjacent to the various bypass condensers correspond with the letters shown within the respective bypass units on chassis layout
Note exception stated beneath the following tabulation.

RF Bypass #1	L	.1 mfd	400 volts	L	.1 mfd	400 volts	# 14710
	U	.02 mfd	400 volts				
RF Bypass #2	E	.1 mfd	400 volts	F	.1 mfd	400 volts	# 15262
	V1*	.1 mfd	400 volts	W1*	.1 mfd	400 volts	
RF Bypass #3	H	.1 mfd	400 volts	S	.1 mfd	400 volts	# 16680
	P	.0015mfd	400 volts				
RF Bypass #4	D	.1 mfd	400 volts	V	.1 mfd	400 volts	# 15262
	X	.1 mfd	400 volts	W	.1 mfd	400 volts	

* Used only in D-2 chassis as shown in wiring diagram of D-2 receiver These two condensers are not used in D-1 chassis, but are shown in their proper position in the chassis layout

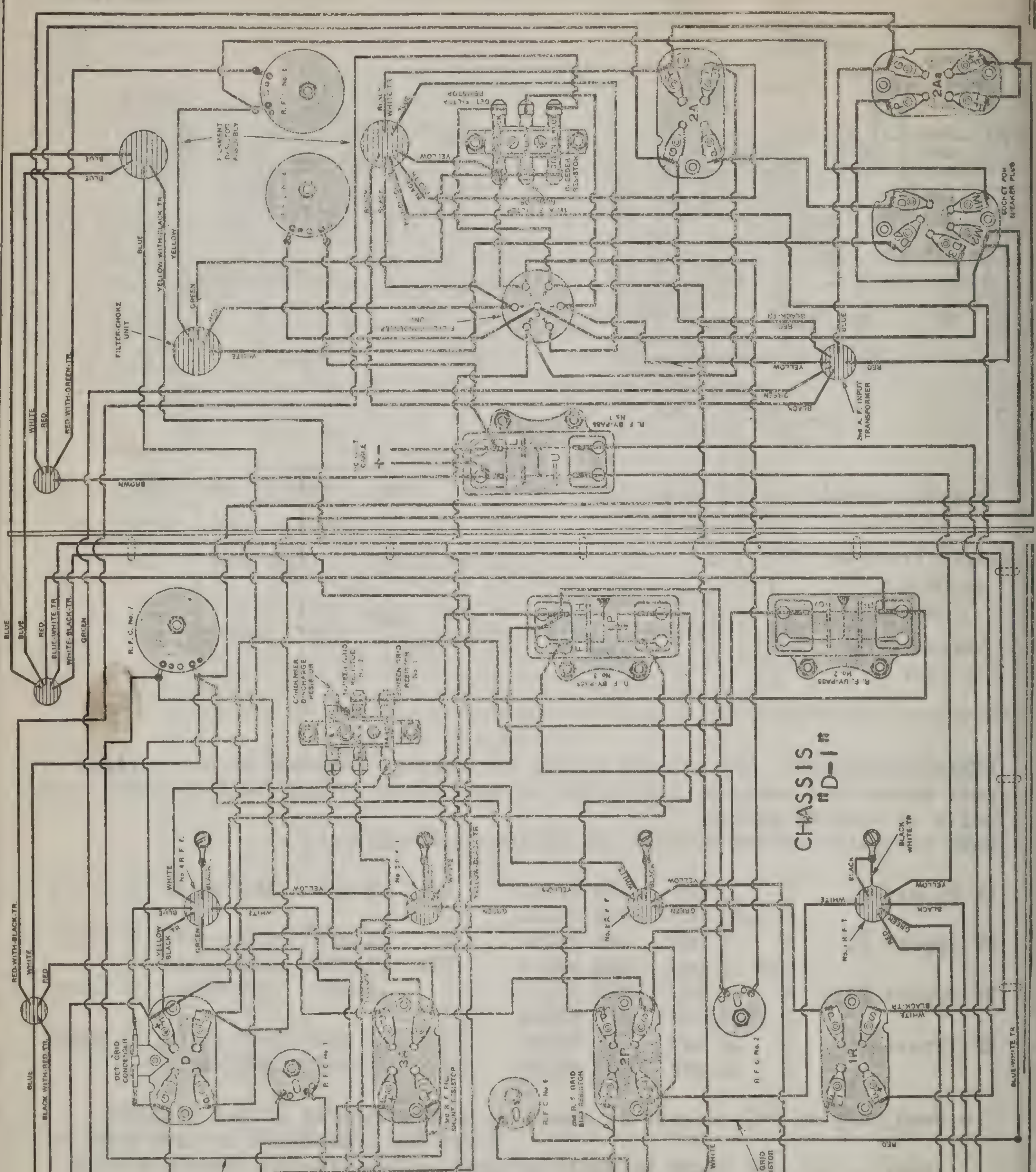
Tone control All condensers are rated at 100 volts

SPECIAL NOTE.

Chassis D-1 and D-2 are identical except for the minor changes noted above in connection with bypass condensers W1 and V1 and also as noted on the D-2 schematic

MODEL 70,74,76
Chassis "D-1"

ATWATER KENT MFG. CO.

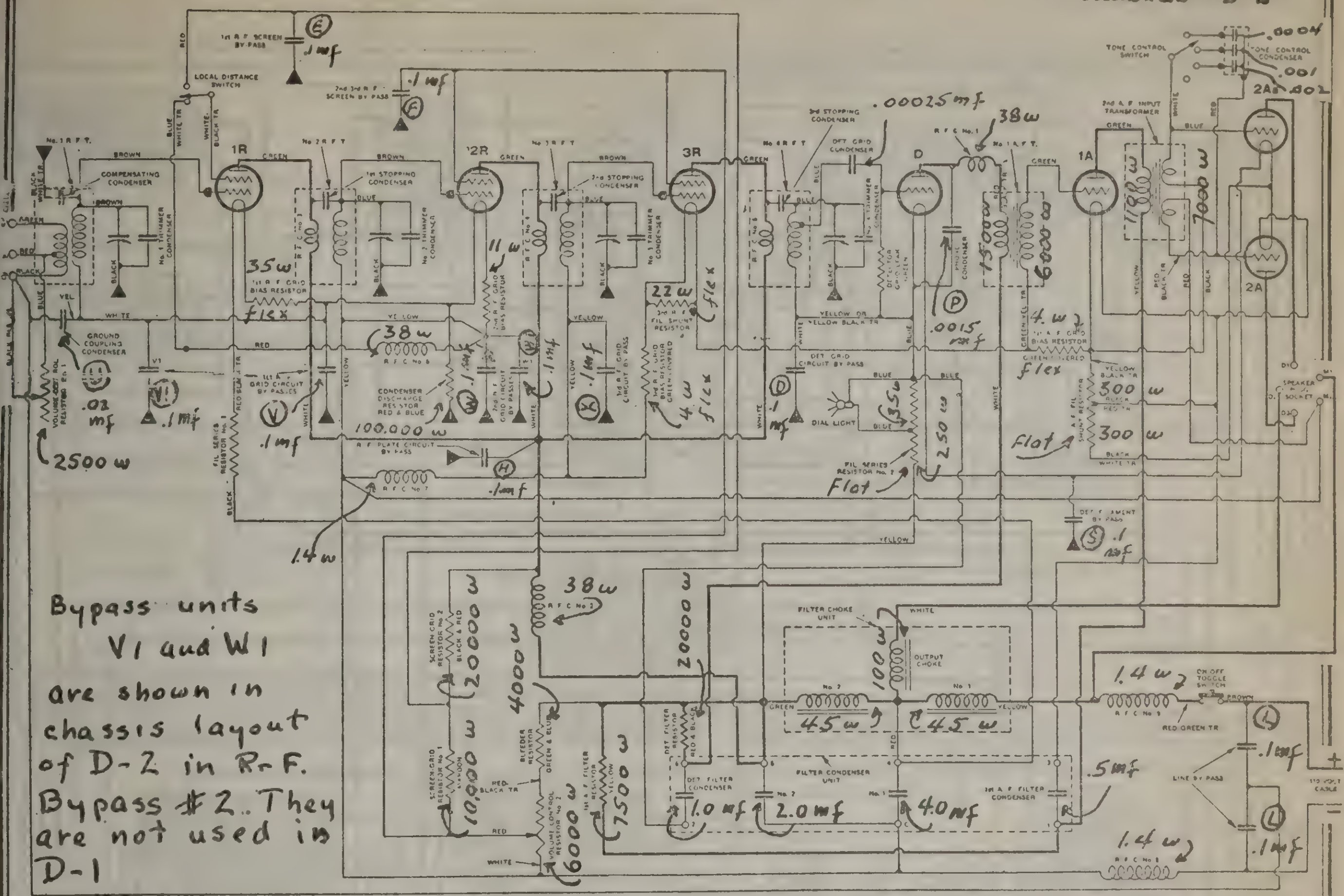

R.F.C. No. 5
FILAMENT RESISTOR ASSEMBLY
DET. FILTER RESISTOR
YELLOW
BLACK
WHITE TR
2A
2As
SOCKET FOR SPEAKER PLUG
BLUE
YELLOW WITH BLACK TR
YELLOW
GREEN
RED
WHITE
FILTER-CHOKE UNIT
RED WITH GREEN TR
BROWN
BLACK-TR
2nd A.F. INPUT TRANSFORMER
R.F. BY-PASS No. 1
CHASSIS "D-1"
R.F.C. No. 1
CONDENSER DISCHARGE RESISTOR
SCREEN GRID RESISTOR No. 2
SCREEN GRID RESISTOR No. 1
R.F. BY-PASS No. 3
R.F. BY-PASS No. 2
BLUE WHITE TR
WHITE-BLACK TR
No. 4 R.F.
No. 3 R.F.
No. 2 R.F.
No. 1 R.F.T.
BLACK WHITE TR
YELLOW-BLACK TR
RED-WITH-BLACK TR
BLACK WITH RED TR
DET. GRID CONDENSER
D
3R
2R
1R
R.F.C. No. 1
3rd R.F. FIL. SHUNT RESISTOR
R.F.C. No. 6
2nd R.F. GRID BIAS RESISTOR
R.F.C. No. 2
1st R.F. GRID BIAS RESISTOR
BLUE-WHITE TR
No. 1 A.F.T.
GREEN
1A
3rd R.F. GRID BIAS RESISTOR GREEN COVERING
DETECTOR GRID LEAK
R.F. BY-PASS
ANTENNA POST ASSEMBLY

Voltage data on page 189

Voltage reference on page 1-35.

ATWATER KENT MFG. CO.

MODEL 70,74,76
Chassis "D-2"


1st R.F. SCREEN BY PASS
E
.1 mf
LOCAL DISTANCE SWITCH
2nd & 3rd R.F. SCREEN BY PASS
F
.1 mf
No. 1 R.F.T.
COMPENSATING CONDENSER
No. 1 TRIMMER CONDENSER
1R
2R
3R
No. 2 R.F.T.
No. 3 R.F.T.
No. 4 R.F.T.
1st STOPPING CONDENSER
2nd STOPPING CONDENSER
No. 2 TRIMMER CONDENSER
No. 3 TRIMMER CONDENSER
35 w
1st R.F. GRID BIAS RESISTOR
flex
11 w
22 w
flex
38 w
R.F.C. No. 3
4 w
flex
GROUND COUPLING CONDENSER
V1
.1 mf
V
.1 mf
W
W1
X
.1 mf
.02 mf
2500 w
100,000 w
R.F. PLATE CIRCUIT BY PASS
H
.1 mf
R.F.C. No. 7
1.4 w
Det STOPPING CONDENSER
.00025 mf
DET GRID CONDENSER
D
38 w
R.F.C. No. 1
No. 1 A.F.T.
.0015 mf
P
15000 w
6000 w
4 w
flex
1A
1180 w
7000 w
2A
2Aa
TONE CONTROL SWITCH
TONE CONTROL CONDENSER
.0004
.001
.002
2nd A.F. INPUT TRANSFORMER
DIAL LIGHT
35 w
250 w
FIL SERIES RESISTOR No. 2
Flot
300 w
300 w
Flot
DET FILAMENT BY PASS
S
.1 mf
SPEAKER SOCKET
38 w
R.F.C. No. 2
3
20000 w
SCREEN GRID RESISTOR No. 2
3
20000 w
4000 w
FILTER CHOKE UNIT
100 w
OUTPUT CHOKE
45 w
45 w
1.4 w
ON-OFF TOGGLE SWITCH
R.F.C. No. 5
L
.1 mf
3
10,000 w
SCREEN-GRID RESISTOR No. 1
BLEEDER RESISTOR
3
7500 w
6000 w
VOLUME CONTROL RESISTOR No. 2
DET FILTER CONDENSER
1.0 mf
2.0 mf
4.0 mf
FILTER CONDENSER UNIT
1st A.F. FILTER CONDENSER
.5 mf
LINE BY PASS
110-VOLT CABLE
1.4 w
R.F.C. No. 6
L
.1 mf

Bypass units V1 and W1 are shown in chassis layout of D-2 in R-F. Bypass #2. They are not used in D-1

Schematic Diagram of Type D-2 Chassis.

Note the addition of by-pass condensers V-1 and W-1 and the reversal of screen-grid resistors No. 1 and No. 2.

VOLTAGE TABLE FOR TYPE D CHASSIS

Set in operation. Volume control at maximum.
L-D switch at distance.

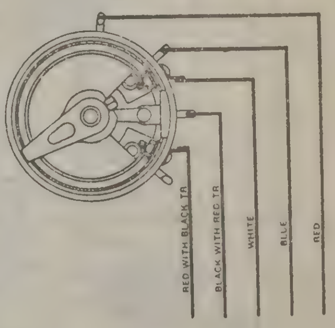
Use High Resistance D. C. Voltmeter (about 0-50-250) to Measure Plate and Grid Voltages.
Use A. C. Voltmeter to Measure Filament Voltages.

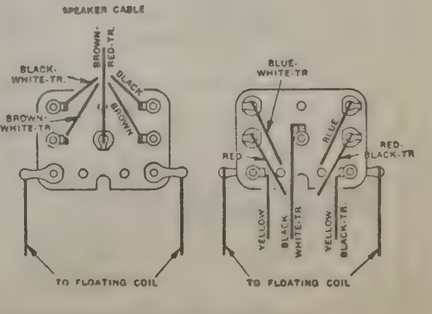
APPROX. VOLTAGES, USING 120 V. LINE

TUBE	FILAMENT VOLTAGE	PLATE VOLTAGE	CONTROL-GRID VOLTAGE	SCREEN VOLTAGE
1st-R.F.	3.3	75	4.2	60*
2nd-R.F.	3.3	75	1.3	50
3rd-R.F.	3.3	75	1	50
Detector	5	20	—	—
1st-A.F.	5	45	6	—
2A	5	75	10	—
2Aa	5	80	10	—

All readings made from cathode in heater-type tubes, and from —F in plain-filament-type tubes.
Use 250-volt scale to measure 2nd A. F. grid voltage.
*This is 50 volts in D-2 chassis.

DUAL VOLUME CONTROL

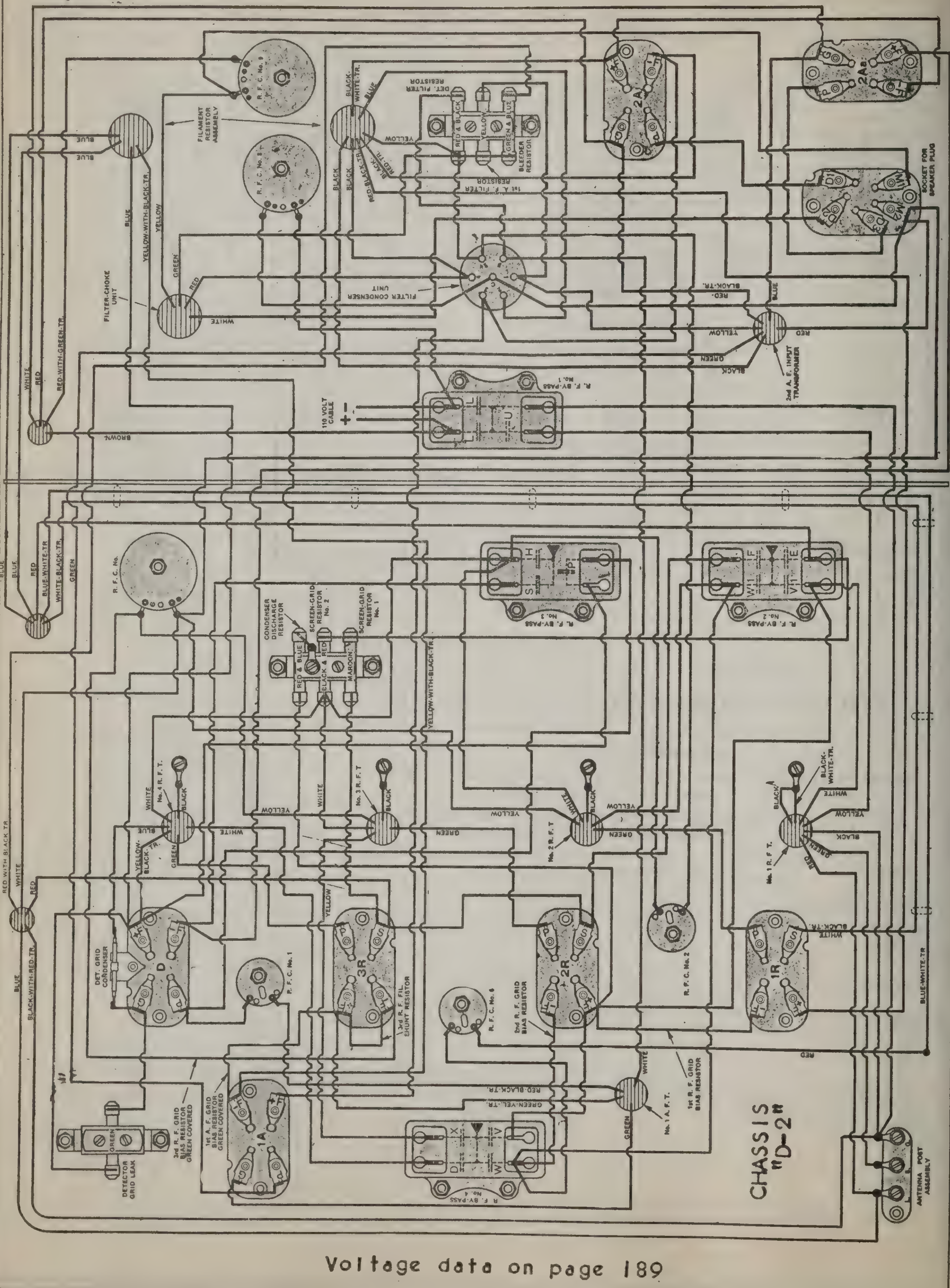

RED WITH BLACK TR.
BLACK WITH RED TR.
WHITE
BLUE
RED


SPEAKER CABLE
BLACK-WHITE-TR.
BROWN-RED-TR.
BLACK
BROWN
BROWN-WHITE-TR.
TO FLOATING COIL
BLUE-WHITE-TR
RED
BLUE
RED-BLACK-TR
YELLOW
BLACK WHITE-TR
YELLOW BLACK-TR
TO FLOATING COIL

SPEAKER PANEL CONNECTIONS

MODEL 70,74,76
Chassis "D-2"
Layout

ATWATER KENT MFG. CO.


R. F. C. No. 9
FILAMENT RESISTOR ASSEMBLY
DET. FILTER RESISTOR
RED & BLACK
YELLOW
GREEN & BLUE
BLEEDER RESISTOR
1st A. F. FILTER RESISTOR
BLACK-WHITE-TR.
BLUE
BLACK
RED-TR.
RED-BLACK-TR.
R. F. C. No. 8
2A
2Ab
SOCKET FOR SPEAKER PLUG
FILTER CONDENSER UNIT
FILTER-CHOKE UNIT
YELLOW-WITH-BLACK-TR.
YELLOW
GREEN
RED
WHITE
RED-WITH-GREEN-TR.
BROWN
110 VOLT CABLE
R. F. BY-PASS No. 1
BLACK-TR.
2nd A. F. INPUT TRANSFORMER
R. F. C. No.
BLUE-WHITE-TR.
WHITE-BLACK-TR.
CONDENSER DISCHARGE RESISTOR
SCREEN-GRID RESISTOR No. 2
SCREEN-GRID RESISTOR No. 1
RED & BLUE
BLACK & RED
MAROON
R. F. BY-PASS No. 3
R. F. BY-PASS No. 2
No. 4 R. F. T.
No. 3 R. F. T
No. 2 R. F. T.
No. 1 R. F. T.
RED WITH BLACK TR.
BLACK-WITH-RED-TR.
DET. GRID CONDENSER
D
R. F. C. No. 1
3R
3rd R. F. FIL. SHUNT RESISTOR
R. F. C. No. 6
2nd R. F. GRID BIAS RESISTOR
2R
R. F. C. No. 2
1R
1st R. F. GRID BIAS RESISTOR
No. 1 A. F. T.
RED BLACK-TR.
GREEN-YEL.-TR.
R. F. BY-PASS No. 4
1A
1st A. F. GRID BIAS RESISTOR GREEN COVERED
3rd R. F. GRID BIAS RESISTOR GREEN COVERED
DETECTOR GRID LEAK
ANTENNA POST ASSEMBLY
CHASSIS "D-2"

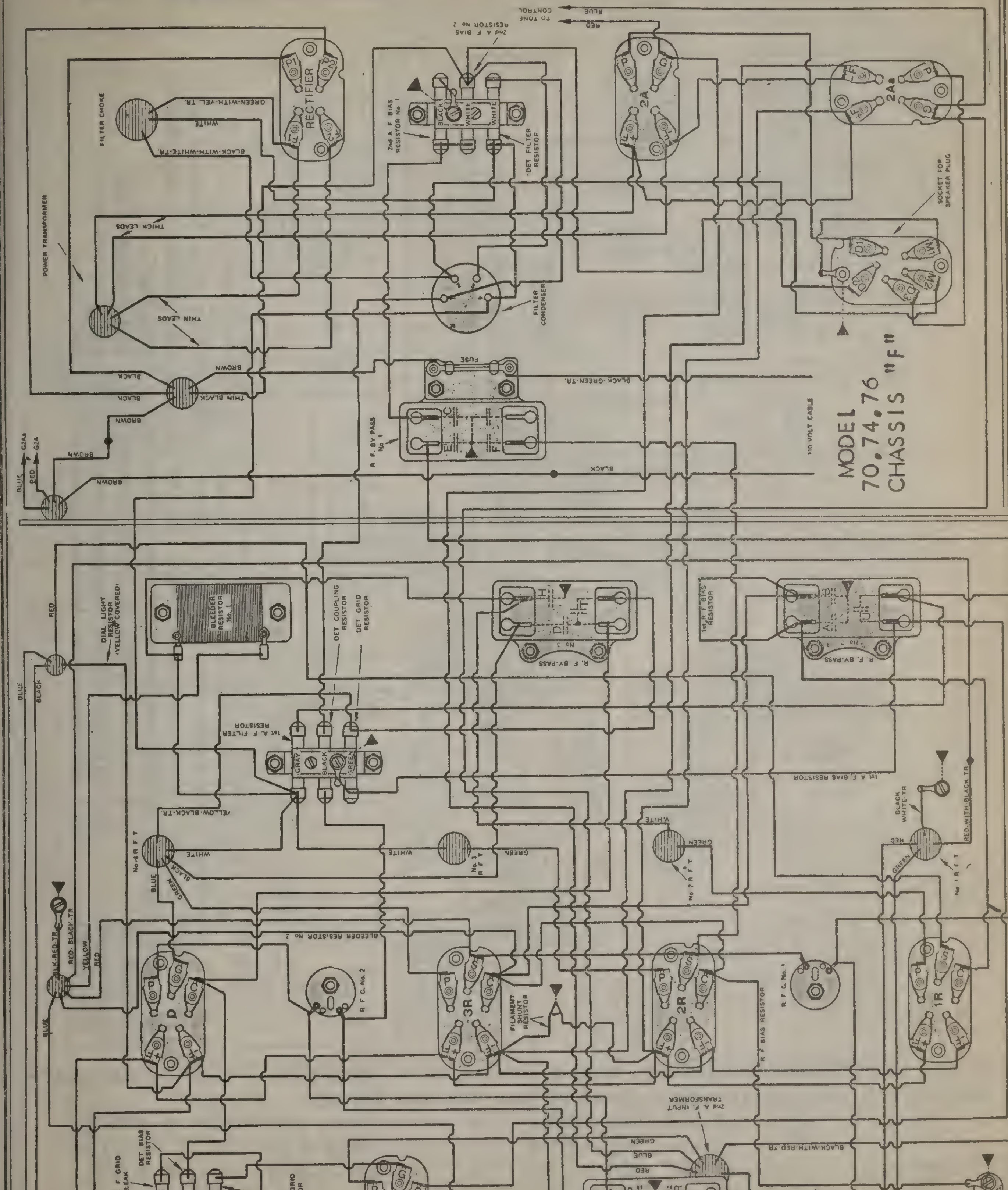
Voltage data on page 189

Voltage reference on page 1-35.

ATWATER KENT MFG. CO.

MODEL 70,74 and 76
Chassis "F"

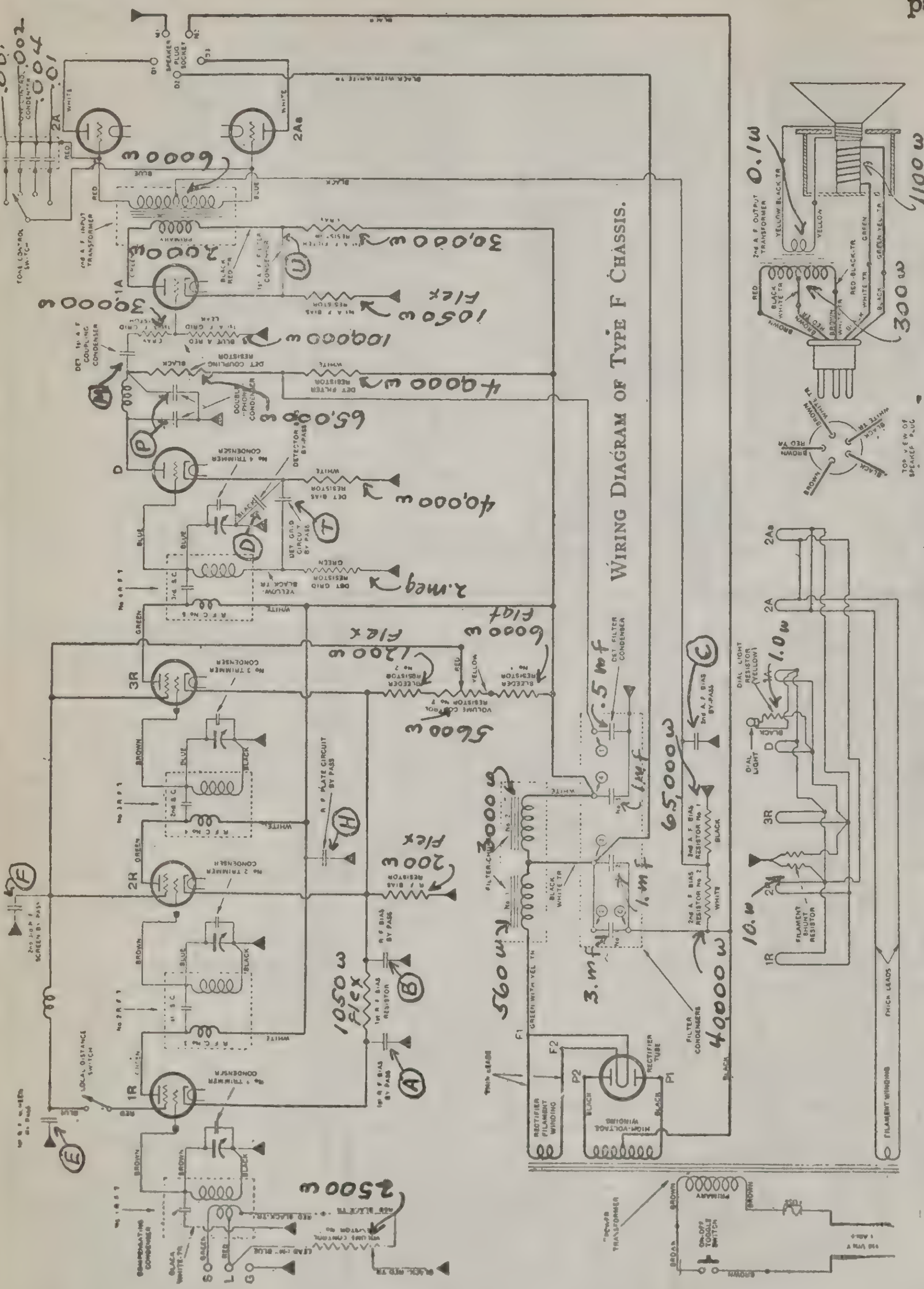
In some early Type F Chassis, a line by-pass condenser is used, and the 1st-A. F. grid resistor (gray) is omitted.


TO TONE CONTROL
BLUE
RED
2nd A F BIAS RESISTOR No 2
2nd A F BIAS RESISTOR No 1
BLACK
WHITE
WHITE
DET FILTER RESISTOR
RECTIFIER
P
G
F
2A
2A
FILTER CHOKE
GREEN-WITH-YEL. TR.
WHITE
BLACK-WITH-WHITE-TR.
POWER TRANSFORMER
THICK LEADS
THIN LEADS
FILTER CONDENSER
SOCKET FOR SPEAKER PLUG
BROWN
BLACK
THIN BLACK
FUSE
BLACK-GREEN-TR.
R F BY PASS No 1
110 VOLT CABLE
MODEL 70, 74, 76 CHASSIS "F"
G2A
G2A
BLUE
RED
BLEEDER RESISTOR No 1
DET COUPLING RESISTOR
DET GRID RESISTOR
DIAL LIGHT RESISTOR (YELLOW COVERED)
R F BY-PASS No 3
1st R F BIAS RESISTOR
R. F. BY-PASS
1st A F FILTER RESISTOR
GRAY
BLACK
GREEN
1st A F BIAS RESISTOR
YELLOW-BLACK-TR.
WHITE
GREEN
No 4 R F T
No 3 R F T
No 2 R F T
No 1 R F T
BLACK WHITE TR
RED-WITH-BLACK TR
BLEEDER RESISTOR No 2
BLK-RED-TR
RED-BLACK TR
YELLOW
R F C. No 2
R F C. No 1
FILAMENT SHUNT RESISTOR
R F BIAS RESISTOR
D
3R
2R
1R
1A
2nd A. F. INPUT TRANSFORMER
BLACK-WITH-RED-TR.
DET BIAS RESISTOR
1st A F GRID LEAK
1st A F GRID RESISTOR
TO CONDENSER 'M' OF DET. BY-PASS
TO L H TERMINAL OF 1st A. F GRID RESISTOR
DET. BY-PASS
TO CONDENSER 'C' OF R F BY-PASS No 1
G
L

MODEL 70,74,76
Chassis F

ATWATER KENT MFG. CO.

Voltage data on page 186


.001
.002
.004
.01
2A
2A
6000 ω
2000 ω
1A
30000 ω
30,000 ω
1050 ω Flex
100000 ω
40000 ω
65,000 ω
D
40,000 ω
2 meg
6000 ω Flat
1200 ω Flex
3R
5600 ω
.5 mf
1 mf
65000 ω
3000 ω
2R
200 ω Flex
560 ω
3 mf
1 mf
40000 ω
1050 ω Flex
1R
2500 ω
10 w
1.0 w
0.1 w
1100 w
300 w
A
B
C
D
E
F
H
M
P
T
U

WIRING DIAGRAM OF TYPE F CHASSIS.

In some early-type F chassis, a line by-pass condenser is used and the 1st-A. F. grid resistor (gray) is omitted.
In later-type F chassis, the filter condenser has only four contacts, and the top of the 1st-A.F. grid leak is connected to the opposite end of the 1st-A.F. grid resistor.

FILTER CONDENSER. In early models, the filter condenser has five contacts as indicated by the numbers within circles in the diagram. For those shown there

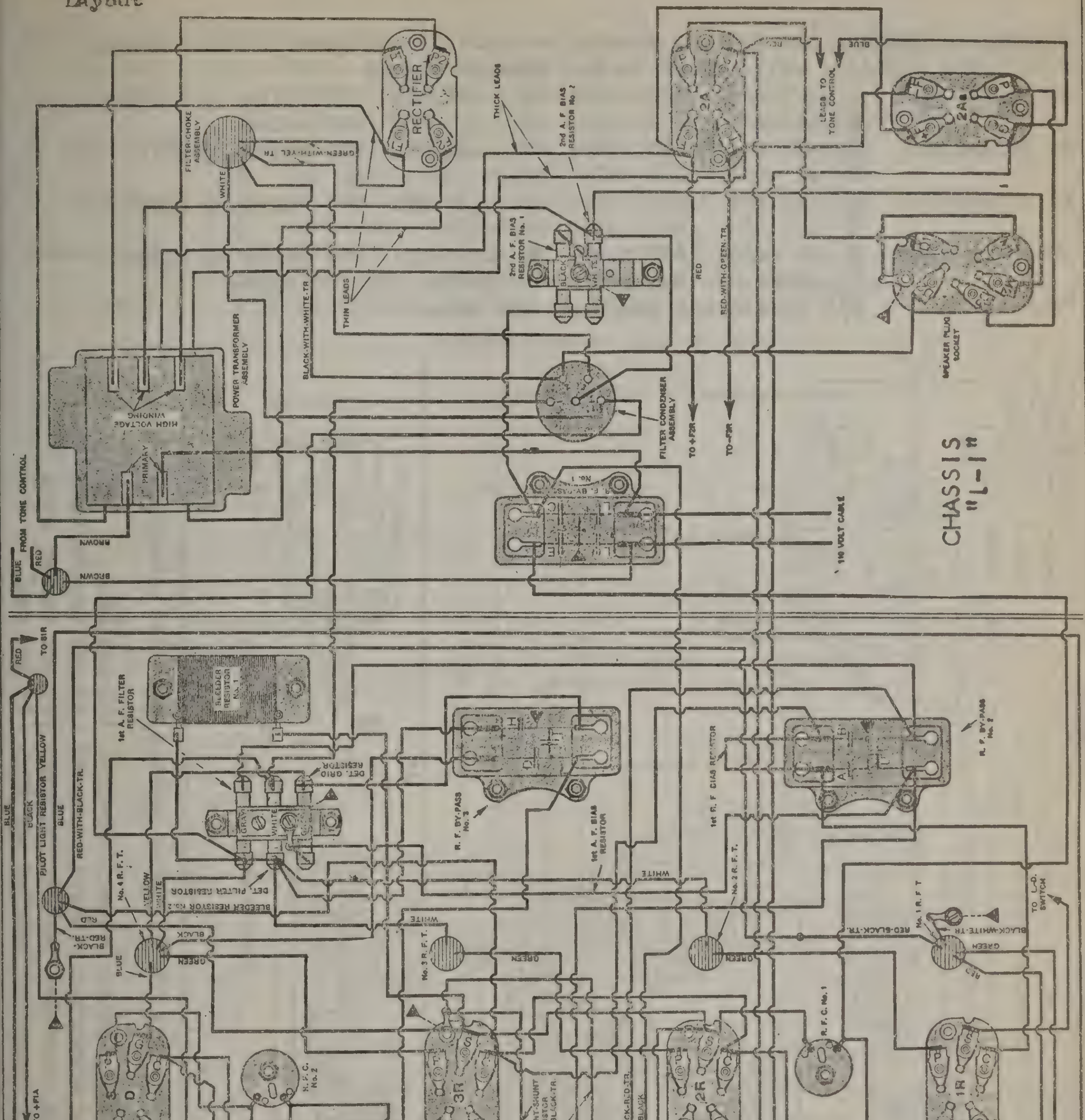
Detector filter	.5 mfd	connected between terminal	(1)	and can
Filter #1	3.0 mfd	connected between terminal	(2)	and center stud
Filter #2	1.0 mfd	connected between terminal	(3)	and center stud
Filter #3	1.0 mfd	connected between terminal	(4)	and can

BYPASS CONDENSERS. The letters within the circles correspond with the designations within the bypass units shown in the chassis layout

RF Bypass #1	C	.1 mfd 400 volts	E	.1 mfd 400 volts	# 15790
	F	.01mfd 400 volts	(In very early F "F" is .1 mfd.)		
RF Bypass #2	A	.1 mfd 150 volts	U	.12 mfd 400 volts	# 15770
	B	.1 mfd 150 volts			
RF Bypass #3	D	.1 mfd 400 volts	H	.2 mfd 400 volts	# 15780
	T	.04 mfd 400 volts			
Detector Bypass	K	.1 mfd 400 volts	M	.075 mfd 400 volts	# 15640
	P	.0012 mfd 400 volts	P	.00025 mfd 400 volts	
Tone Control	All condensers are rated at 100 volts				

MODEL 70,74,76
Chassis "L-1"
Layout

ATWATER KENT MFG. CO.


RECTIFIER
FILTER CHOKE ASSEMBLY
WHITE
GREEN-WITH-YEL TR
THICK LEADS
THIN LEADS
2nd A. F. BIAS RESISTOR No. 2
2nd A. F. BIAS RESISTOR No. 1
BLACK
WHITE
2A
2A
LEADS TO TONE CONTROL
BLUE
SPEAKER PLUG SOCKET
BLACK-WITH-WHITE-TR.
RED
RED-WITH-GREEN-TR.
POWER TRANSFORMER ASSEMBLY
HIGH VOLTAGE WINDING
PRIMARY
FILTER CONDENSER ASSEMBLY
TO +F2R
TO -F2R
No. 1
110 VOLT CABLE
CHASSIS "L-1"
BLUE FROM TONE CONTROL
RED
BROWN
BROWN
TO B1R
RED
BLEEDER RESISTOR No. 1
1st A. F. FILTER RESISTOR
DET. GRID RESISTOR
GRAY
WHITE
BLUE
BLACK
PILOT LIGHT RESISTOR YELLOW
BLUE
RED-WITH-BLACK-TR.
R. F. BY-PASS No. 3
1st A. F. BIAS RESISTOR
1st R. F. BIAS RESISTOR
R. F. BY-PASS No. 2
DET. FILTER RESISTOR
BLEEDER RESISTOR No. 2
No. 4 R. F. T.
YELLOW
WHITE
RED
BLACK-RED-TR.
BLACK
BLUE
GREEN
WHITE
No. 3 R. F. T.
GREEN
No. 2 R. F. T.
GREEN
WHITE
No. 1 R. F. T.
RED-BLACK-TR.
BLACK-WHITE-TR.
GREEN
RED
TO L-O. SWITCH
D
R. F. C. No. 2
3R
FILAMENT-SHUNT RESISTOR WHITE-BLACK-TR.
BLACK-RED-TR.
BLACK
2R
R. F. C. No. 1
1R
TO +F1A
GREEN
RED
BLUE
2nd A. F. INPUT TRANSFORMER ASSEMBLY
R. F. BIAS RESISTOR
BLUE
DETECTOR BIAS RESISTOR
BLUE & RED
WHITE
BLACK
1st A. F. GRID LEAK
DET. COUPLING RESISTOR
1A
DET. BY-PASS
BLUE

MODEL 70, 74, 76
Chassis L-1

ATWATER KENT MFG. CO.

BYPASS CONDENSERS. The letters within the circles designate the condensers within the multiple units shown on the chassis layout

RF Bypass #1	L	.01 mfd	400 volts	L	.01 mfd	400 volts	# 15790
	C	.1 mfd	400 volts	E	.1 mfd	400 volts	
RF Bypass #2	A	.1 mfd	150 volts	U	.12 mfd	400 volts	#15770
	B	.1 mfd	150 volts				
RF Bypass #3	D	.1 mfd	400 volts	H	.2 mfd	400 volts	# 15780
	T	.04 mfd	400 volts				
Detector Bypass	F	.1 mfd	400 volts	M	.075 mfd	400 volts	# 15640
	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts	
Tone Control	All condensers rated at 100 volts						

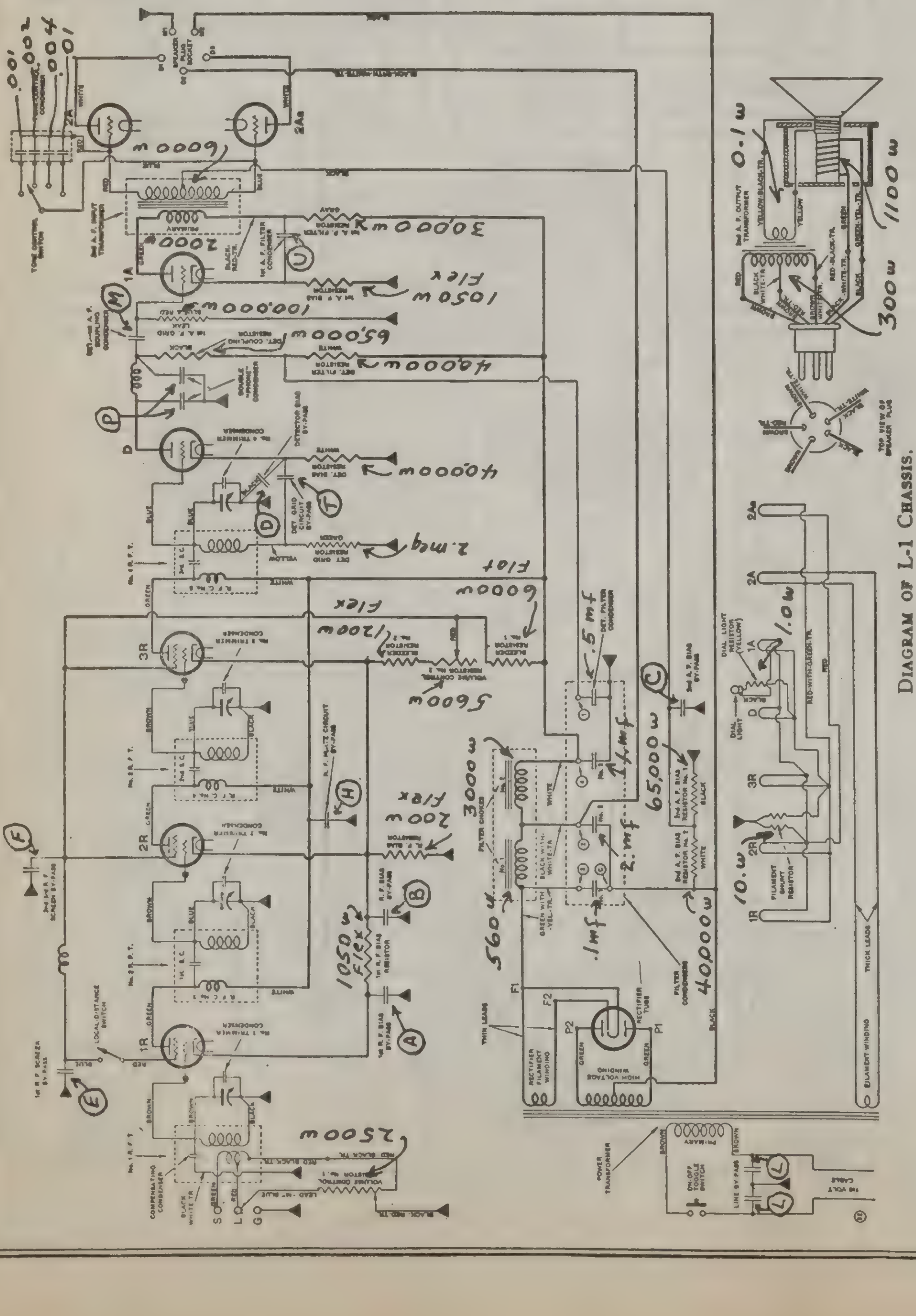

.001
.002
.004
.01
6000w
2000w
30,000w
1050w flex
100,000w
65,000w
40,000w
40,000w
2 meg
flat
6000w
flex
1200w
5600w
.5 mf
1 mf
65,000 w
3000 w
200w flex
2 mf
.1 mf
560 w
1050 w flex
40,000 w
10 w
1.0 w
2500w
0.1 w
1100 w
300 w
M
P
D
T
U
C
H
F
B
A
E
L
1R
2R
3R
1A
2A
2A
D
S
L
G

DIAGRAM OF L-1 CHASSIS.

FILTER CONDENSERS

Numerals within circles adjacent to filter condensers designate connections upon condenser can terminal block. These numbers are also shown upon the chassis layout

Detector filter	.5 mfd	connected between terminal (1) and can
Filter #1	.1 mfd	connected between terminal (3) and center stud
Filter #2	2.0 mfd	connected between terminal (2) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can

ATWATER KENT MFG. CO.

MODEL 70, 74, 76
Chassis L-2

BYPASS CONDENSERS. The letters within circles designate the condensers within the multiple units shown on the chassis layout

RF Bypass #1	L	.01 mfd	400 volts	L	.01 mfd	400 volts	# 15790
	C	.1 mfd	400 volts	E	.1 mfd	400 volts	
RF Bypass #2	A	.1 mfd	150 volts	U	.12 mfd	400 volts	# 15770
	B	.1 mfd	150 volts				
RF Bypass #3	D	.1 mfd	400 volts	H	.2 mfd	400 volts	# 15780
	T	.04 mfd	400 volts				
Detector Bypass	F	.1 mfd	400 volts	M	.075 mfd	400 volts	# 15640
	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts	
Tone Control	All condensers are rated at 100 volts						

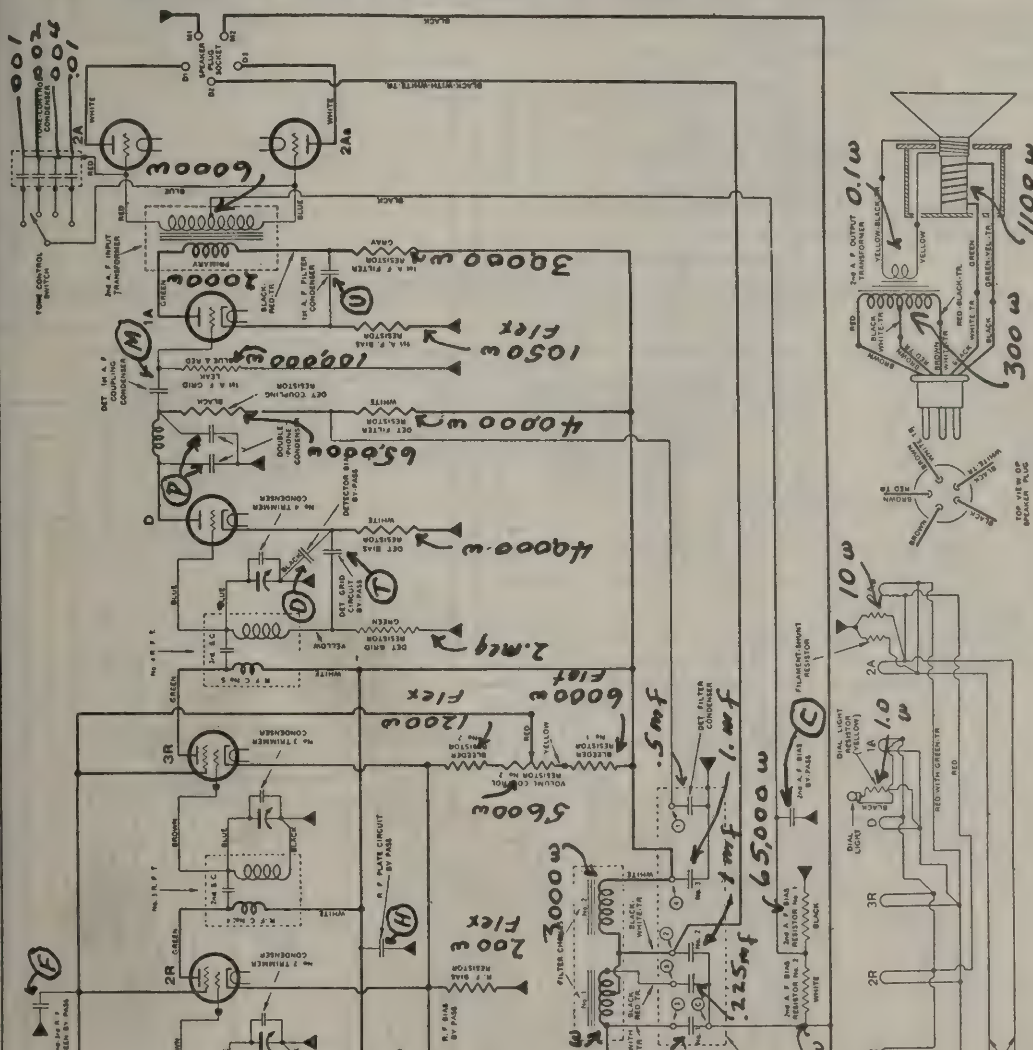

.001
.002
.01
6000w
39000w
1000w
1050w
100000w
40000w
65000w
44000-w
2 meg
6000w Flex
1200w Flex
5600w
3000w
200w Flex
560w
1050w Flex
2mf
.225mf
1mf
.5mf
1.mf
65,000w
40000w
0.1w
1100w
300w
10w
1.0w
2500w
SPEAKER PLUG SOCKET
TONE CONTROL SWITCH
2nd A. F. INPUT TRANSFORMER
LOCAL DISTANCE SWITCH
RECTIFIER TUBE
HIGH VOLTAGE WINDING
RECTIFIER FILAMENT WINDING
POWER TRANSFORMER
ON-OFF TOGGLE SWITCH
FILAMENT SHUNT RESISTOR
DIAL LIGHT
TOP VIEW OF SPEAKER PLUG
2nd A. F. OUTPUT TRANSFORMER
1R
2R
3R
D
1A
2A

DIAGRAM OF L-2 CHASSIS.

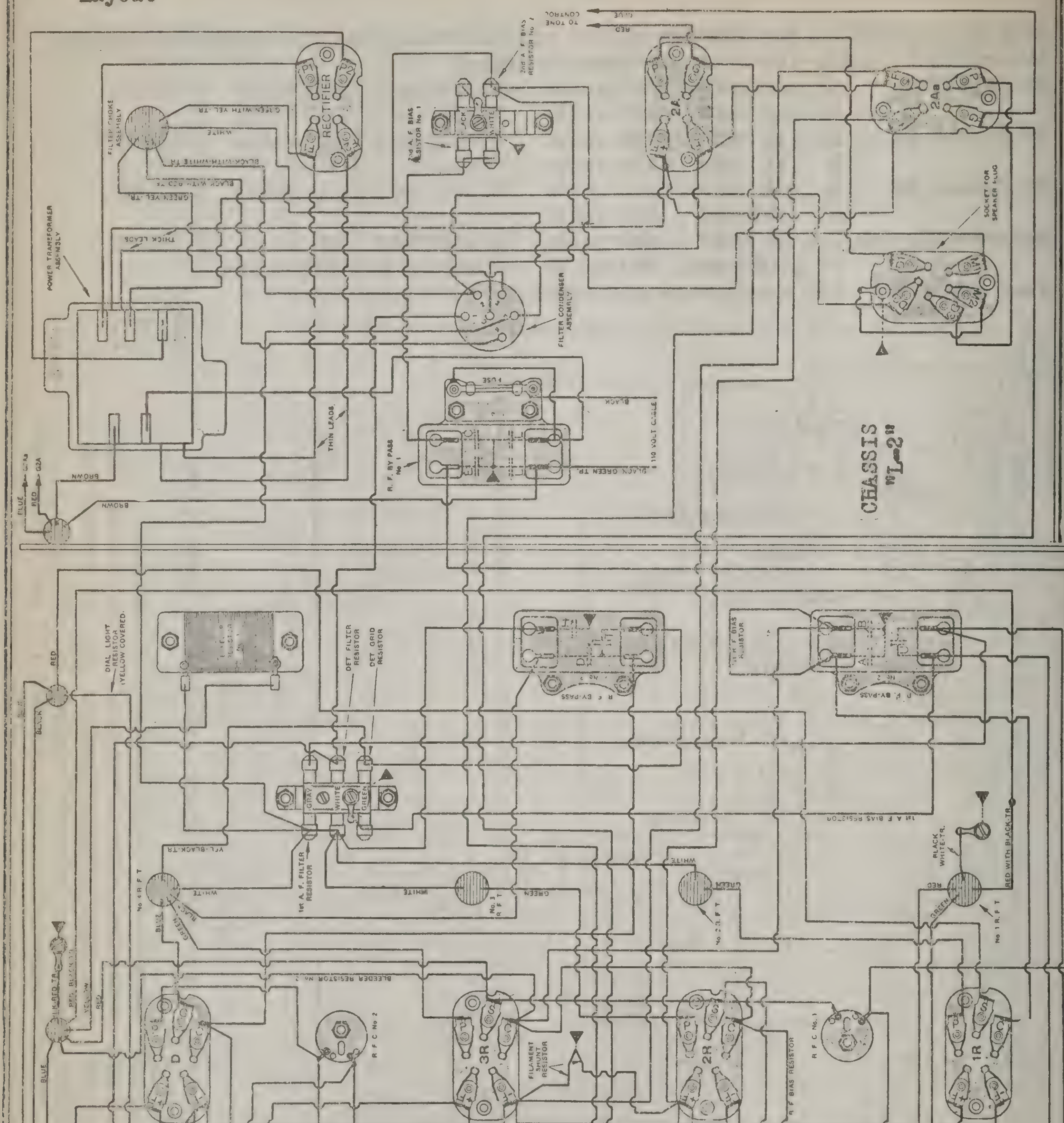
In the majority of L-2 sets, the filament shunt resistor is connected across the R.F. filaments
Also, a 2-ampere fuse is connected in one side of the 110-volt line.

FILTER CONDENSERS. Numerals in circles designate connections upon filter condenser terminal block.

Detector filter	.1 mfd	connected between terminal (1) and can
Filter #1	2.0 mfd	connected between terminal (2) and center stud
Filter #2	1.0 mfd	connected between terminal (3) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can
Resonant condenser	.225 mfd	connected between terminal (5) and center stud

MODEL 70,74,76
Chassis "L-2"
Layout

ATWATER KENT MFG. CO.


RECTIFIER
FILTER CHOKE ASSEMBLY
GREEN WITH YEL-TR
WHITE
BLACK-WITH-WHITE TR
BLACK WITH RED TR
GREEN YEL-TR
THICK LEADS
POWER TRANSFORMER ASSEMBLY
2nd A.F. BIAS RESISTOR No 1
2nd A.F. BIAS RESISTOR No 2
WHITE
TO TONE CONTROL
RED
BLUE
2A
2A
SOCKET FOR SPEAKER PLUG
FILTER CONDENSER ASSEMBLY
FUSE
BLACK
THIN LEADS
R. F. BY PASS No 1
110 VOLT CABLE
BLACK GREEN TR.
BROWN
BROWN
BLUE
RED
CHASSIS "L-2"
DIAL LIGHT RESISTOR (YELLOW COVERED)
RED
BLACK
DET FILTER RESISTOR
DET GRID RESISTOR
GRAY
WHITE
GREEN
R. F. BY-PASS No 3
1st A. F. BIAS RESISTOR
R. F. BY-PASS No 2
1st A F BIAS RESISTOR
YEL-BLACK-TR.
1st A. F. FILTER RESISTOR
No 4 R F T
WHITE
WHITE
GREEN
No 3 R F T
WHITE
GREEN
No 2 R.F.T
BLACK WHITE-TR.
RED
RED WITH BLACK-TR
GREEN
No 1 R.F.T
BLEEDER RESISTOR No 2
RED
YELLOW
BLUE
D
R F C No 2
3R
FILAMENT SHUNT RESISTOR
2R
R F C No 1
R F BIAS RESISTOR
1R
2nd A.F. INPUT TRANSFORMER
GREEN
BLUE
RED
BLACK WITH RED-TR
DET BIAS RESISTOR
1st A.F. GRID LEAK
DET COUPLING RESISTOR
1A
DET BY PASS
BLACK
TO CONDENSER C OF R.F. BY PASS No 1

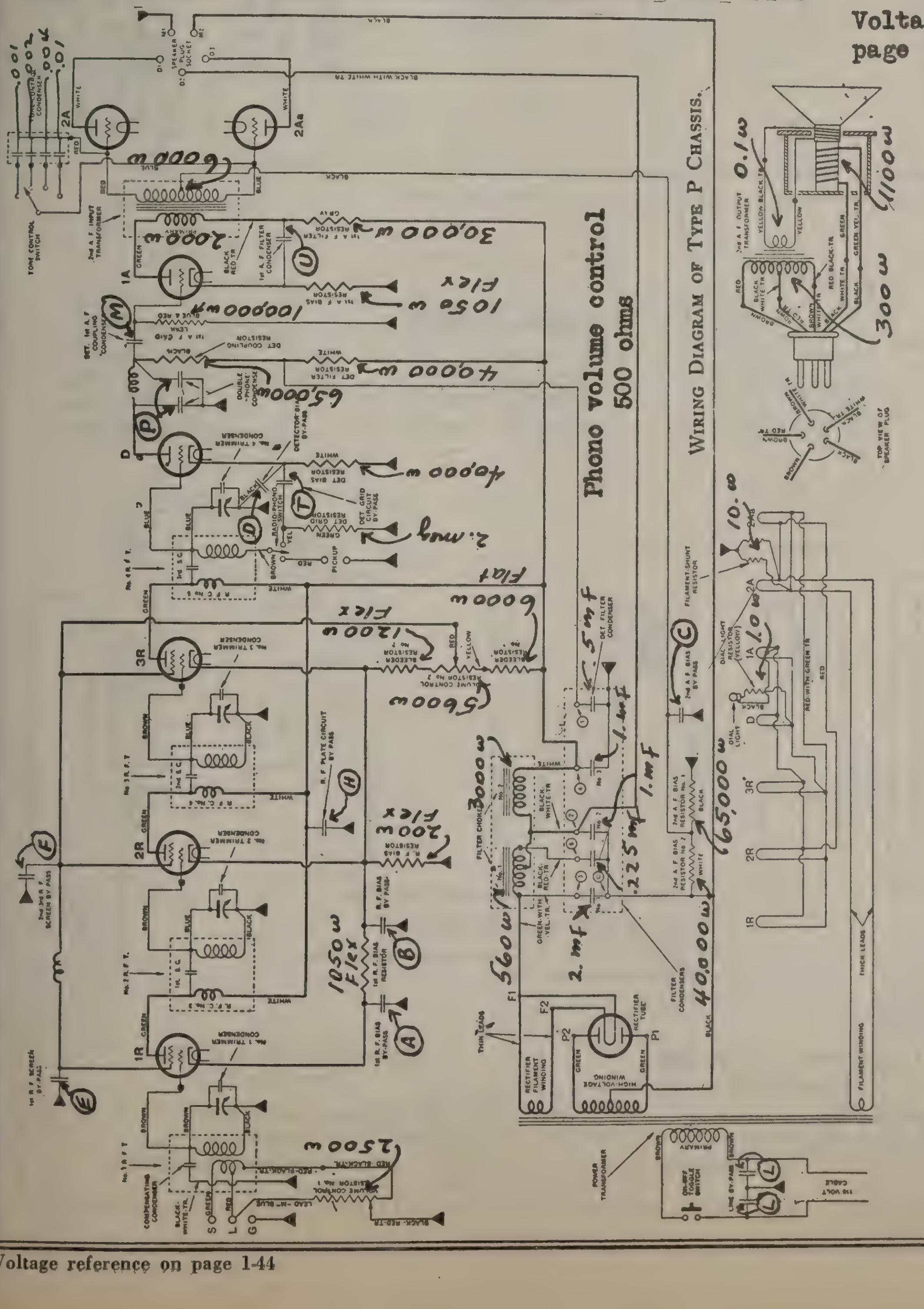
MODEL 76
Chassis P

ATWATER KENT MFG. CO.

BYPASS CONDENSERS. The letters within circles designate the condensers within the multiple units shown on the chassis layout

RF Bypass #1	L	.01 mfd	400 volts	L	.01 mfd	400 volts	# 15790
	C	.1 mfd	400 volts	E	.1 mfd	400 volts	
RF Bypass #2	A	.1 mfd	150 volts	U	.12 mfd	400 volts	# 15770
	B	.1 mfd	150 volts				
RF Bypass #3	D	.1 mfd	400 volts	H	.2 mfd	400 volts	# 15780
	T	.04 mfd	400 volts				
Detector Bypass	F	.1 mfd	400 volts	M	.075 mfd	400 volts	# 15640
	P	.0012 mfd	400 volts	P	.00025 mfd	400 volts	
Tone Control	All condensers are rated at 100 volts						

Voltage data on page 194


Phono volume control
500 ohms
WIRING DIAGRAM OF TYPE P CHASSIS.
.001 .002 .004 .01
2A
2Aa
6000 w
2000 w
30,000 w
1A
1050 w Flex
100000 w
40000 w
65,000 w
D
40,000 w
2 meg
Flat
6000 w
1200 w Flex
3R
5600 w
.5 mf
1 mf
3000 w
1 mf
.225 mf
2 mf
2R
200 w Flex
165,000 w
560 w
40,000 w
1050 w Flex
1R
1500 w
0.1 w
1100 w
300 w
10 w
10 w
SPEAKER PLUG SOCKET
TONE CONTROL SWITCH
2nd A.F. INPUT TRANSFORMER
1st A.F. FILTER CONDENSER
1st A.F. FILTER RESISTOR
1st A.F. BIAS RESISTOR
DET. 1st A.F. COUPLING CONDENSER
DET COUPLING RESISTOR
DET FILTER RESISTOR
DOUBLE PHONE CONDENSER
DETECTOR BIAS BY-PASS
No. 4 TRIMMER CONDENSER
DET BIAS RESISTOR
RADIO-PHONO SWITCH
DET GRID RESISTOR
DET. GRID CIRCUIT BY-PASS
PICKUP
No. 3 TRIMMER CONDENSER
BLEEDER RESISTOR
VOLUME CONTROL RESISTOR No. 2
DET FILTER CONDENSER
R.F. PLATE CIRCUIT BY-PASS
No. 2 TRIMMER CONDENSER
R.F. BIAS RESISTOR
R.F. BIAS BY-PASS
2nd 3rd R.F. SCREEN BY-PASS
1st R.F. SCREEN BY-PASS
1st R.F. BIAS BY-PASS
No. 1 TRIMMER CONDENSER
COMPENSATING CONDENSER
VOLUME CONTROL RESISTOR No. 1
FILTER CHOKE
FILTER CONDENSERS
RECTIFIER TUBE
RECTIFIER FILAMENT WINDING
HIGH-VOLTAGE WINDING
POWER TRANSFORMER
PRIMARY
ON-OFF TOGGLE SWITCH
LINE BY-PASS
110 VOLT CABLE
2nd A.F. BIAS BY-PASS
2nd A.F. BIAS RESISTOR No. 1
2nd A.F. BIAS RESISTOR No. 2
FILAMENT SHUNT RESISTOR
DIAL LIGHT RESISTOR
DIAL LIGHT
2nd A.F. OUTPUT TRANSFORMER
TOP VIEW OF SPEAKER PLUG
THIN LEADS
THICK LEADS
FILAMENT WINDING
F1 F2 P1 P2
S L G

FILTER CONDENSERS. Numerals in circles designate connections upon filter condenser terminal block.

Detector filter	.1 mfd	connected between terminal (1) and can
Filter #1	2.0 mfd	connected between terminal (2) and center stud
Filter #2	1.0 mfd	connected between terminal (3) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can
Resonant condenser	.225 mfd	connected between terminal (5) and center stud

Voltage reference on page 1-44

MODEL 70,74,76
Chassis "L-2"- "p"
Voltage Data
Notes

ATWATER KENT MFG. CO.

VOLTAGE TABLE FOR TYPE L-2 AND P CHASSIS

Set in operation. Volume control at maximum.
L-D (or 'phono) switch up.

Use High Resistance D. C. Voltmeter (about 0-50-250) to Measure Plate and Grid Voltages.
Use A. C. Voltmeter to Measure Filament Voltages.

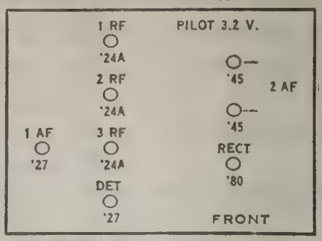
APPROX. VOLTAGES, USING 120 V. LINE

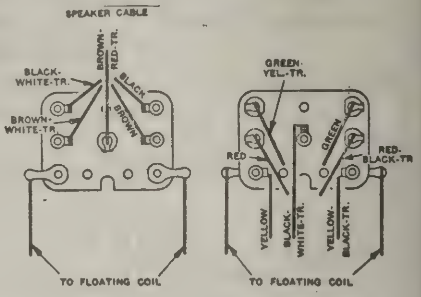
TUBE	FILAMENT VOLTAGE	PLATE VOLTAGE	CONTROL-GRID VOLTAGE	SCREEN VOLTAGE
1st-R.F.	2.4	180	5	85
2nd-R.F.	2.35	180	4.5	86
3rd-R.F.	2.35	180	4.5	86
Detector	2.35	110	14**	—
1st-A.F.	2.35	70	2	—
2A	2.45	250	55*	—
2Aa	2.45	250	55*	—
Rectifier	5.	—	—	—

* Use 250-volt scale.
** This is the voltage across the detector bias resistor; when measuring from grid to cathode, the voltage reading is only 2.

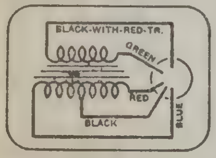
All readings made from cathode in heater-type tubes, and from —F in plain-filament-type tubes.

Models 75P, 70, 74, 76, 60 (3rd type) (1930)

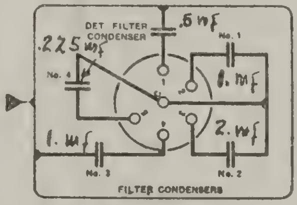

1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
1 AF
'27
PILOT 3.2 V.
'45
'45
2 AF
RECT
'80
FRONT


SPEAKER CABLE
BROWN-RED-TR.
BLACK-WHITE-TR.
BLACK
BROWN-WHITE-TR.
BROWN
TO FLOATING COIL
GREEN-YEL.-TR.
GREEN
RED
RED-BLACK-TR.
YELLOW
BLACK-WHITE-TR.
YELLOW-BLACK-TR.
TO FLOATING COIL

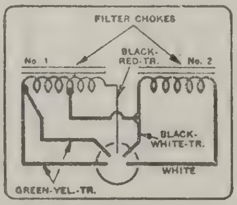
SPEAKER PANEL CONNECTIONS


BLACK-WITH-RED-TR.
GREEN
RED
BLACK
BLUE

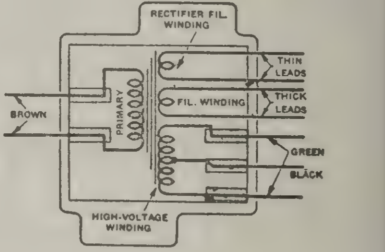
INPUT
A. F. TRANSFORMER
ASSEMBLY


DET FILTER CONDENSER
.5 mf
.225 mf
No. 1
No. 4
1. mf
1. mf
2. mf
No. 3
No. 2
FILTER CONDENSERS

FILTER CONDENSER
ASSEMBLY

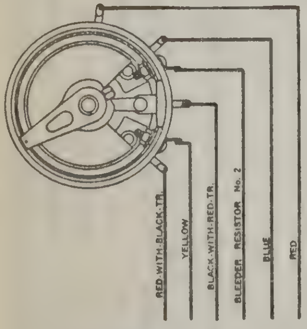

FILTER CHOKES
No. 1
BLACK-RED-TR.
No. 2
BLACK-WHITE-TR.
WHITE
GREEN-YEL.-TR.

FILTER-CHOKE
ASSEMBLY


RECTIFIER FIL. WINDING
THIN LEADS
THICK LEADS
FIL. WINDING
PRIMARY
BROWN
GREEN
BLACK
HIGH-VOLTAGE WINDING

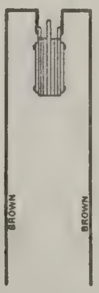
POWER TRANSFORMER
ASSEMBLY

DUAL
VOLUME CONTROL

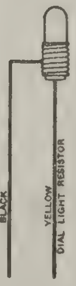

RED-WITH-BLACK-TR.
YELLOW
BLACK-WITH-RED-TR.
BLEEDER RESISTOR No. 2
BLUE
RED

LOCAL-DISTANCE
SWITCH

ON-OFF
SWITCH

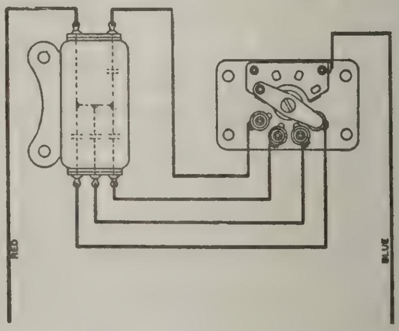

BROWN
BROWN

DIAL LIGHT


BLACK
YELLOW
DIAL LIGHT RESISTOR

TONE
CONTROL
CONDENSER

TONE
CONTROL
SWITCH



Condensers in R.F. By-Pass No. 1

L—Line by-pass.
L—Line by-pass.
C—2nd-A.F. bias by-pass.
E—1st-R.F. screen by-pass.

Condensers in Detector By-Pass

F—2nd-3rd R.F. screen by-pass.
M—Detector-1st A.F. coupling condenser.
P—Phone condenser.
P—Phone condenser.

Condensers in R.F. By-Pass No. 2

A—1st-R.F. bias by-pass.
B—R.F. bias by-pass.
U—1st-A.F. filter condenser.

Condensers in R.F. By-Pass No. 3

D—Detector bias by-pass.
H—R.F. plate-circuit by-pass.
T—Detector grid-circuit by-pass.

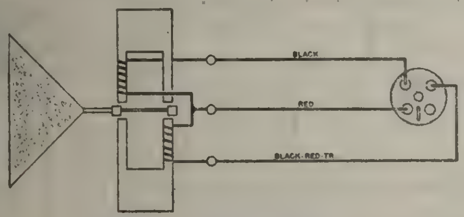
CONNECTION OF UNITS IN TYPE L-2 CHASSIS, AND, AT RIGHT, CONNECTIONS TO TERMINAL PANEL OF TYPE N SPEAKER.

ATWATER KENT MFG. CO.

MODEL 70,76
Chassis "Q"
Voltage

Type Q Chassis (battery operated) has three stages of screen-grid R. F. amplification, grid detection, one stage of transformer-coupled audio, and a double-audio output stage.

An output filter choke and condenser are used in the Q-2 (above Serial No. 5704025), as shown in the diagram below. The Q-1 Chassis does not have these two parts.


BLACK
RED
BLACK-RED-TR.

Connections of Inductor Type J Speaker.

VOLTAGE TABLE FOR TYPE Q CHASSIS

Set in operation. Volume control at maximum.
L-D switch at distance.

Use High Resistance D. C. Voltmeter (about 0-50-250) to Measure Plate and Grid Voltages.
Use A. C. Voltmeter to Measure Filament Voltages.

180 VOLTS "B" BATTERY

TUBE	FILAMENT VOLTAGE	PLATE VOLTAGE	CONTROL-GRID VOLTAGE	SCREEN VOLTAGE
1st-R.F.	3.3	135	1.5	45
2nd-R.F.	3.3	135	1.5	45
3rd-R.F.	3.3	135	2.5	45
Detector	5.0	70	—	—
1st-A.F.	5.0	67	45	—
2A	5.0	180	45	—
2Aa	5.0	180	45	—

R.F. By-Pass No. 1

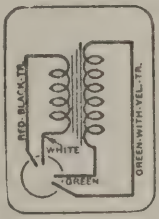
G—R.F. screen by-pass.
V—1st-R.F. grid-circuit by-pass.
Y—Output filter condenser.
N—1st-R.F. filament by-pass.

R.F. By-Pass No. 2 *

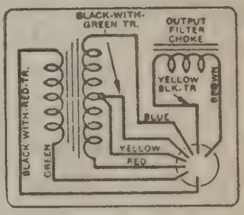
H—R.F. plate-circuit by-pass.
T—Detector filter condenser.
P—"Phone" condenser.
P—"Phone" condenser.

R.F. By-Pass No. 3

S—Detector filament by-pass.
R—3rd-R.F. filament by-pass.
R—3rd-R.F. filament by-pass.
O—2nd-R.F. filament by-pass.

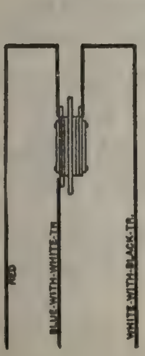

RED-BLACK-TR.
WHITE
GREEN
GREEN-WITH-YEL.-TR.

No. 1 A. F. T.


BLACK-WITH-GREEN TR.
OUTPUT FILTER CHOKE
YELLOW BLK. TR
BROWN
BLUE
YELLOW
RED
BLACK WITH-RED-TR.
GREEN

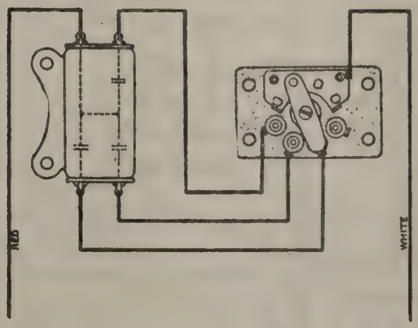
2nd A. F. INPUT TRANSFORMER

LOCAL-DISTANCE SWITCH

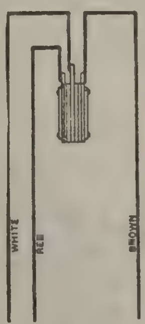

RED
BLUE-WITH-WHITE-TR.
WHITE-WITH-BLACK-TR.

TONE CONTROL CONDENSER

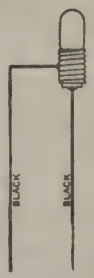
TONE CONTROL SWITCH



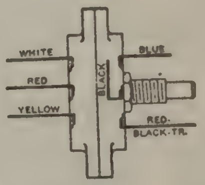
ON-OFF TOGGLE SWITCH


WHITE
RED
BROWN

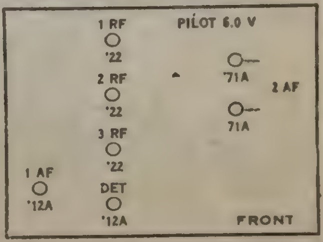
DIAL LIGHT


BLACK
BLACK

DUAL VOLUME CONTROL


WHITE
RED
YELLOW
BLACK
BLUE
RED-BLACK-TR.

Models Q (Battery), D (DC) (1930)


1 RF
'22
PILOT 6.0 V
'71A
2 AF
71A
2 RF
'22
3 RF
'22
1 AF
'12A
DET
'12A
FRONT

The output filter choke is not used in the Q-1 chassis.

*The connections shown for R. F by-pass No. 2 are correct when this part is No. 16060 However, if a No. 18350 (H-28) is used. "P" and "P" are at top and "H" and "T" are at bottom; therefore, the connections to this condenser are correspondingly changed

MODEL 70,76
Chassis Q

ATWATER KENT MFG. CO.

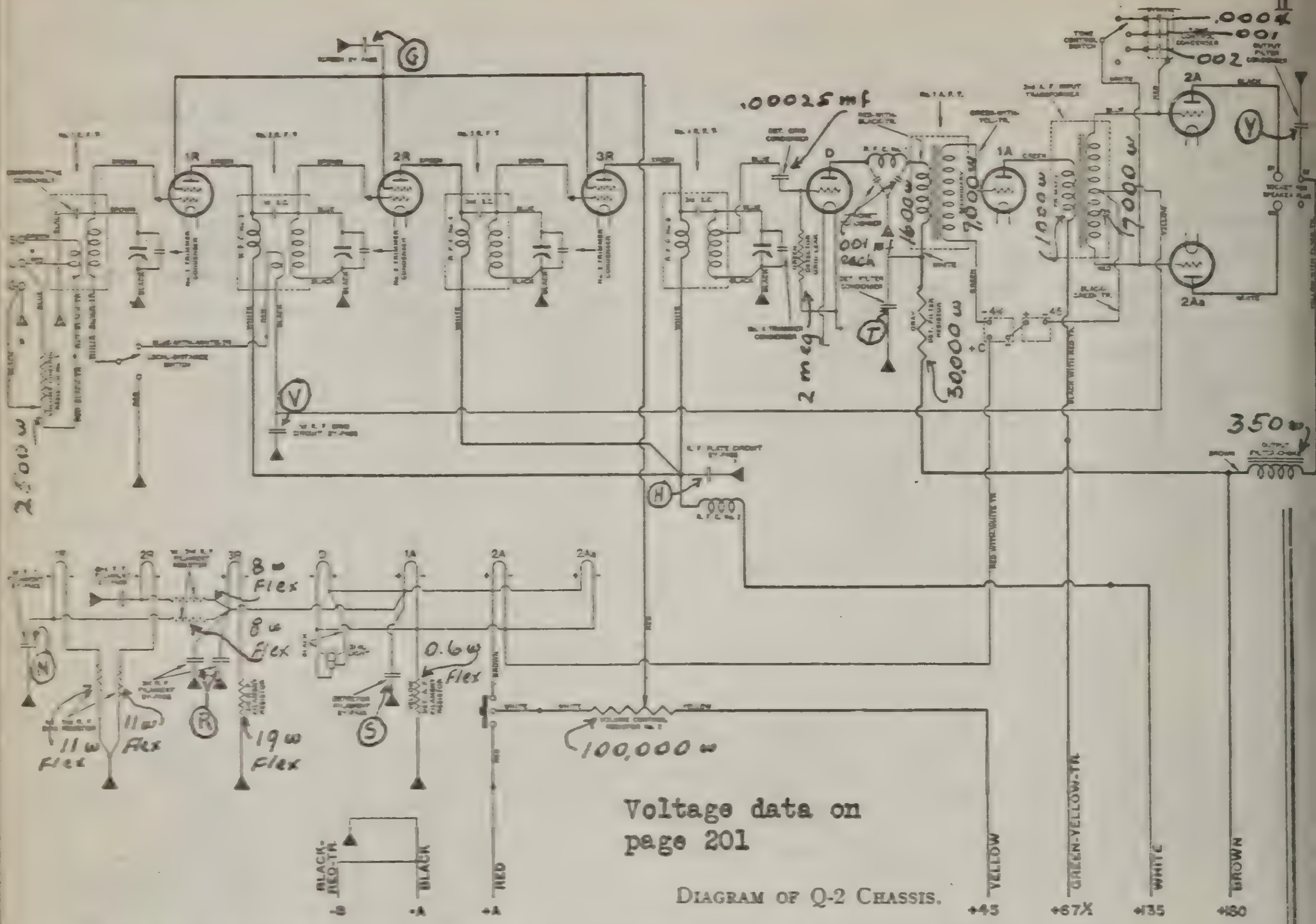
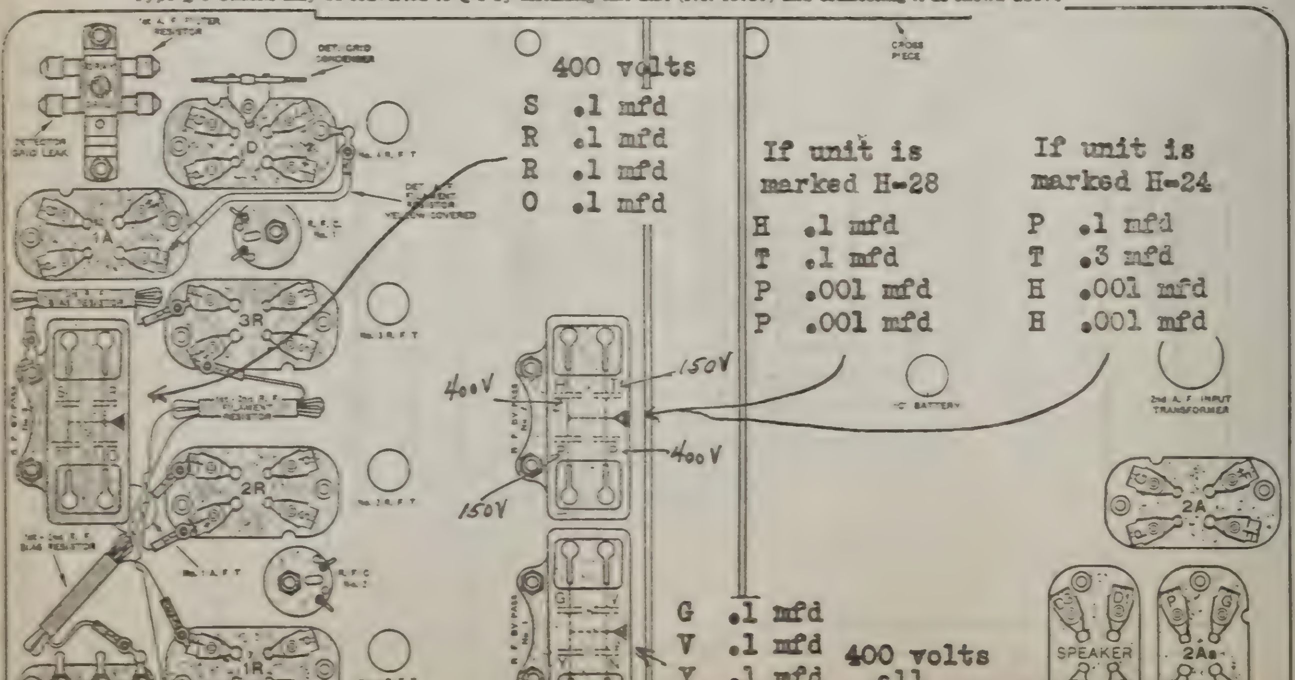

.0004
.001
.002
.00025 mf
1R
2R
3R
D
1A
2A
2As
G
V
H
T
Y
16,000 w
7,800 w
10,000 w
17,000 w
30,000 w
2 meg
.001 mf each
2,500 w
350 w
8 w Flex
8 w Flex
0.6 w Flex
11 w Flex
11 w Flex
19 w Flex
N
R
S
100,000 w
Voltage data on page 201
BLACK-RED-TR.
BLACK
RED
YELLOW
GREEN-YELLOW-TR.
WHITE
BROWN
-B
-A
+A
+45
+67½
+135
+180

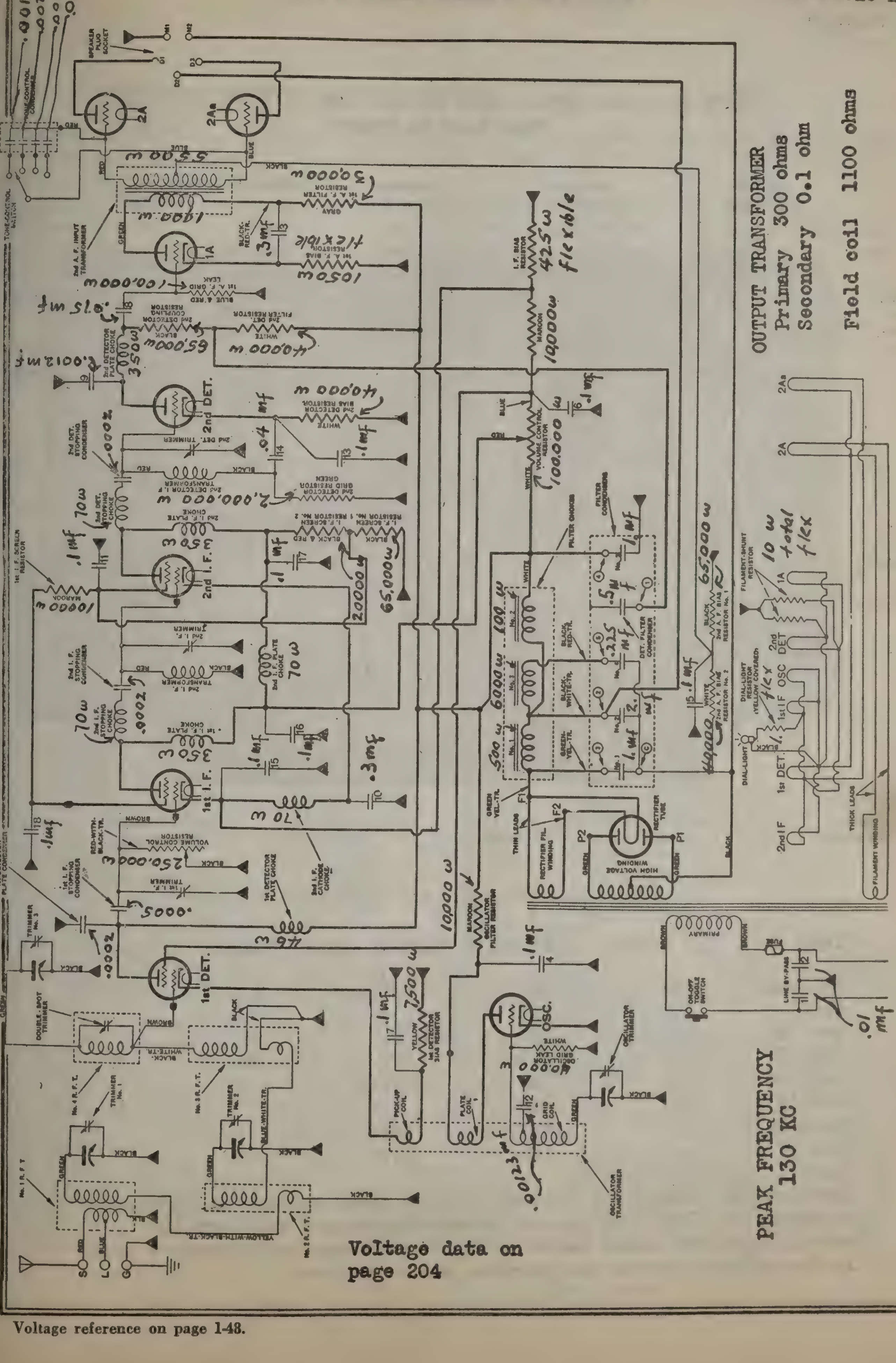
Diagram of Q-2 Chassis.

The output filter choke and filter condenser are used only in Type Q-2 Chassis. The choke is mounted in the 2nd-A. F. input transformer container. Type Q-1 Chassis may be converted to Q-2 by installing this unit (No. 18020) and connecting it as shown above


400 volts
S .1 mfd
R .1 mfd
R .1 mfd
O .1 mfd
If unit is marked H-28
H .1 mfd
T .1 mfd
P .001 mfd
P .001 mfd
If unit is marked H-24
P .1 mfd
T .3 mfd
H .001 mfd
H .001 mfd
150V
400V
400V
150V
G .1 mfd
V .1 mfd
Y .1 mfd
N .1 mfd
400 volts all
D
1A
3R
2R
1R
2A
2As
SPEAKER
ANTENNA POST ASSEMBLY
"C" BATTERY
2nd A. F. INPUT TRANSFORMER
CROSS PIECE
CROSS PIECE

ATWATER KENT MFG. CO.

MODEL 72
Chassis H-1


.001
.002
.004
.01
mf
SPEAKER PLUG SOCKET
TONE-CONTROL CONDENSER
TONE-CONTROL SWITCH
2A
2As
550 w
30,000 w
1st A. F. FILTER RESISTOR
2nd A. F. INPUT TRANSFORMER
1000 w
1A
.3 mf
flexible
1st A. F. BIAS RESISTOR
1050 w
1st A. F. GRID LEAK
100,000 w
.015 mf
2nd DETECTOR COUPLING RESISTOR
2nd DET. FILTER RESISTOR
65,000 w
40,000 w
2nd DETECTOR PLATE CHOKE
350 w
.0012 mf
2nd DET.
2nd DETECTOR BIAS RESISTOR
40,000 w
.1 mf
2nd DET. TRIMMER
2nd DET. STOPPING CONDENSER
.0002
.04
2nd DETECTOR I. F. TRANSFORMER
2nd DETECTOR GRID RESISTOR
2,000,000 w
70 w
2nd DET. STOPPING CHOKE
2nd I. F. PLATE CHOKE
I. F. SCREEN RESISTOR No. 1
I. F. SCREEN RESISTOR No. 2
350 w
.1 mf
2nd I. F.
20000 w
65,000 w
1st I. F. SCREEN RESISTOR
10000 w
2nd I. F. TRIMMER
2nd I. F. STOPPING CONDENSER
2nd I. F. TRANSFORMER
2nd I. F. PLATE CHOKE
70 w
.0002
70 w
2nd I. F. STOPPING CHOKE
1st I. F. PLATE CHOKE
350 w
.1 mf
.3 mf
1st I. F.
70 w
2nd I. F. CATHODE CHOKE
.1 mf
1st DETECTOR PLATE CONDENSER
VOLUME CONTROL RESISTOR
250,000 w
1st I. F. STOPPING CONDENSER
1st I. F. TRIMMER
.0005
1st DETECTOR PLATE CHOKE
46 w
TRIMMER No. 3
.0002
1st DET.
DOUBLE-SPOT TRIMMER
No. 4 R. F. T.
TRIMMER No. 1
No. 3 R. F. T.
TRIMMER No. 2
No. 1 R. F. T.
No. 2 R. F. T.
10,000 w
OSCILLATOR FILTER RESISTOR
.1 mf
7500 w
1st DETECTOR BIAS RESISTOR
.1 mf
OSC.
OSCILLATOR GRID LEAK
40,000 w
OSCILLATOR TRIMMER
PICK-UP COIL
PLATE COIL
GRID COIL
.00123 mf
OSCILLATOR TRANSFORMER
I. F. BIAS RESISTOR
425 w
flexible
10000 w
VOLUME CONTROL RESISTOR
100,000
.1 mf
FILTER CHOKES
FILTER CONDENSERS
1. mf
.5 mf
.225 mf
DET. FILTER CONDENSER
2. mf
1. mf
100 w
6000 w
500 w
65,000 w
I. F. BIAS RESISTOR No. 1
I. F. BIAS RESISTOR No. 2
40000 w
.1 mf
RECTIFIER TUBE
RECTIFIER FIL. WINDING
HIGH VOLTAGE WINDING
THIN LEADS
THICK LEADS
FILAMENT WINDING
FILAMENT-SHUNT RESISTOR
10 w total flex
DIAL-LIGHT RESISTOR (YELLOW COVERED)
flex
DIAL-LIGHT
1st DET.
2nd I F
1st I F
OSC
2nd DET
1A
2A
2As
PRIMARY
ON-OFF TOGGLE SWITCH
LINE BY-PASS
.01 mf
S
L
G

OUTPUT TRANSFORMER
Primary 300 ohms
Secondary 0.1 ohm

Field coil 1100 ohms

SCHEMATIC DIAGRAM OF TYPE H-1 CHASSIS

In some Type H-1 sets the +B lead to the I. F. screens is connected to the 1st-I. F. side of the 1st-I. F. screen resistor.

PEAK FREQUENCY
130 KC

Voltage data on
page 204

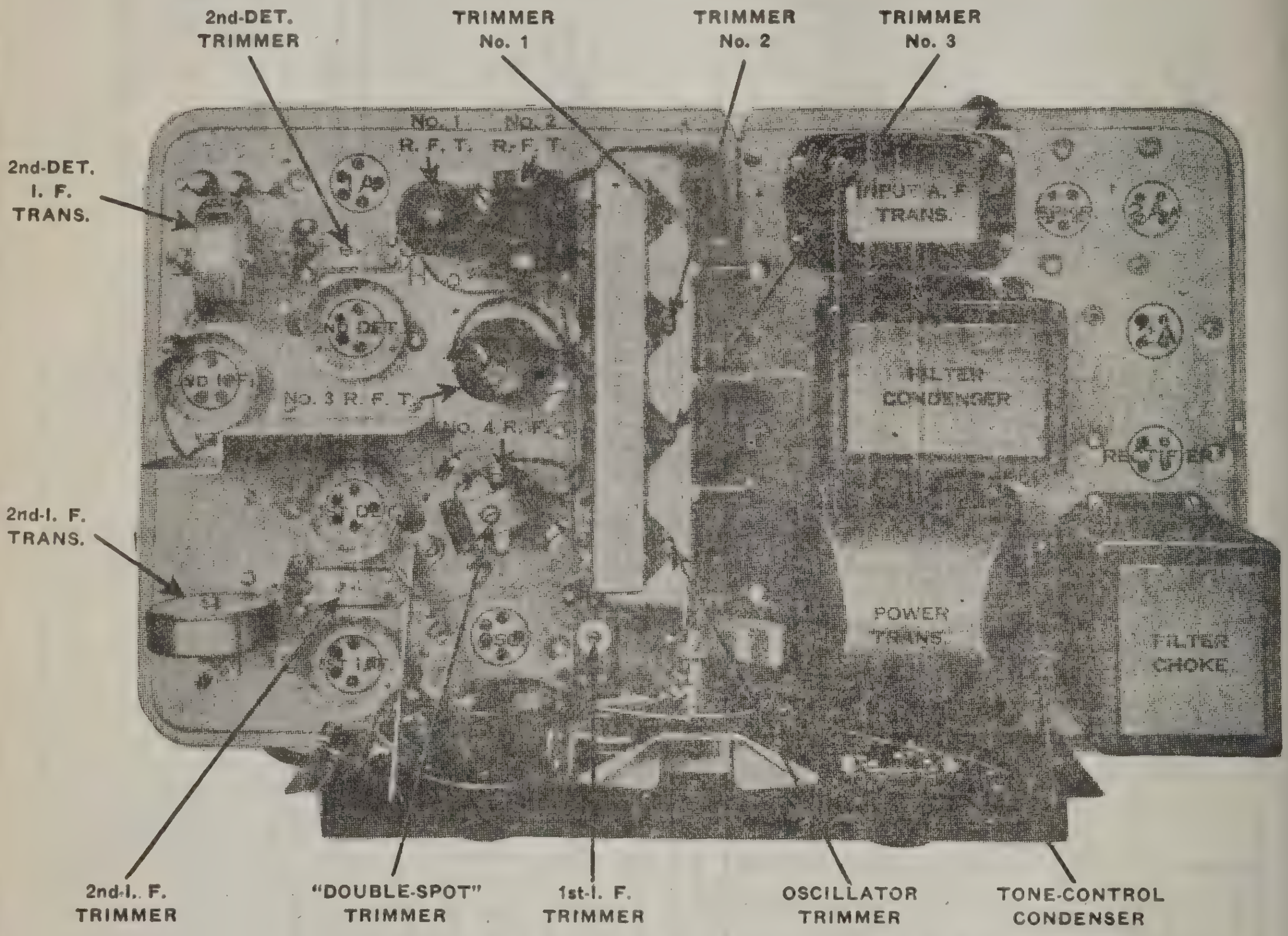
Voltage reference on page 1-48.

MODEL 72
Chassis "H-1"
Voltage

ATWATER KENT MFG. CO.

TYPE H-1, No. 16500, SUPER-HETERODYNE CHASSIS

(Below Serial No. 5,855,201)


2nd-DET. TRIMMER
TRIMMER No. 1
TRIMMER No. 2
TRIMMER No. 3
2nd-DET. I. F. TRANS.
No. 1 R. F. T.
No. 2 R. F. T.
INPUT A. F. TRANS.
2nd DET.
2nd I.F.
No. 3 R. F. T.
No. 4 R. F. T.
FILTER CONDENSER
RECTIFIER
24
2A
2nd-I. F. TRANS.
1st DET.
OSC.
1st I.F.
POWER TRANS.
FILTER CHOKE
2nd-I. F. TRIMMER
"DOUBLE-SPOT" TRIMMER
1st-I. F. TRIMMER
OSCILLATOR TRIMMER
TONE-CONTROL CONDENSER

Top View of Atwater Kent Type H-1 Super-Heterodyne Chassis

Tube	"A" Volts	"B" Volts	Control Grid	Screen
1st Det	2.4	150	3.	12.
Osc.	2.3	100	10.*	
1st IF	2.3	150	3.	75.
2nd IF	2.3	145	3.	85.
2nd Det	2.3	100	13.**	
1st AF	2.3	65	2.	
2nd AF PP	2.5	250	55.*	
2nd AF PP	2.5	250	55.*	
Rect.	4.7			

With volume control at minimum, the IF plate voltage is reduced to about 150 volts and screen voltage is reduced to about 10 volts. * Use 250 volts scale of high resistance voltmeter. ** This is the voltage across the detector bias resistor.

MODEL 72
Chassis H-1
Below serial
5,855,201

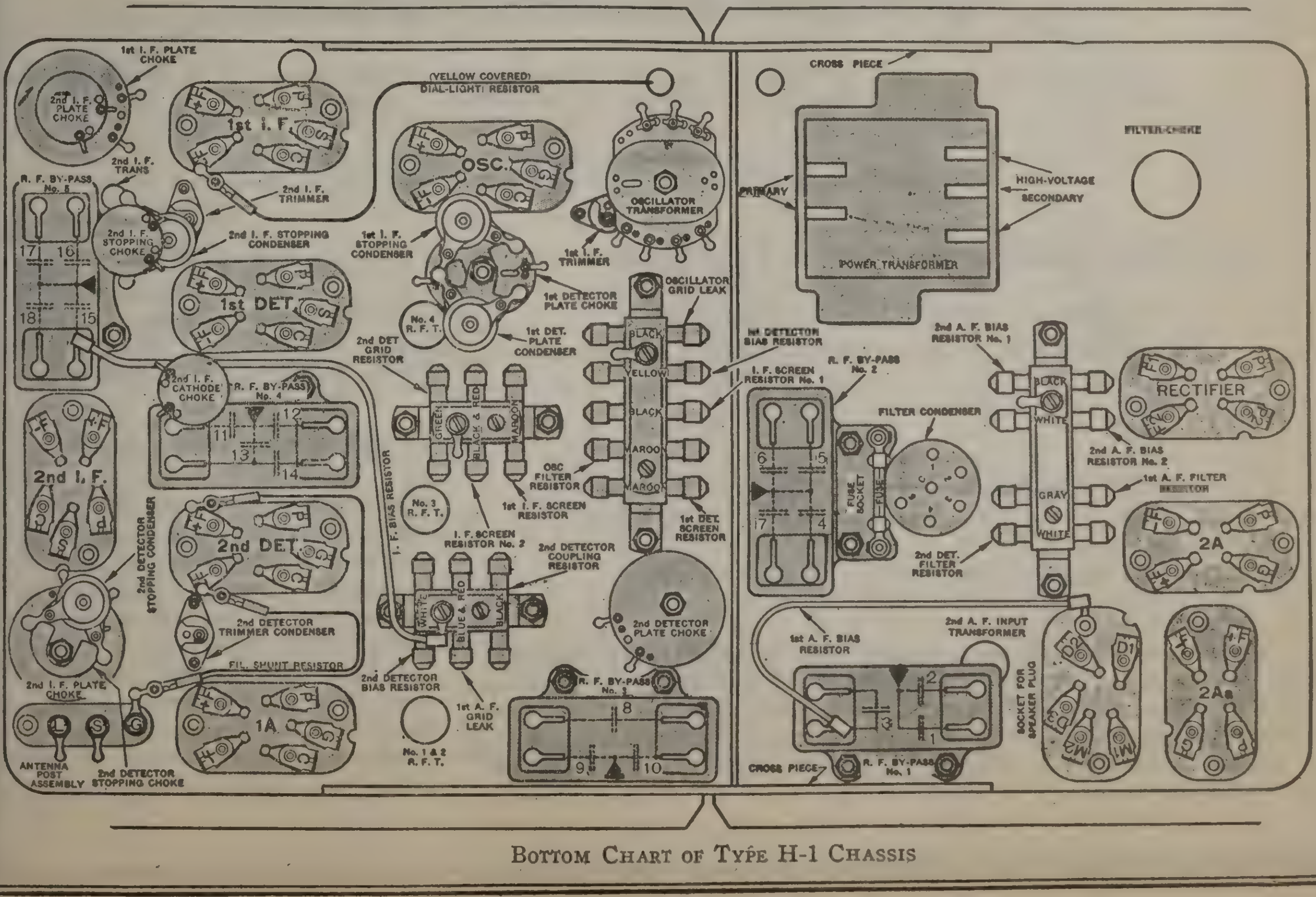
ATWATER KENT MFG. CO.

FILTER CONDENSERS. Numerals in circles indicate connections upon filter condenser terminal block. These numbers are shown upon the parts layout below and also upon the chassis layout

Detector filter	.1 mfd	connected between terminal (1) and can
Filter #1	2.0 mfd	connected between terminal (2) and center stud
Filter #2	1.0 mfd	connected between terminal (3) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can
Resonant condenser	.225 mfd	connected between terminal (5) and center stud

BYPASS CONDENSERS. The small numerals adjacent to the bypass condensers corresponds with the designating numerals upon the chassis layout

RF Bypass #1	1	.01 mfd	400 volts	2	.01 mfd	400 volts	# 17360
	3	.3 mfd	400 volts				
RF Bypass #2	4	.1 mfd	400 volts	5	.1 mfd	400 volts	# 15262
	6	.1 mfd	400 volts	7	.1 mfd	400 volts	
RF Bypass #3	8	.075 mfd	400 volts	9	.0012 mfd	400 volts	# 16745
	10	.3 mfd	150 volts				
RF Bypass #4	11	.1 mfd	400 volts	12	.00123mfd	400 volts	# 17370
	13	.1 mfd	400 volts	14	.04 mfd	400 volts	
RF Bypass #5	15	.1 mfd	400 volts	16	.1 mfd	400 volts	# 15262
	17	.1 mfd	400 volts	18	.1 mfd	400 volts	


1st I. F. PLATE CHOKE
2nd I. F. PLATE CHOKE
1st I. F.
2nd I. F. TRANS
2nd I. F. TRIMMER
R. F. BY-PASS No. 5
17
16
18
15
2nd I. F. STOPPING CHOKE
2nd I. F. STOPPING CONDENSER
1st DET.
2nd I. F. CATHODE CHOKE
R. F. BY-PASS No. 4
11
12
13
14
2nd I. F.
2nd DETECTOR STOPPING CONDENSER
2nd DET.
2nd DETECTOR TRIMMER CONDENSER
FIL. SHUNT RESISTOR
2nd I. F. PLATE CHOKE
1A
L
S
G
ANTENNA POST ASSEMBLY
2nd DETECTOR STOPPING CHOKE
(YELLOW COVERED) DIAL-LIGHT RESISTOR
OSC.
OSCILLATOR TRANSFORMER
1st I. F. STOPPING CONDENSER
1st I. F. TRIMMER
1st DETECTOR PLATE CHOKE
No. 4 R. F. T.
1st DET. PLATE CONDENSER
2nd DET GRID RESISTOR
OSCILLATOR GRID LEAK
GREEN
BLACK & RED
MAROON
BLACK
YELLOW
BLACK
MAROON
MAROON
OSC FILTER RESISTOR
1st I. F. SCREEN RESISTOR
1st DET. SCREEN RESISTOR
I. F. BIAS RESISTOR
No. 3 R. F. T.
I. F. SCREEN RESISTOR No. 2
2nd DETECTOR COUPLING RESISTOR
WHITE
BLUE & RED
BLACK
2nd DETECTOR PLATE CHOKE
2nd DETECTOR BIAS RESISTOR
1st A. F. GRID LEAK
No. 1 & 2 R. F. T.
R. F. BY-PASS No. 3
8
9
10
CROSS PIECE
PRIMARY
POWER TRANSFORMER
HIGH-VOLTAGE SECONDARY
FILTER CHOKE
1st DETECTOR BIAS RESISTOR
I. F. SCREEN RESISTOR No. 1
R. F. BY-PASS No. 2
6
5
7
4
FUSE SOCKET
FUSE
FILTER CONDENSER
2nd A. F. BIAS RESISTOR No. 1
BLACK
WHITE
GRAY
WHITE
RECTIFIER
2nd A. F. BIAS RESISTOR No. 2
1st A. F. FILTER RESISTOR
2A
2nd DET. FILTER RESISTOR
1st A. F. BIAS RESISTOR
2nd A. F. INPUT TRANSFORMER
2
3
1
SOCKET FOR SPEAKER PLUG
D1
D2
D3
M1
M2
2As
CROSS PIECE
R. F. BY-PASS No. 1

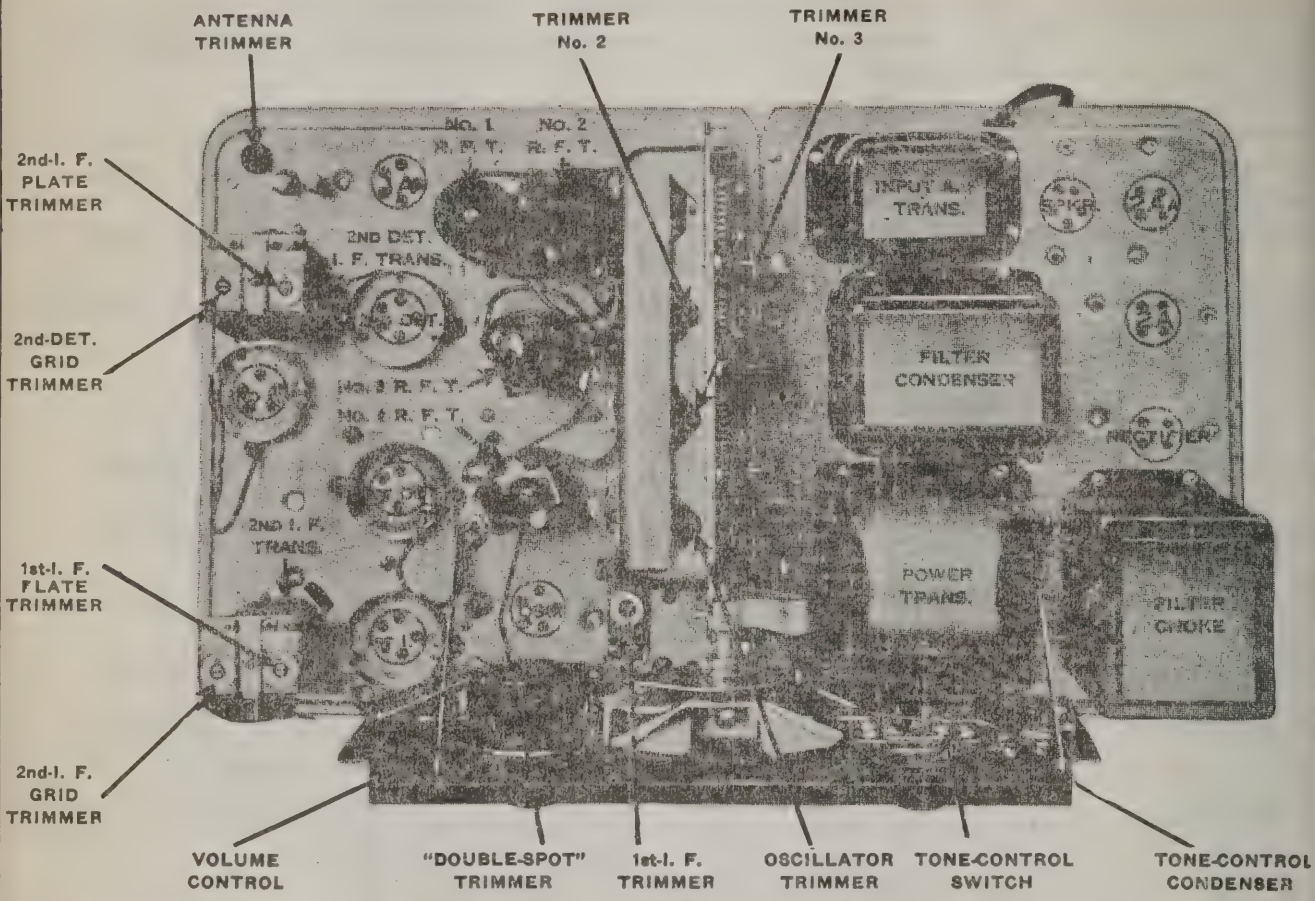
Bottom Chart of Type H-1 Chassis

MODEL 72
Chassis "H-2"
Voltage

ATWATER KENT MFG. CO.

TYPE H-2, No. 16500, SUPER-HETERODYNE CHASSIS

(Above Serial No. 5,855,201)


ANTENNA TRIMMER
TRIMMER No. 2
TRIMMER No. 3
2nd-I. F. PLATE TRIMMER
2nd-DET. GRID TRIMMER
1st-I. F. FLATE TRIMMER
2nd-I. F. GRID TRIMMER
VOLUME CONTROL
"DOUBLE-SPOT" TRIMMER
1st-I. F. TRIMMER
OSCILLATOR TRIMMER
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
No. 1 R. F. T.
No. 2 R. F. T.
2ND DET. I. F. TRANS.
No. 3 R. F. T.
No. 4 R. F. T.
2ND I. F. TRANS.
INPUT A. F. TRANS.
FILTER CONDENSER
POWER TRANS.
FILTER CHOKE
SPKR.
24A
24A
RECTIFIER

Top View of Atwater Kent Type H-2 Super-Heterodyne Chassis
Note that trimmer No. 1 is omitted. The antenna trimmer serves the same purpose

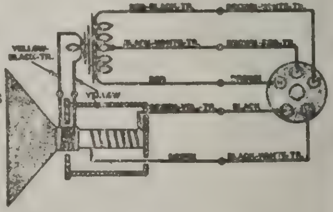
VOLTAGE TABLE FOR TYPE H-2 CHASSIS

Set in operation. Volume control at maximum

Tube	"A" Volts	"B" Volts	Control Grid	Screen
1st Det	2.3	150	4.	15.
Osc	2.5	130	10.*	
1st IF	2.3	150	3.5	100.
2nd IF	2.3	150	3.5	85.
2nd Det	2.3	100	14.**	
1st AF	2.3	70	2.	
2nd AF PP	2.5	250	55.*	
2nd AF PP	2.5	250	55.*	
Rect.	4.7			

With the volume control at minimum, the IF voltage is reduced to 15 volts. * Use 250 volt scale of high resistance voltmeter. ** This is the voltage across the detector bias resistor; when measuring from grid to cathode, the voltage reading is only 2. All readings made from cathode in heater type tubes and -F in filament type tubes.

Connections of N Speaker

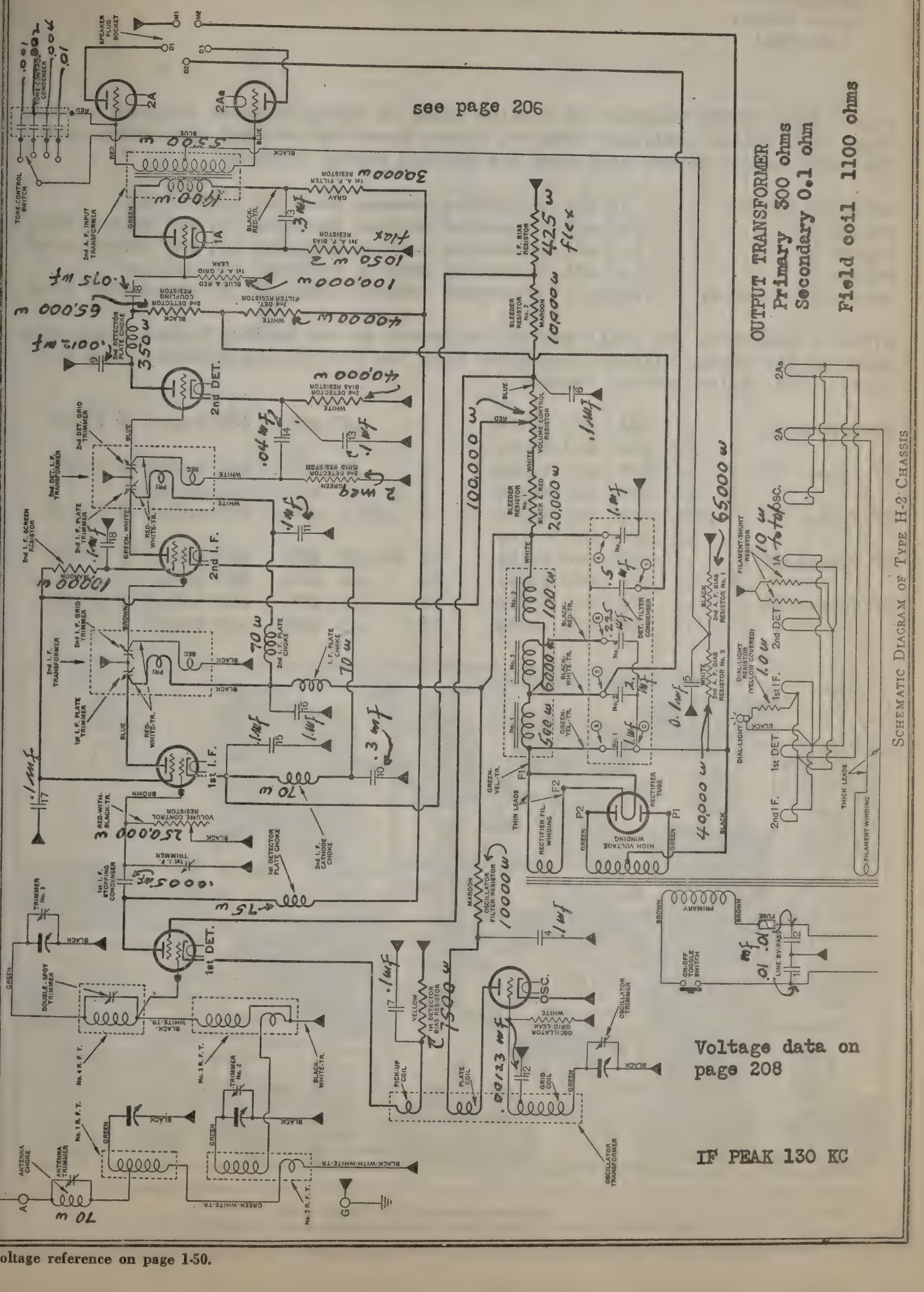


THE DOUBLE SPOT CIRCUIT

The double spot circuit is simultaneously tuned to two different frequencies. The complete circuit consists of #3 and #4 RF transformers and #3 variable condenser. A part of this circuit, #4 RFT, the double spot trimmer and #3 variable condenser is automatically tuned to 260 KC more than the desired frequency.

ATWATER KENT MFG. CO.

MODEL 72
Chassis H-2



SPEAKER PLUG SOCKET
M1
M2
D1
D2
D3
TONE-CONTROL CONDENSER
TONE-CONTROL SWITCH
.001
.002
.004
.01
2A
2As
RED
BLUE
BLACK
5500 w
2nd A.F. INPUT TRANSFORMER
1400 w
1A
1st A.F. FILTER RESISTOR
GRAY
30000 w
BLACK-RED-TR.
.3 mf
1st A.F. BIAS RESISTOR
1050 w
flex
1st A.F. GRID LEAK
BLUE & RED
100,000 w
.015 mf
2nd DETECTOR COUPLING RESISTOR
65,000 w
FILTER RESISTOR
WHITE
400000 w
2nd DETECTOR PLATE CHOKE
350 w
.0012 mf
2nd DET.
2nd DETECTOR BIAS RESISTOR
40,000 w
.04 mf
.1 mf
2nd DETECTOR GRID RESISTOR
GREEN
2 meg
2nd DET. GRID TRIMMER
2nd DET. I.F. TRANSFORMER
2nd I.F. PLATE TRIMMER
2nd I.F. SCREEN RESISTOR
MAROON
10000 w
2nd I.F.
2nd I.F. GRID TRIMMER
2nd I.F. TRANSFORMER
1st I.F. PLATE TRIMMER
2nd I.F. PLATE CHOKE
70 w
I.F. PLATE CHOKE
70 w
1st I.F.
.3 mf
70 w
2nd I.F. CATHODE CHOKE
1st DETECTOR PLATE CHOKE
.15 w
3 RED-WITH-BLACK-TR.
VOLUME CONTROL RESISTOR
250,000 w
1st I.F. TRIMMER
1st I.F. STOPPING CONDENSER
.0005 mf
TRIMMER No. 1
DOUBLE-SPOT TRIMMER
1st DET.
No. 4 R.F.T.
No. 3 R.F.T.
TRIMMER No. 2
No. 1 R.F.T.
No. 2 R.F.T.
ANTENNA CHOKE
ANTENNA TRIMMER
3 OL
A
G
BLACK-WITH-WHITE-TR.
GREEN-WHITE-TR.
I.F. BIAS RESISTOR
425 w
flex
BLEEDER RESISTOR No. 2
MAROON
10000 w
VOLUME CONTROL RESISTOR
100,000 w
BLEEDER RESISTOR No. 1
BLACK & RED
20,000 w
DET. FILTER CONDENSER
.1 mf
.5 mf
2.25 mf
2 mf
1 mf
No. 1
No. 2
No. 3
100 w
6000 w
500 w
GREEN-YEL-TR.
F1
F2
RECTIFIER TUBE
RECTIFIER FIL. WINDING
HIGH VOLTAGE WINDING
P1
P2
THIN LEADS
THICK LEADS
2nd A.F. BIAS RESISTOR No. 1
2nd A.F. BIAS RESISTOR No. 2
65000 w
40,000 w
0.1 mf
FILAMENT-SHUNT RESISTOR
10 w
DIAL-LIGHT RESISTOR (YELLOW COVERED)
1.0 w
DIAL-LIGHT
FILAMENT WINDING
OSCILLATOR FILTER RESISTOR
10000 w
.1 mf
1st DETECTOR BIAS RESISTOR
YELLOW
7500 w
OSC.
OSCILLATOR GRID LEAK
.00123 mf
OSCILLATOR TRIMMER
PICK-UP COIL
PLATE COIL
GRID COIL
OSCILLATOR TRANSFORMER
PRIMARY
BROWN
FUSE
ON-OFF TOGGLE SWITCH
LINE BY-PASS
.01 mf
.01

see page 206

OUTPUT TRANSFORMER
Primary 300 ohms
Secondary 0.1 ohm

Field coil 1100 ohms

Voltage data on page 208

IF PEAK 130 KC

SCHEMATIC DIAGRAM OF TYPE H-2 CHASSIS

Voltage reference on page 1-50.

MODEL 72
Chassis H-2
Above serial
5,855,201

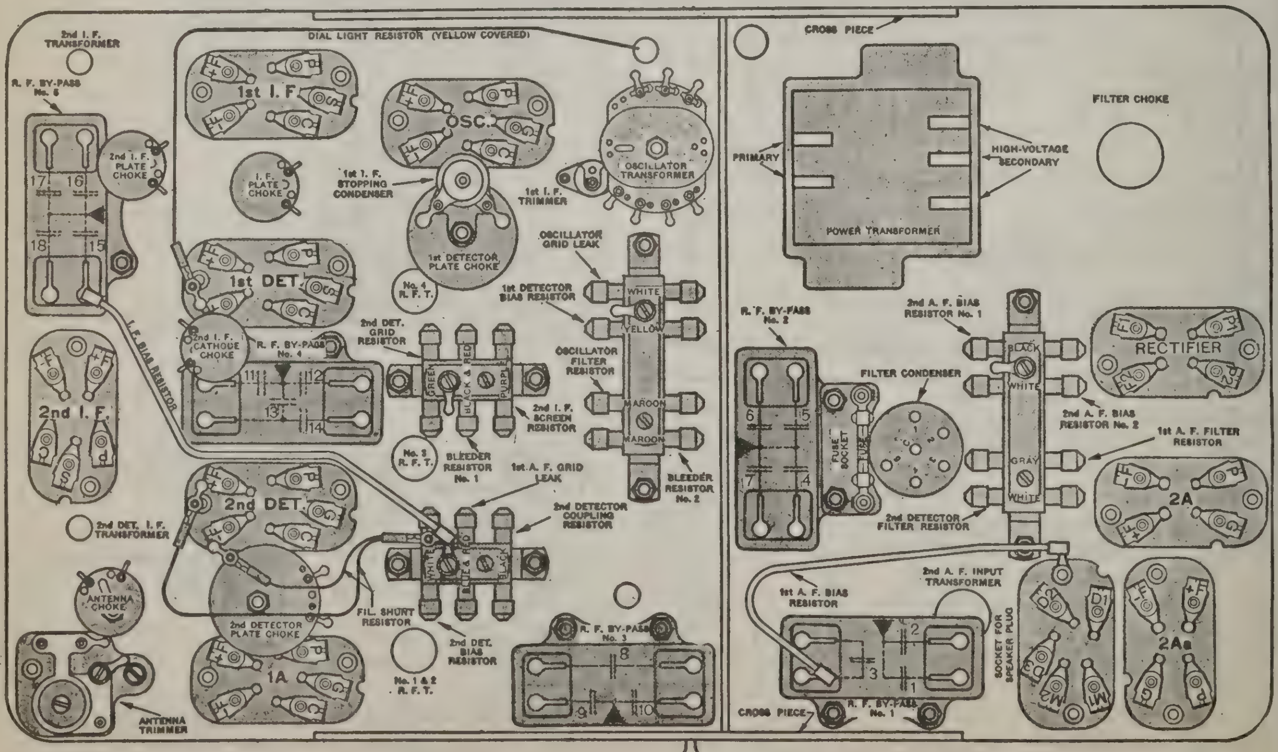
ATWATER KENT MFG. CO.

FILTER CONDENSERS. Numerals in circles shown on wiring diagram indicate connections upon filter condenser terminal block. These numbers are also shown upon the parts layout below. Also upon the chassis wiring diagram

Detector filter	.1 mfd	connected between terminal (1) and can
Filter #1	2.0 mfd	connected between terminal (2) and center stud
Filter #2	1.0 mfd	connected between terminal (3) and center stud
Filter #3	1.0 mfd	connected between terminal (4) and can
Resonant condenser	.225 mfd	connected between terminal (5) and center stud

BYPASS CONDENSERS. The small numerals adjacent to the various bypass condensers shown on the wiring diagram correspond with the designating numerals upon the parts layout below and the chassis

RF Bypass #1	1	.01 mfd	400 volts	2	.01 mfd	400 volts	# 17360
	3	.3 mfd	400 volts				
RF Bypass #2	4	.1 mfd	400 volts	5	.1 mfd	400 volts	# 15262
	6	.1 mfd	400 volts	7	.1 mfd	400 volts	
RF Bypass #3	8	.075 mfd	400 volts	9	.0012 mfd	400 volts	# 16745
	10	.3 mfd	150 volts				
RF Bypass #4	11	.1 mfd	400 volts	12	.00123 mfd	400 volts	# 17370
	13	.1 mfd	400 volts	14	.04 mfd	400 volts	
RF Bypass #5	15	.1 mfd	400 volts	16	.1 mfd	400 volts	# 15262
	17	.1 mfd	400 volts	18	.1 mfd	400 volts	

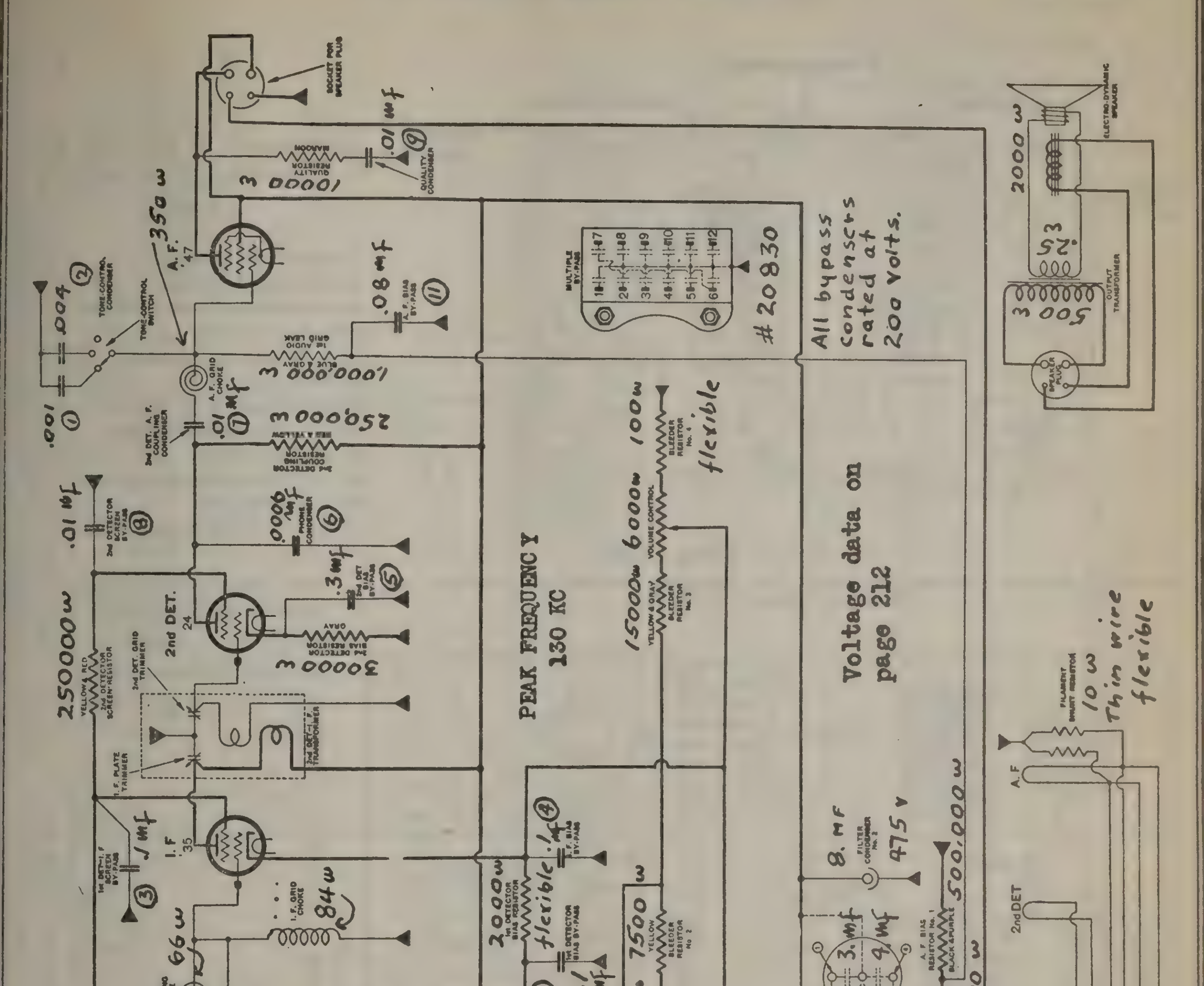

2nd I. F. TRANSFORMER
R. F. BY-PASS No. 5
17
16
18
15
2nd I. F. PLATE CHOKE
DIAL LIGHT RESISTOR (YELLOW COVERED)
1st I. F
OSC.
I. F. PLATE CHOKE
1st I. F. STOPPING CONDENSER
1st I. F. TRIMMER
OSCILLATOR TRANSFORMER
1st DETECTOR PLATE CHOKE
No. 4 R. F. T.
OSCILLATOR GRID LEAK
1st DETECTOR BIAS RESISTOR
WHITE
YELLOW
1st DET.
2nd I. F. CATHODE CHOKE
R. F. BY-PASS No. 4
11
12
13
14
2nd DET. GRID RESISTOR
GREEN
BLACK & RED
PURPLE
OSCILLATOR FILTER RESISTOR
2nd I. F. SCREEN RESISTOR
MAROON
MAROON
I. F. BIAS RESISTOR
2nd I. F.
No. 3 R. F. T.
BLEEDER RESISTOR No. 1
1st. A. F. GRID LEAK
BLEEDER RESISTOR No. 2
2nd DETECTOR COUPLING RESISTOR
2nd DET.
2nd DET. I. F. TRANSFORMER
WHITE
BLUE & RED
BLACK
ANTENNA CHOKE
2nd DETECTOR PLATE CHOKE
FIL. SHUNT RESISTOR
2nd DET. BIAS RESISTOR
No. 1 & 2 R. F. T.
R. F. BY-PASS No. 3
8
9
10
1A
ANTENNA TRIMMER
CROSS PIECE
PRIMARY
HIGH-VOLTAGE SECONDARY
POWER TRANSFORMER
FILTER CHOKE
R. F. BY-PASS No. 2
6
5
7
4
FUSE SOCKET
FUSE
FILTER CONDENSER
2nd A. F. BIAS RESISTOR No. 1
BLACK
WHITE
GRAY
WHITE
RECTIFIER
2nd A. F. BIAS RESISTOR No. 2
1st A. F. FILTER RESISTOR
2A
2nd DETECTOR FILTER RESISTOR
2nd A. F. INPUT TRANSFORMER
1st A. F. BIAS RESISTOR
2
3
1
SOCKET FOR SPEAKER PLUG
D1
D2
D3
M1
M2
2As
CROSS PIECE
R. F. BY-PASS No. 1

Bottom View of Type H-2 Chassis

In this chart, the 2nd-I. F. screen resistor should be maroon instead of purple.

MODEL 80, 80-F
83, 83-F

ATWATER KENT MFG. CO.

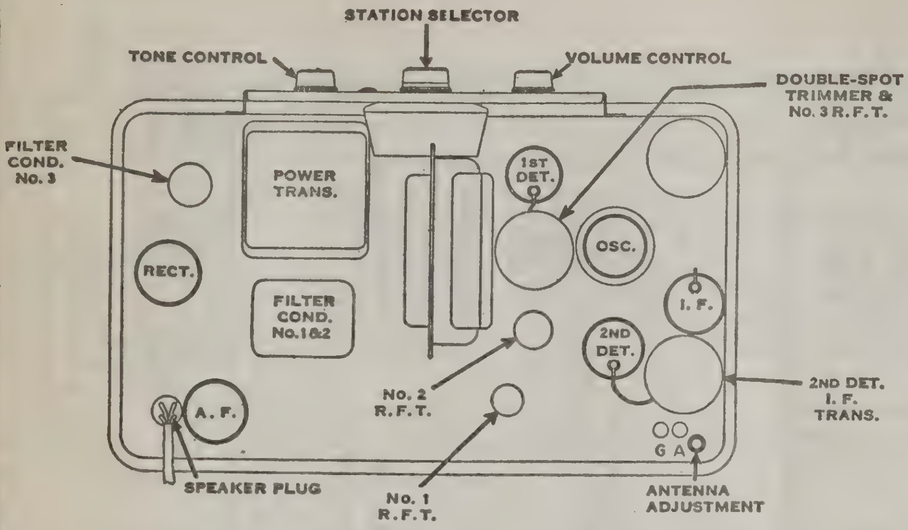

PEAK FREQUENCY
130 KC
Voltage data on
page 212
#20830
All bypass
condensers
rated at
200 volts.
1st DET. '35
I.F. '35
2nd DET. '24
A.F. '47
OSC. '27
RECTIFIER '80
SOCKET FOR SPEAKER PLUG
ELECTRO-DYNAMIC SPEAKER
OUTPUT TRANSFORMER
POWER TRANSFORMER
HIGH VOLTAGE SECONDARY
PRIMARY
ON-OFF SWITCH
FUSE
115-VOLT CABLE
MULTIPLE BY-PASS
FILTER CONDENSER No. 1
FILTER CONDENSER No. 2
VOLUME CONTROL
BLEEDER RESISTOR No. 1
BLEEDER RESISTOR No. 2
BLEEDER RESISTOR No. 3
BLEEDER RESISTOR No. 4
A.F. BIAS RESISTOR No. 1
A.F. BIAS RESISTOR No. 2
FILAMENT SHUNT RESISTOR
QUALITY RESISTOR
QUALITY CONDENSER
TONE-CONTROL CONDENSER
TONE-CONTROL SWITCH
A.F. GRID CHOKE
I.F. GRID CHOKE
I.F. STOPPING CHOKE
I.F. STOPPING CONDENSER
I.F. GRID TRIMMER
I.F. PLATE TRIMMER
2nd DET. GRID TRIMMER
2nd DET.-I.F. TRANSFORMER
1st DETECTOR PLATE FILTER CHOKE
1st DETECTOR PLATE FILTER CONDENSER
1st DETECTOR BIAS BY-PASS
1st DETECTOR BIAS RESISTOR
OSCILLATOR GRID CONDENSER
OSCILLATOR GRID LEAK
OSCILLATOR TRIMMER
TRACKING CONDENSER
DOUBLE-SPOT TRIMMER
ANTENNA TRIMMER
TRIMMER No. 1
DIAL LIGHT
SHORT BLACK
YELLOW
RED
WHITE
GREEN BUS COVERED
BLUE
PURPLE
GREEN
BLACK & PURPLE
YELLOW & RED
YELLOW & GRAY
BLUE & GRAY
10000 ω
.01 mf ⑨
35 ω
.004 ②
.001 ①
1,000,000 ω
.08 mf ⑪
.01 mf ⑦
250,000 ω
.01 mf ⑧
.0006 mf ⑥
.3 mf ⑤
250000 ω
30000 ω
.1 mf ③
84 ω
66 ω
.0002 mf 450 V.
350 ω
66 ω
.03 mf ⑩
2000 ω flexible
.1 mf ④
.1 mf ⑫
100,000 ω
.0002 mf 450 V
15000 ω
6000 ω
100 ω flexible
7500 ω
6000 ω
8. mf 475 v
3. mf
4. mf
500,000 ω
2,000,000 ω
8. mf 475 v
2000 ω
2.5 3
500 ω
10 ω Thin wire flexible
2nd DET
OSC
1st DET
I.F.
A.F.

In Model 83 and 83-F, a filter-condenser unit is used and it is connected as shown in dotted lines. This unit is NOT used in Model 80 and 80-F. In Model 83, 83-F, the electrolytic filter condenser No. 1 is not used, and the filament circuit is slightly different.

Voltage reference on page 1-56.

MODEL 80, 80-F
83, 83-F

ATWATER KENT MFG. CO.


STATION SELECTOR
TONE CONTROL
VOLUME CONTROL
DOUBLE-SPOT TRIMMER & No. 3 R.F.T.
FILTER COND. No. 3
POWER TRANS.
1ST DET.
OSC.
RECT.
FILTER COND. No.1&2
I. F.
2ND DET.
No. 2 R.F.T.
2ND DET. I. F. TRANS.
A. F.
G A
SPEAKER PLUG
No. 1 R.F.T.
ANTENNA ADJUSTMENT

TOP VIEW OF MODEL 83, 83-F.

The circle in the upper right-hand corner is the shield that covers the coupling unit between the 1st-detector and the I. F. tubes.

Condensers in Multiple By-pass Model 80, 80-F, 83, 83-F

1—Tone-control condenser.
2—Tone-control condenser.
3—1st-detector—I. F. screen by-pass.
4—I. F. bias by-pass.
5—2nd-detector bias by-pass.
6—Phone condenser.
7—2nd-detector—A. F. coupling condenser.
8—2nd-detector screen by-pass.
9—Quality condenser.
10—1st-detector plate filter condenser.
11—A. F. bias by-pass.
12—1st-detector bias by-pass.

The numbers given above correspond with the numbers marked upon the multiple condenser unit.

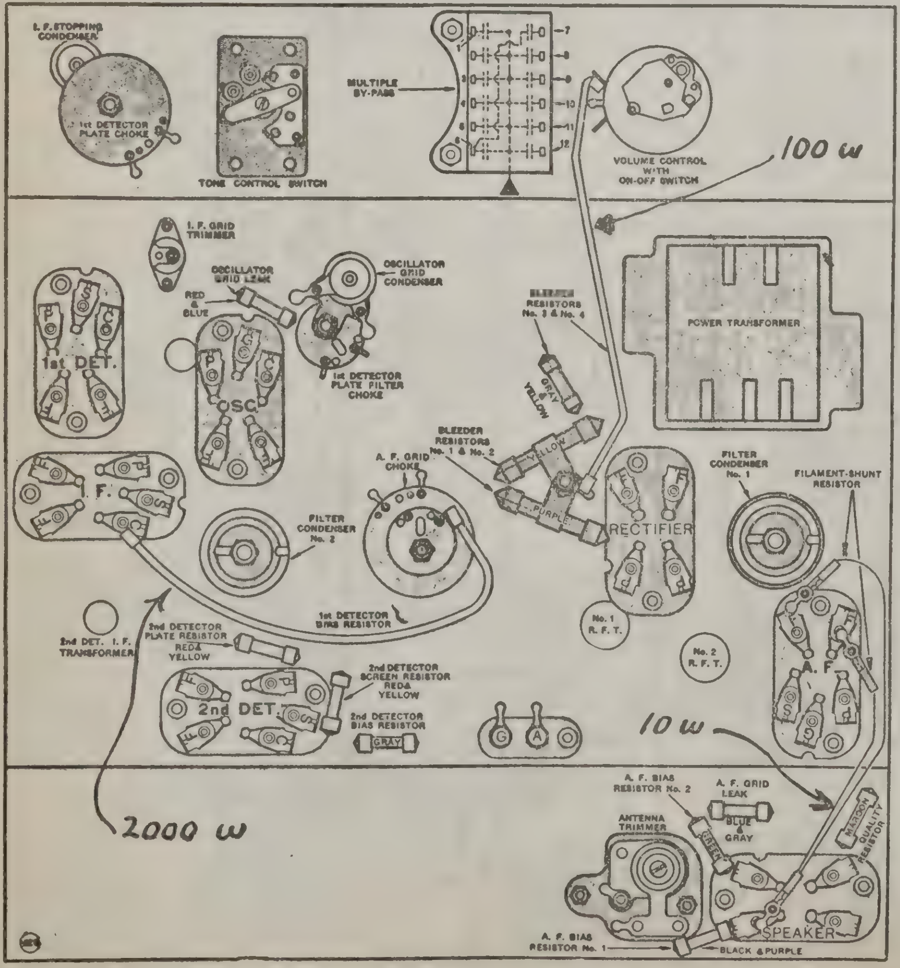

I. F. STOPPING CONDENSER
1st DETECTOR PLATE CHOKE
TONE CONTROL SWITCH
MULTIPLE BY-PASS
1
2
3
4
5
6
7
8
9
10
11
12
VOLUME CONTROL WITH ON-OFF SWITCH
100 w
I. F. GRID TRIMMER
OSCILLATOR GRID LEAK
RED & BLUE
OSCILLATOR GRID CONDENSER
BLEEDER RESISTORS No. 3 & No. 4
GRAY & YELLOW
1st DET.
OSC
1st DETECTOR PLATE FILTER CHOKE
POWER TRANSFORMER
BLEEDER RESISTORS No. 1 & No. 2
YELLOW
PURPLE
A. F. GRID CHOKE
I. F.
FILTER CONDENSER No. 2
RECTIFIER
FILTER CONDENSER No. 1
FILAMENT-SHUNT RESISTOR
1st DETECTOR BIAS RESISTOR
2nd DET. I. F. TRANSFORMER
2nd DETECTOR PLATE RESISTOR RED & YELLOW
No. 1 R. F. T.
No. 2 R. F. T.
A. F.
2nd DETECTOR SCREEN RESISTOR RED & YELLOW
2nd DET.
2nd DETECTOR BIAS RESISTOR
GRAY
G
A
10 w
A. F. BIAS RESISTOR No. 2
A. F. GRID LEAK
BLUE & GRAY
ANTENNA TRIMMER
GREEN
MAROON
QUALITY RESISTOR
2000 w
SPEAKER
A. F. BIAS RESISTOR No. 1
BLACK & PURPLE

CHART OF MODEL 80, 80-F.

The parts on Model 83, 83-F are similar except that Model 83, 83-F has a filter condenser unit and only one electrolytic condenser.

VOLTAGE TABLE

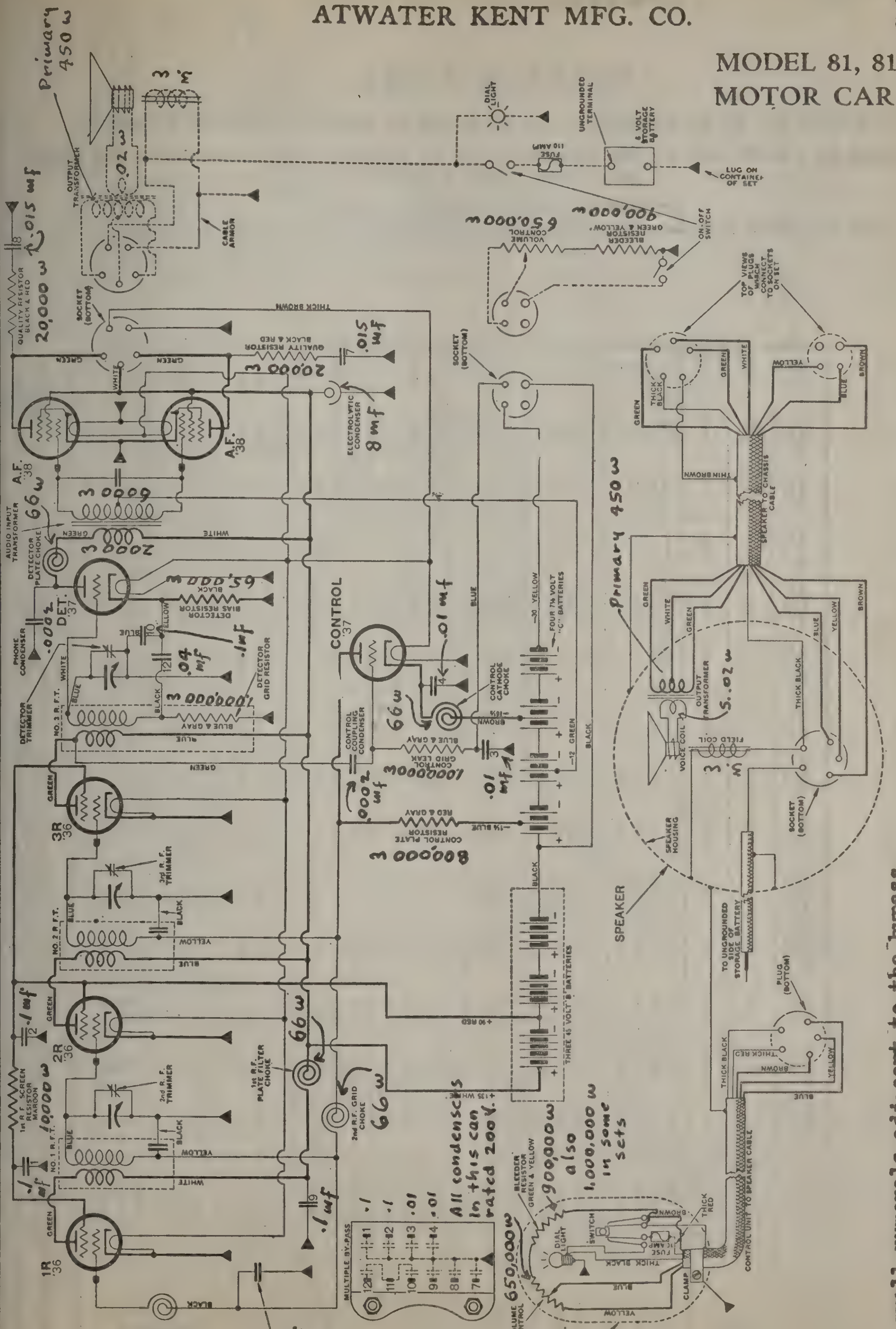
	.Fil.	Plate	Screen	Control
1st Det.	2.4	225	90	5.
I-F	2.4	230	95	2.
2nd Det	2.4	110	45	3.
1st A-F	2.4	230	240	4.
2nd A-F				
Osc	2.4	100		*

* A variable depending upon several factors. Capacity of voltmeter leads may cause oscillator tube to cease functioning.

MODEL 81
81-B
81-C

ATWATER KENT MFG. CO.

MODEL 81, 81-B, 81-C MOTOR CAR RADIO


Primary 450 w
OUTPUT TRANSFORMER
.02 w
3 M
CABLE ARMOR
DIAL LIGHT
FUSE 110 AMP
UNGROUNDED TERMINAL
6 VOLT STORAGE BATTERY
LUG ON CONTAINER OF SET
ON-OFF SWITCH
VOLUME CONTROL RESISTOR
650,000 w
BLEEDER RESISTOR GREEN & YELLOW
900,000 w
.015 mf
QUALITY RESISTOR BLACK & RED
20,000 w
SOCKET (BOTTOM)
THICK BROWN
GREEN
WHITE
ELECTROLYTIC CONDENSER
8 mf
A.F. '38
AUDIO INPUT TRANSFORMER
66 w
3000
DETECTOR PLATE CHOKE
2000
DET. '37
DETECTOR BIAS RESISTOR BLACK
65,000 w
PHONE CONDENSER
.0002
DETECTOR TRIMMER
NO. 3 R.F.T.
.04 mf
.1 mf
DETECTOR GRID RESISTOR BLUE & GRAY
1,000,000 w
CONTROL '37
.01 mf
CONTROL CATHODE CHOKE
CONTROL COUPLING CONDENSER
CONTROL GRID LEAK BLUE & GRAY
1000000 w
.0002 mf
CONTROL PLATE RESISTOR RED & GRAY
800,000 w
FOUR 7½ VOLT "C" BATTERIES
THREE 45 VOLT "B" BATTERIES
3R '36
3rd R.F. TRIMMER
NO. 2 R.F.T.
2R '36
2nd R.F. TRIMMER
1st R.F. SCREEN RESISTOR MAROON
10,000 w
1st R.F. PLATE FILTER CHOKE
2nd R.F. GRID CHOKE
NO. 1 R.F.T.
1R '36
ANTENNA TRANSFORMER
SHIELDED ANTENNA LEAD
1st R.F. GRID CIRCUIT BY-PASS
.01 mf 450 V
MULTIPLE BY-PASS
.04 .1 .1 .015 .015
.1 .1 .01 .01
All condensers in this can rated 200 V.
BLEEDER RESISTOR GREEN & YELLOW
900,000 w also 1,000,000 w in some sets
VOLUME CONTROL
650,000 w
CONTROL UNIT
DIAL LIGHT
SWITCH
FUSE 10 AMP
CLAMP
THICK BLACK
THICK RED
CONTROL UNIT TO SPEAKER CABLE
PLUG (BOTTOM)
SPEAKER
SPEAKER HOUSING
VOICE COIL
FIELD COIL
OUTPUT TRANSFORMER
.02 w
Primary 450 w
SOCKET (BOTTOM)
TO UNGROUNDED SIDE OF STORAGE BATTERY
SPEAKER TO CHASSIS CABLE
THIN BROWN
TOP VIEWS OF PLUGS WHICH CONNECT TO SOCKETS ON SET
YELLOW
BLUE
BROWN

Voltage data on page 212

The small numerals adjacent to the bypass condensers correspond with the numerals marked upon the multiple bypass condenser unit.

ATWATER KENT MFG. CO.

VOLTAGE TABLE

FOR MODEL 80, 81, 82, 82-D, 82-Q, 83, 84, 84-D, 84-Q, 85, 85-Q, 86, 87 and 89

The voltages listed in this table are only approximate, and are measured values, not actual operating values. Turn volume control to maximum.

Use 250-volt scale of a 1000-ohm-per-volt D. C. voltmeter.

All plate, screen and grid measurements are made from cathode in heater-type tube, and from —F in plain-filament-type tube.

When replacing a tubular resistor, use a resistor of the same identifying color. In a few cases, owing to engineering changes, the color of a resistor in a chassis may not agree with the color specified in the diagram. In such a case, disregard the diagram and use a replacement resistor having the same color as the defective unit. However, if a resistor has been removed, or its identification destroyed, replace it with a resistor having the color that is specified in the diagram for that set.

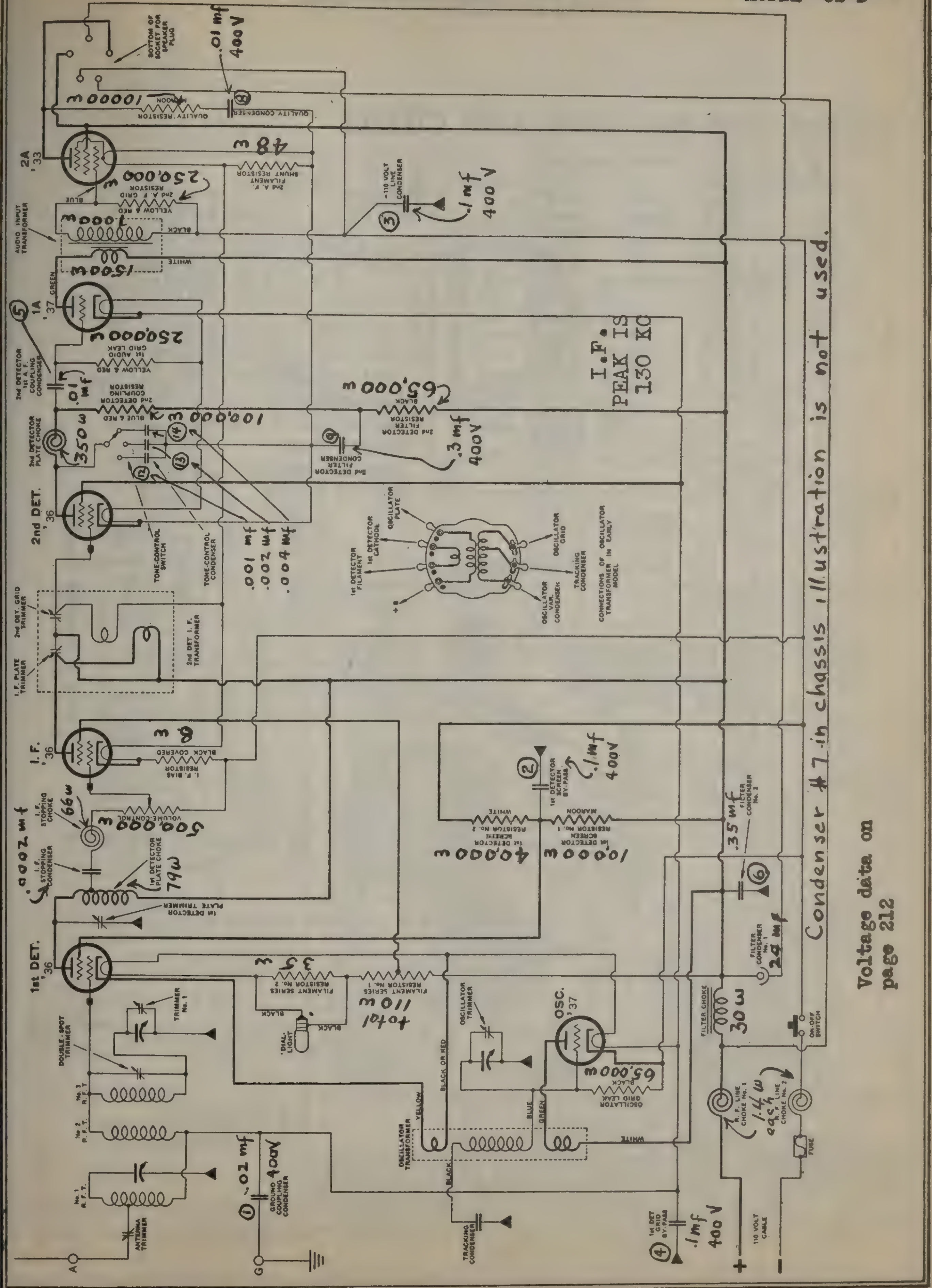
		MODEL 80	MODEL 81	MODEL 82	MODEL 82-D	MODEL 82 Q	MODEL 83	MODEL 84	MODEL 84 D	MODEL 84 Q	MODEL 85	MODEL 85-Q	MODEL 86	MODEL 87	MODEL 89
	LINE VOLTAGE	110	—	110	112	—	110	110	120	—	110	—	115	110	110
	TOTAL "B" VOLTAGE	—	125	—	—	125	—	—	—	125	—	125	—	—	—
R. F. TUBE**	FILAMENT	—	5.5	—	—	2	—	—	—	2	—	—	2.4	2.4	2.4
	PLATE	—	125	—	—	125	—	—	—	125	—	—	125	170	125
	SCREEN	—	75	—	—	60	—	—	—	65	—	—	40	80	50
	GRID	—	SMALL	—	—	3	—	—	—	3	—	—	2	2	2
1ST DET. TUBE†	FILAMENT	2.4	5.5	2.4	5.5	2	2.4	2.4	5.7	2	2.4	2	2.4	2.4	2.4
	PLATE	225	95	135	70	125	225	205	80	125	135	125	125	160	120
	SCREEN	90	—	50	50	40	90	65	50	25	50	40	35	70	45
	GRID	5	7	4	5	3	5	6	5	3	3	3	4	11	4
I. F. TUBE	FILAMENT	2.4	—	2.4	6	2	2.4	2.4	6.5	2	2.4	2	2.4	2.4	2.4
	PLATE	230	—	140	95	125	230	215	105	125	135	125	125	170	125
	SCREEN	95	—	50	50	60	95	65	55	65	50	65	40	80	50
	GRID	2	—	SMALL	SMALL	3	2	3	SMALL	SMALL	2	3	2	2	2
2ND DET. TUBE	FILAMENT	2.4	—	2.4	5.5	2	2.4	2.4	5	2	2.4	2	2.4	2.4	2.4
	PLATE	110	—	105	55	45	110	90	55	60	100	40	95	90	120
	SCREEN	45	—	65	10	25	45	45	10	25	65	25	60	—	—
	GRID	5	—	8	2	3	5	6	1	3	7	3	8	SMALL	15
1ST A. F. TUBE	FILAMENT	2.4	5.5	2.4	5.5	2	2.4	2.4	6	2	2.4	2	2.4	2.4	2.4
	PLATE	230	120	230	75	55	230	205	80	55	215	55	210	90	120
	SCREEN	240	123	240	—	—	240	215	—	—	225	—	220	—	—
	GRID	4	11	5	3	3	4	5	2.5	3	5	3	5	3	4
2ND A. F. TUBE	FILAMENT	—	—	—	2	2	—	—	2	2	—	2	—	2.4	2.4
	PLATE	—	—	—	85	120	—	—	90	120	—	120	—	200	225
	SCREEN	—	—	—	90	125	—	—	95	125	—	125	—	210	235
	GRID	—	—	—	7	15	—	—	7	5	—	15	—	14	14
OSC. TUBE	FILAMENT	2.4	—	2.4	5	2	2.4	2.4	6	2	2.4	2	2.4	2.4	2.4
	PLATE	95	—	95	100	60	100	70	110	60	100	40	95	85	100
	GRID	*	—	*	*	*	*	*	*	*	*	*	*	*	*
CONTROL TUBE	FILAMENT	—	5.5	2.4	—	—	—	—	—	—	2.4	—	2.4	—	2.4
	PLATE	—	3	15	—	—	—	—	—	—	15	—	30	—	25
	SCREEN	—	—	8	—	—	—	—	—	—	7	—	7	—	5
	GRID	—	2	4	—	—	—	—	—	—	5	—	4	—	3

* The measured oscillator grid voltage will vary dependent on the capacity of the voltmeter leads. In some cases, the presence of the leads will stop oscillation and no reading will be secured for grid bias. In other cases, the reading will be only slight, or it may be as high as 10 volts.

**This includes the 1st, 2nd and 3rd R. F. tubes in Model 81.   †This is the detector tube in Model 81.

ATWATER KENT MFG. CO.

MODEL 82-D


BOTTOM OF SOCKET FOR SPEAKER PLUG
.01 mf 400V
⑧
QUALITY CONDENSER
10000 ω
MAROON
QUALITY RESISTOR
2A '33
48 ω
2nd A. F. FILAMENT SHUNT RESISTOR
250,000 ω
2nd A. F. GRID RESISTOR
YELLOW & RED
BLUE
BLACK
WHITE
1000 ω
1500 ω
AUDIO INPUT TRANSFORMER
-110 VOLT LINE CONDENSER
③
.1 mf 400 V
1A '37
GREEN
⑤
250,000 ω
1st AUDIO GRID LEAK
2nd DETECTOR 1st A. F. COUPLING CONDENSER
.01 mf
2nd DETECTOR COUPLING RESISTOR
BLUE & RED
100,000 ω
2nd DETECTOR PLATE CHOKE
350 ω
65,000 ω
BLACK
2nd DETECTOR FILTER RESISTOR
⑨
2nd DETECTOR FILTER CONDENSER
.3 mf 400V
⑫
⑬
⑭
.001 mf
.002 mf
.004 mf
2nd DET. '36
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
OSCILLATOR PLATE
1st DETECTOR CATHODE
1st DETECTOR FILAMENT
+B
OSCILLATOR GRID
TRACKING CONDENSER
OSCILLATOR VAR. CONDENSER
CONNECTIONS OF OSCILLATOR TRANSFORMER IN EARLY MODEL
2nd DET. GRID TRIMMER
I. F. PLATE TRIMMER
2nd DET I. F. TRANSFORMER
I. F. '36
8 ω
BLACK COVERED
I. F. BIAS RESISTOR
I. F. STOPPING CHOKE
66 ω
VOLUME-CONTROL
500,000 ω
②
1st DETECTOR SCREEN BY-PASS
.1 mf 400V
WHITE
MAROON
1st DETECTOR SCREEN RESISTOR No. 2
1st DETECTOR SCREEN RESISTOR No. 1
40,000 ω
10,000 ω
.0002 mf
I. F. STOPPING CONDENSER
1st DETECTOR PLATE CHOKE
79 ω
1st DETECTOR PLATE TRIMMER
.35 mf
FILTER CONDENSER No. 2
⑥
1st DET. '36
3.5 ω
FILAMENT SERIES RESISTOR No. 2
FILAMENT SERIES RESISTOR No. 1
total 110 ω
BLACK
DIAL LIGHT
FILTER CONDENSER No. 1
24 mf
FILTER CHOKE
30 ω
TRIMMER No. 1
DOUBLE-SPOT TRIMMER
OSCILLATOR TRIMMER
BLACK OR RED
OSC. '37
65,000 ω
BLACK
OSCILLATOR GRID LEAK
ON-OFF SWITCH
No. 3 R. F. T.
No. 2 R. F. T.
OSCILLATOR TRANSFORMER
YELLOW
BLUE
GREEN
WHITE
R. F. LINE CHOKE No. 1
R. F. LINE CHOKE No. 2
1.4 ω each
FUSE
No. 1 R. F. T.
ANTENNA TRIMMER
①
.02 mf 400V
GROUND COUPLING CONDENSER
BLACK
TRACKING CONDENSER
④
1st DET GRID BY-PASS
.1 mf 400 V
110 VOLT CABLE
A
G
+
-

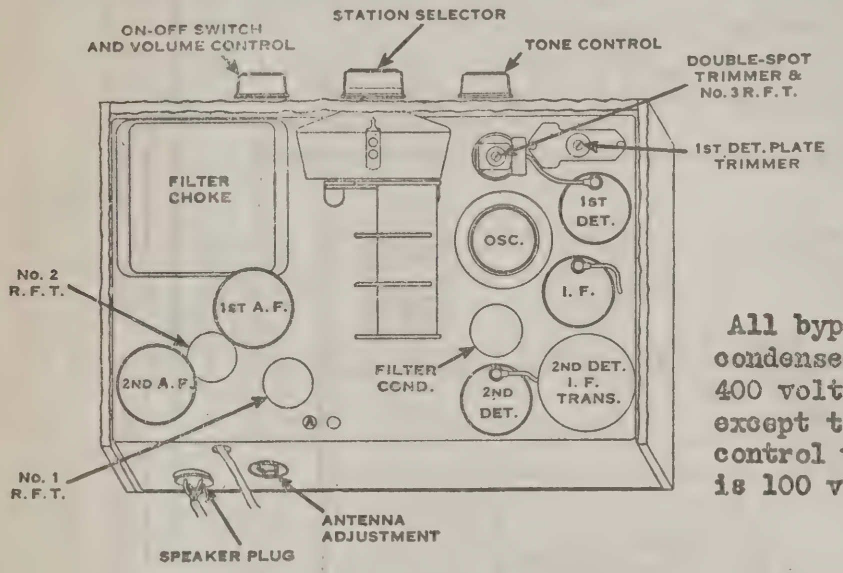
I.F. PEAK IS 130 KC

Condenser #7 in chassis illustration is not used.

Voltage data on page 212

Voltage reference on page 1-56.

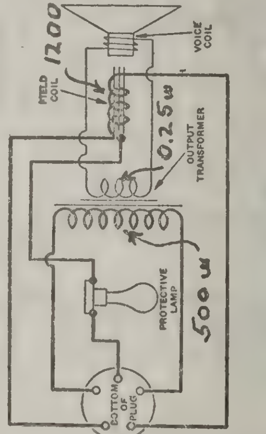
MODEL 82-D TOP VIEW AND CHART


ON-OFF SWITCH AND VOLUME CONTROL
STATION SELECTOR
TONE CONTROL
DOUBLE-SPOT TRIMMER & No. 3 R. F. T.
1ST DET. PLATE TRIMMER
FILTER CHOKE
1ST DET.
OSC.
I. F.
No. 2 R. F. T.
1ST A. F.
2ND A. F.
FILTER COND.
2ND DET.
2ND DET. I. F. TRANS.
No. 1 R. F. T.
A
ANTENNA ADJUSTMENT
SPEAKER PLUG

Top View of Model 82-D.

All bypass condensers 400 volts except tone control which is 100 volts

The protective lamp (75 watts) is connected in series with the electrolytic filter condenser in the chassis. If the 110-volt D. C. supply plug is reversed, the lamp will light. When the 110-volt plug is properly inserted, the lamp does not light. This action is due to the fact that the electrolytic condenser passes current if the polarity of the applied D. C. voltage is not correct.


1200 ω
VOICE COIL
FIELD COIL
0.25 ω
OUTPUT TRANSFORMER
500 ω
PROTECTIVE LAMP
BOTTOM OF PLUG

Circuit of Speaker Used in Model 82-D, 84-D.

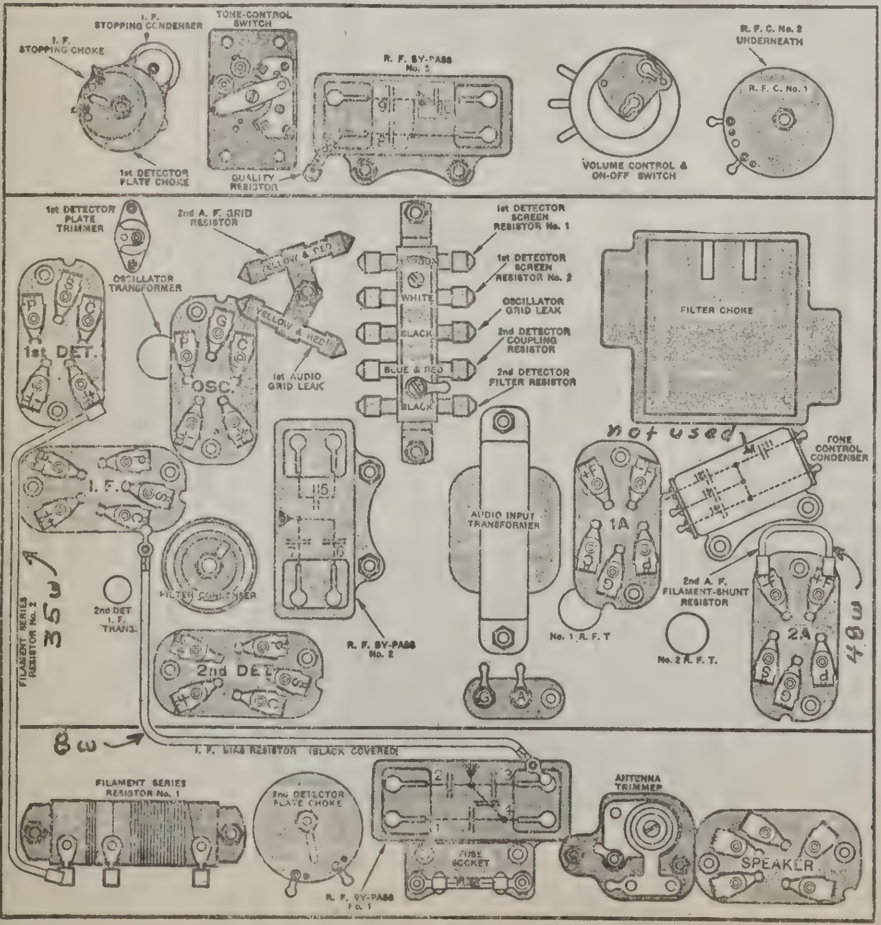

I. F. STOPPING CONDENSER
I. F. STOPPING CHOKE
1st DETECTOR PLATE CHOKE
TONE-CONTROL SWITCH
QUALITY RESISTOR
R. F. BY-PASS No. 3
9
10
VOLUME CONTROL & ON-OFF SWITCH
R. F. C. No. 2 UNDERNEATH
R. F. C. No. 1
1st DETECTOR PLATE TRIMMER
OSCILLATOR TRANSFORMER
1st DET.
P
S
C
2nd A. F. GRID RESISTOR
YELLOW & RED
YELLOW & RED
1st AUDIO GRID LEAK
OSC.
G
1st DETECTOR SCREEN RESISTOR No. 1
1st DETECTOR SCREEN RESISTOR No. 2
OSCILLATOR GRID LEAK
2nd DETECTOR COUPLING RESISTOR
2nd DETECTOR FILTER RESISTOR
WHITE
BLACK
BLUE & RED
BLACK
FILTER CHOKE
not used
TONE CONTROL CONDENSER
11
12
13
14
I. F.
5
6
7
AUDIO INPUT TRANSFORMER
1A
+F
-F
G
P
FILAMENT SERIES RESISTOR No. 2
35 ω
2nd DET I. F. TRANS.
FILTER CONDENSER
2nd DET.
R. F. BY-PASS No. 2
No. 1 R. F. T
G
A
2nd A. F. FILAMENT-SHUNT RESISTOR
No. 2 R. F. T.
2A
48 ω
8 ω
I. F. BIAS RESISTOR (BLACK COVERED)
FILAMENT SERIES RESISTOR No. 1
2nd DETECTOR PLATE CHOKE
R. F. BY-PASS No. 1
1
2
3
4
FUSE SOCKET
ANTENNA TRIMMER
SPEAKER

Chart of Model 82-D.

By-pass Condensers in Model 82-D

R. F. By-pass No. 1

1—Ground coupling condenser.
2—1st-detector screen by-pass.
3—110-volt line condenser.
4—1st-detector grid by-pass.

R. F. By-pass No. 2

5—2nd-detector—1st-A.F. coupling condenser
6—Filter condenser No. 2.
7—Not used.

R. F. By-pass No. 3

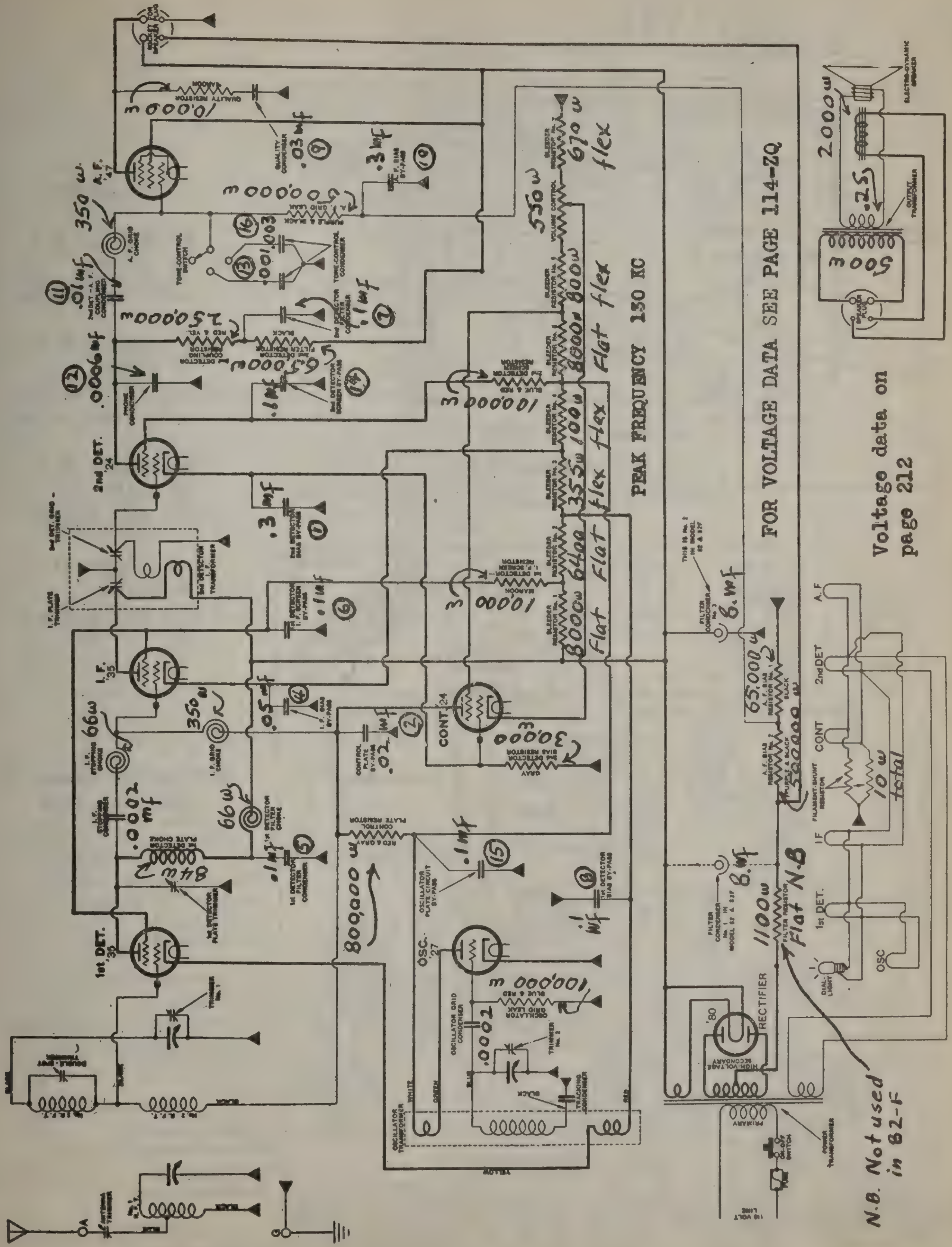
8—Quality condenser.
9—2nd-detector filter condenser.
10—110-volt line by-pass.

Tone-control Condenser

11—Not used.
12—Tone condenser.
13—Tone condenser.
14—Tone condenser.

MODEL 82, 82-F

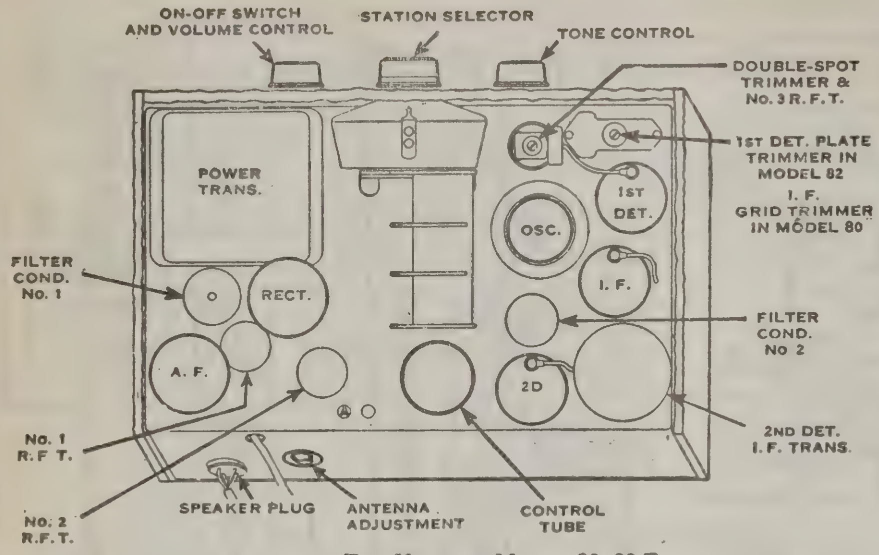
ATWATER KENT MFG. CO.


A.F. '47
2nd DET. '24
I.F. '35
1st DET. '35
CONT. '24
OSC. '27
RECTIFIER '80
QUALITY RESISTOR
QUALITY CONDENSER
10,000 ω
.03 mf ⑨
.3 mf ⑩
6,000,000 ω
A.F. GRID LEAK
350 ω
A.F. GRID CHOKE
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
.001 ⑬
.003 ⑯
.01 mf ⑪
DET.-A.F. COUPLING CONDENSER
250,000 ω
2nd DETECTOR COUPLING RESISTOR
.1 mf ⑦
65,000 ω ⑭
2nd DETECTOR FILTER RESISTOR
.0006 mf ⑫
PHONE CONDENSER
.1 mf
100,000 ω
.3 mf ⑦
2nd DET. GRID TRIMMER
I.F. PLATE TRIMMER
2nd DETECTOR TRANSFORMER
10,000 ω
.1 mf ⑥
66 ω
I.F. PLATE CHOKE
350 ω
I.F. GRID CHOKE
.05 mf ④
.0002 mf
66 ω
1st DETECTOR PLATE CHOKE
84 ω
.1 mf ⑤
.02 mf ②
30,000 ω
2nd DETECTOR BIAS RESISTOR
CONTROL PLATE RESISTOR
800,000 ω
.1 mf ⑮
1 mf ⑧
100,000 ω
OSCILLATOR GRID LEAK
.0002
OSCILLATOR GRID CONDENSER
TRIMMER No. 2
TRACKING CONDENSER
OSCILLATOR TRANSFORMER
TRIMMER No. 1
BLEEDER RESISTOR
VOLUME CONTROL
670 ω flex
550 ω
800 ω flat
800 ω flex
1040 flex
355 ω flex
6400 flat
8000 ω flat
PEAK FREQUENCY 130 KC
FOR VOLTAGE DATA SEE PAGE 114-ZQ
FILTER CONDENSER
6. mf
65,000 ω
A.F. BIAS RESISTOR
500,000 ω
FILAMENT-SHUNT RESISTOR
10 ω total
8. mf
1100 ω
FILTER RESISTOR
Flat N.B.
N.B. Not used in 82-F
HIGH-VOLTAGE SECONDARY
PRIMARY
POWER TRANSFORMER
ON-OFF SWITCH
110 VOLT LINE
DIAL LIGHT
A.F.
2nd DET
CONT
IF
1st DET.
OSC
ELECTRO-DYNAMIC SPEAKER
2000 ω
.25
OUTPUT TRANSFORMER
500 ω
SPEAKER PLUG
Voltage data on page 212
ANTENNA TRIMMER
A
G

Numerals adjacent to bypass condensers designate units shown upon parts layout on next page within multiple condensers. Condenser voltage ratings are shown upon next page.

MODEL 82, 82-F

ATWATER KENT MFG. CO.


ON-OFF SWITCH AND VOLUME CONTROL
STATION SELECTOR
TONE CONTROL
DOUBLE-SPOT TRIMMER & No. 3 R. F. T.
1ST DET. PLATE TRIMMER IN MODEL 82
I. F. GRID TRIMMER IN MODEL 80
POWER TRANS.
1ST DET.
OSC.
I. F.
FILTER COND. No. 1
RECT.
FILTER COND. No 2
A. F.
2D
2ND DET. I. F. TRANS.
No. 1 R. F T.
No. 2 R.F.T.
SPEAKER PLUG
ANTENNA ADJUSTMENT
CONTROL TUBE

Top View of Model 82, 82-F.

The top view of Model 80, 80-F is similar except that it has no control tube and the position of No.1 and No. 2 R. F. T. is interchanged.

CONDENSERS

RF Bypass # 1
21180
All 400 Volts

RF Bypass # 2
15262
5-6 150 volts
7-8 400 volts

RF Bypass # 3
21170
All 400 volts

Tone Control
20010
All 100 volts

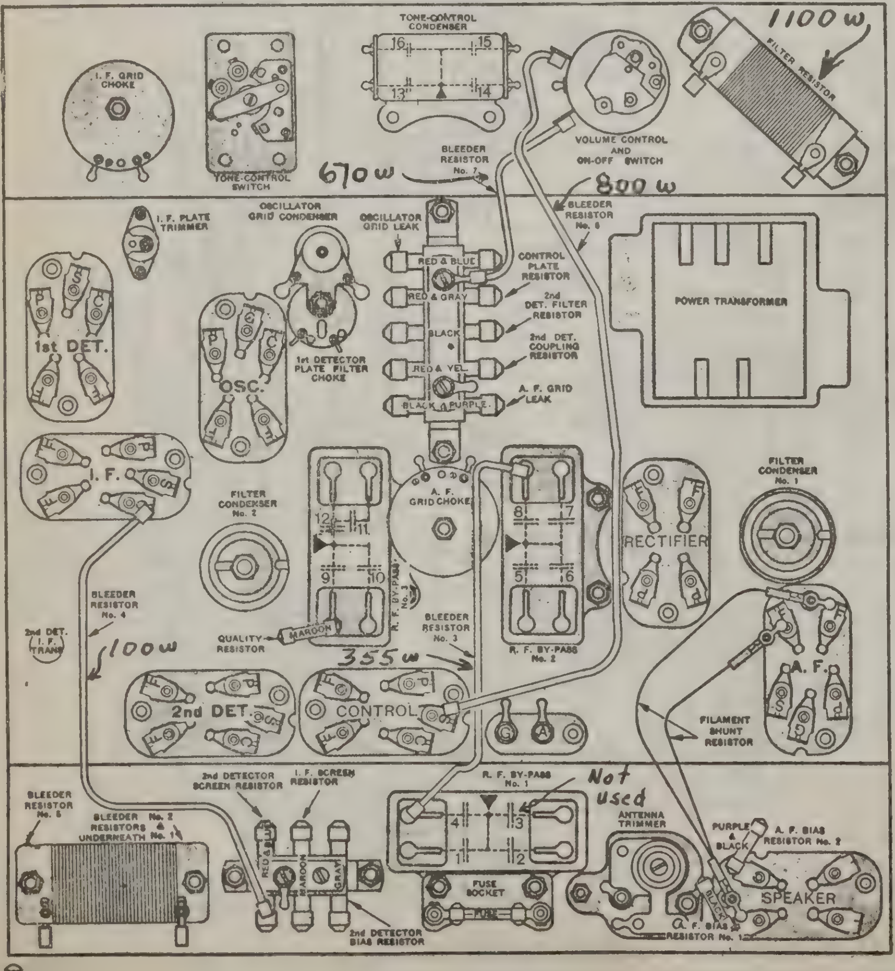

1100 w
FILTER RESISTOR
I. F. GRID CHOKE
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
16
15
13
14
VOLUME CONTROL AND ON-OFF SWITCH
670 w
BLEEDER RESISTOR No. 7
800 w
BLEEDER RESISTOR No. 6
I. F. PLATE TRIMMER
OSCILLATOR GRID CONDENSER
OSCILLATOR GRID LEAK
RED & BLUE
RED & GRAY
BLACK
RED & YEL.
BLACK PURPLE.
CONTROL PLATE RESISTOR
2nd DET. FILTER RESISTOR
2nd DET. COUPLING RESISTOR
A. F. GRID LEAK
POWER TRANSFORMER
1st DET.
OSC.
1st DETECTOR PLATE FILTER CHOKE
I. F.
FILTER CONDENSER No. 2
12
11
9
10
R. F. BY-PASS No. 3
A. F. GRID CHOKE
8
7
5
6
R. F. BY-PASS No. 2
RECTIFIER
FILTER CONDENSER No. 1
BLEEDER RESISTOR No. 4
2nd DET. I. F. TRANS
100 w
QUALITY RESISTOR
MAROON
BLEEDER RESISTOR No. 3
355 w
2nd DET.
CONTROL
G
A
A. F.
FILAMENT SHUNT RESISTOR
BLEEDER RESISTOR No. 5
BLEEDER RESISTORS No. 2 & No. 1 UNDERNEATH
2nd DETECTOR SCREEN RESISTOR
I. F. SCREEN RESISTOR
RED & BLUE
MAROON
GRAY
2nd DETECTOR BIAS RESISTOR
R. F. BY-PASS No. 1
Not used
4
3
1
2
FUSE SOCKET
FUSE
ANTENNA TRIMMER
PURPLE & BLACK
A. F. BIAS RESISTOR No. 2
BLACK
A. F. BIAS RESISTOR No. 1
SPEAKER

Chart of Model 82, 82-F.

The filter resistor is not used in Model 82-F.

By-pass Condensers in Model 82, 82-F

R. F. By-pass No. 1

1—2nd-detector bias by-pass.
2—Control plate by-pass.
3—Not used.
4—I. F. bias by-pass.

R. F. By-pass No. 2

5—1st-detector filter condenser.
6—1st-detector—I. F. screen by-pass.
7—2nd-detector filter condenser.
8—1st-detector bias by-pass.

R. F. By-pass No. 3

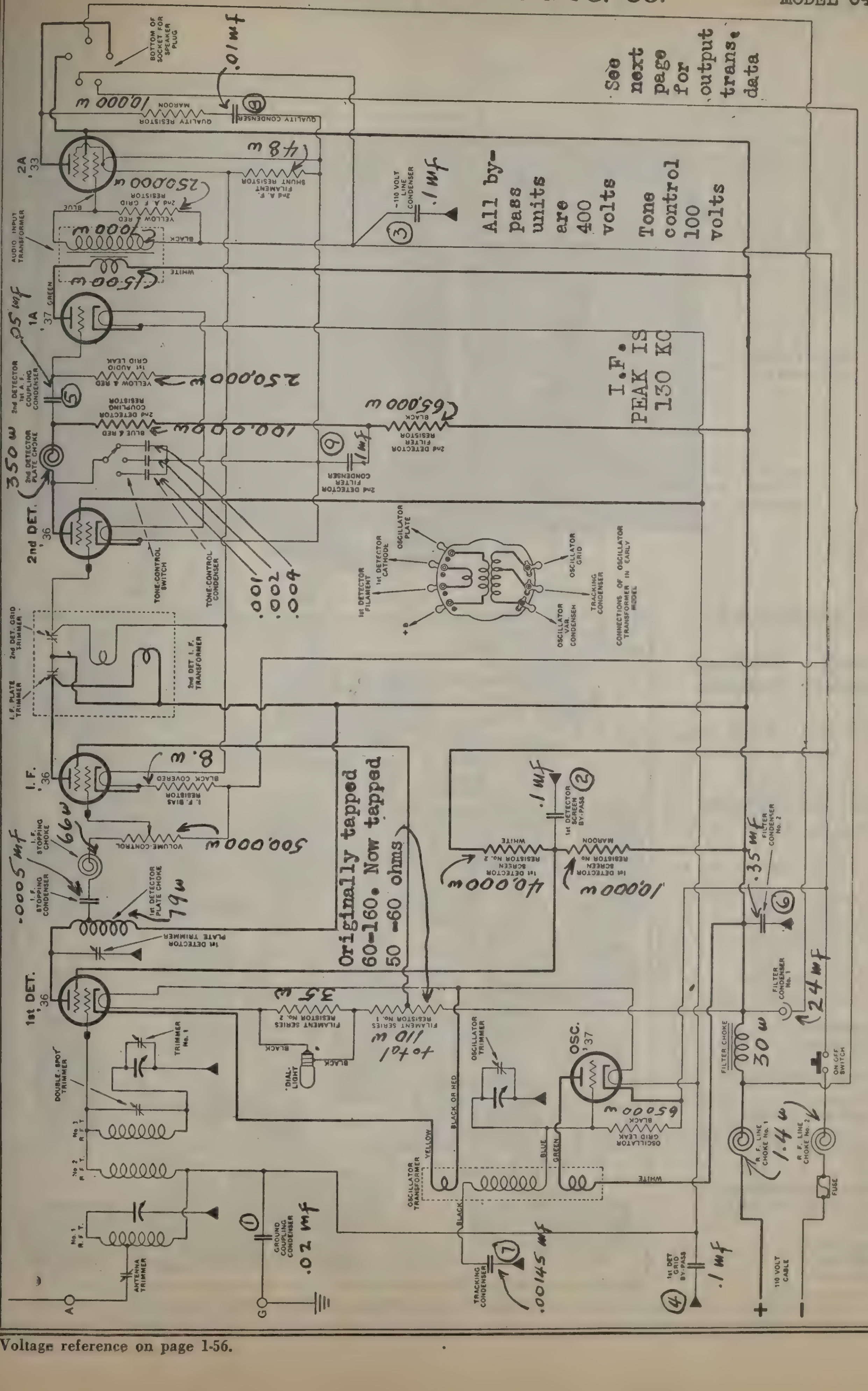
9—Quality condenser.
10—A. F. bias by-pass.
11—2nd-detector—A. F. coupling condenser.
12—Phone condenser.

Tone-control Condenser

13—Tone condenser.
14—2nd-detector screen by-pass.
15—Oscillator plate-circuit by-pass.
16—Tone condenser.

ATWATER KENT MFG. CO.

MODEL 84-D


BOTTOM OF SOCKET FOR SPEAKER PLUG
.01 mf
QUALITY CONDENSER
QUALITY RESISTOR
MAROON
10,000 w
2A '33
48 w
2nd A. F. FILAMENT SHUNT RESISTOR
250000 w
2nd A. F. GRID RESISTOR
YELLOW & RED
BLUE
AUDIO INPUT TRANSFORMER
1000 w
BLACK
WHITE
1500 w
GREEN
1A '37
.05 mf
2nd DETECTOR 1st A. F. COUPLING CONDENSER
1st AUDIO GRID LEAK
YELLOW & RED
250,000 w
2nd DETECTOR COUPLING RESISTOR
BLUE & RED
100,000 w
350 w
2nd DETECTOR PLATE CHOKE
2nd DET. '36
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
.001
.002
.004
2nd DETECTOR FILTER CONDENSER
.1 mf
2nd DETECTOR FILTER RESISTOR
BLACK
65,000 w
-110 VOLT LINE CONDENSER
.1 mf
2nd DET. GRID TRIMMER
I. F. PLATE TRIMMER
2nd DET I. F. TRANSFORMER
OSCILLATOR PLATE
1st DETECTOR CATHODE
1st DETECTOR FILAMENT
OSCILLATOR GRID
TRACKING CONDENSER
OSCILLATOR VIA CONDENSER
CONNECTIONS OF OSCILLATOR TRANSFORMER IN EARLY MODEL
I.F. '36
8. w
BLACK COVERED
I. F. BIAS RESISTOR
VOLUME-CONTROL
500,000 w
I. F. STOPPING CHOKE
66 w
I. F. STOPPING CONDENSER
-.0005 mf
1st DETECTOR PLATE CHOKE
79 w
1st DETECTOR PLATE TRIMMER
.1 mf
1st DETECTOR SCREEN BY-PASS
1st DETECTOR SCREEN RESISTOR No. 2
WHITE
40,000 w
1st DETECTOR SCREEN RESISTOR No
MAROON
10,000 w
.35 mf
FILTER CONDENSER No. 2
1st DET. '36
35 w
FILAMENT SERIES RESISTOR No. 2
FILAMENT SERIES RESISTOR No. 1
110 w
107 to
BLACK
DIAL LIGHT
FILTER CONDENSER No. 1
24 mf
FILTER CHOKE
30 w
ON OFF SWITCH
TRIMMER No. 1
DOUBLE-SPOT TRIMMER
No. 3 R. F. T.
No. 2 R. F. T.
No. 1 R. F. T.
ANTENNA TRIMMER
OSCILLATOR TRIMMER
OSC. '37
OSCILLATOR GRID LEAK
BLACK
65000 w
YELLOW
BLACK OR RED
BLUE
GREEN
WHITE
OSCILLATOR TRANSFORMER
BLACK
R. F. LINE CHOKE No. 1
R. F. LINE CHOKE No. 2
1.4 w
FUSE
GROUND COUPLING CONDENSER
.02 mf
TRACKING CONDENSER
.00145 mf
1st DET GRID BY-PASS
.1 mf
110 VOLT CABLE
A
G
+
-
①
②
③
④
⑤
⑥
⑦
⑧
⑨

See next page for output trans. data

All by-pass units are 400 volts

Tone control 100 volts

I.F. PEAK IS 130 KC

Originally tapped 60-160. Now tapped 50 -60 ohms

Early Model 84-D does not have tone control; it has a condenser, instead of a resistor, across the secondary of the audio input transformer; it has a small phone condenser (500 mmf.) connected to the plate of the ~~2nd detector~~, and it has an antenna choke connected between the antenna and ground posts.

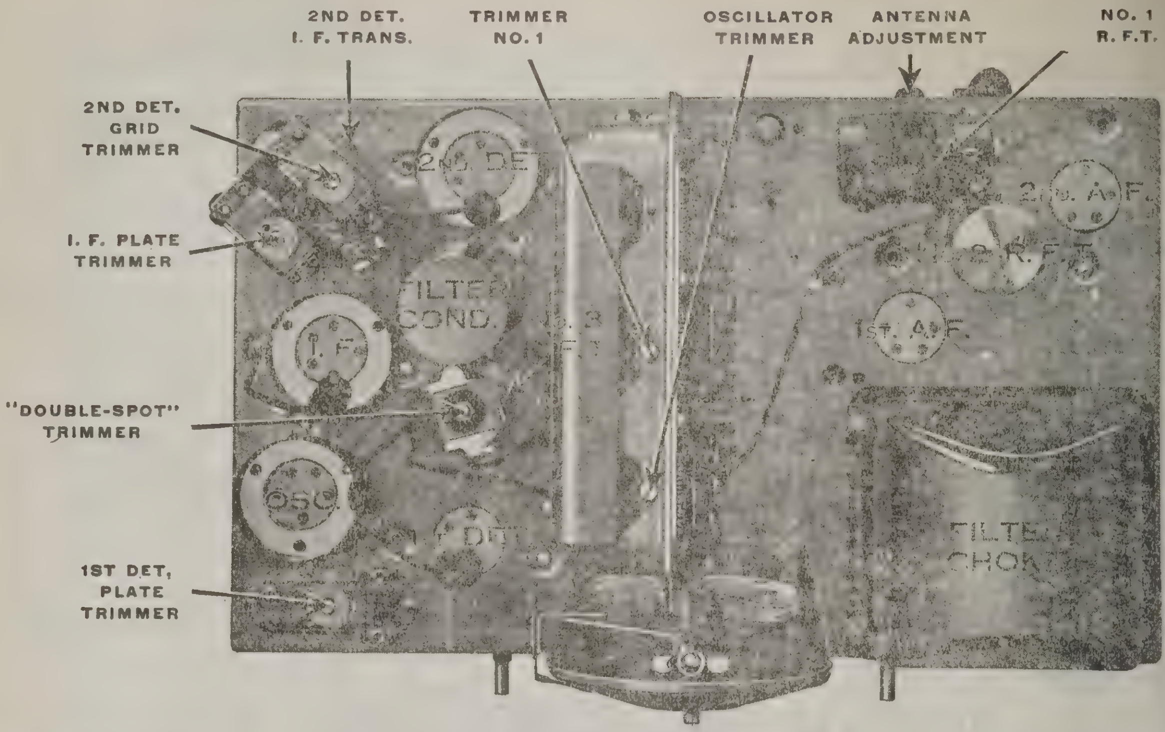
Voltage data on page 212

Antenna choke 130 w   2nd A-F grid condenser #10 is .0025 mf

Voltage reference on page 1-56.

MODEL 84-D

ATWATER KENT MFG. CO.


2ND DET.
I. F. TRANS.
TRIMMER
NO. 1
OSCILLATOR
TRIMMER
ANTENNA
ADJUSTMENT
NO. 1
R. F. T.
2ND DET.
GRID
TRIMMER
I. F. PLATE
TRIMMER
"DOUBLE-SPOT"
TRIMMER
1ST DET.
PLATE
TRIMMER
2ND. DET
FILTER
COND.
I. F.
OSC.
1ST. DET.
No. 3
R.F.T.
2ND. A.F.
2ND R.F.T.
1ST. A.F.
FILTER
CHOKE

Top View of Model 84-D.

OUTPUT TRANSFORMER

Primary 500 ohms
Secondary 0.25 ohm

Field coil 1200 ohms

By-pass Condensers in Model 84-D

Condensers in R. F. By-pass No. 1

1—Ground coupling condenser.
2—1st-detector screen by-pass.
3—110-volt line condenser.
4—1st-detector grid by-pass.

R. F. By-pass No. 2

5—2nd-detector—1st-A. F. coupling condenser.
6—Filter condenser No. 2.
7—Tracking condenser.

R. F. By-pass No. 3

8—Quality condenser.
9—2nd-detector filter condenser.
10—2nd-A. F. grid condenser in early-type sets, 2nd-detector phone condenser in later-type sets.

Tone-control Condenser
(Late-type sets only)

11—Not used.
12—Tone condenser.
13—Tone condenser.
14—Tone condenser.

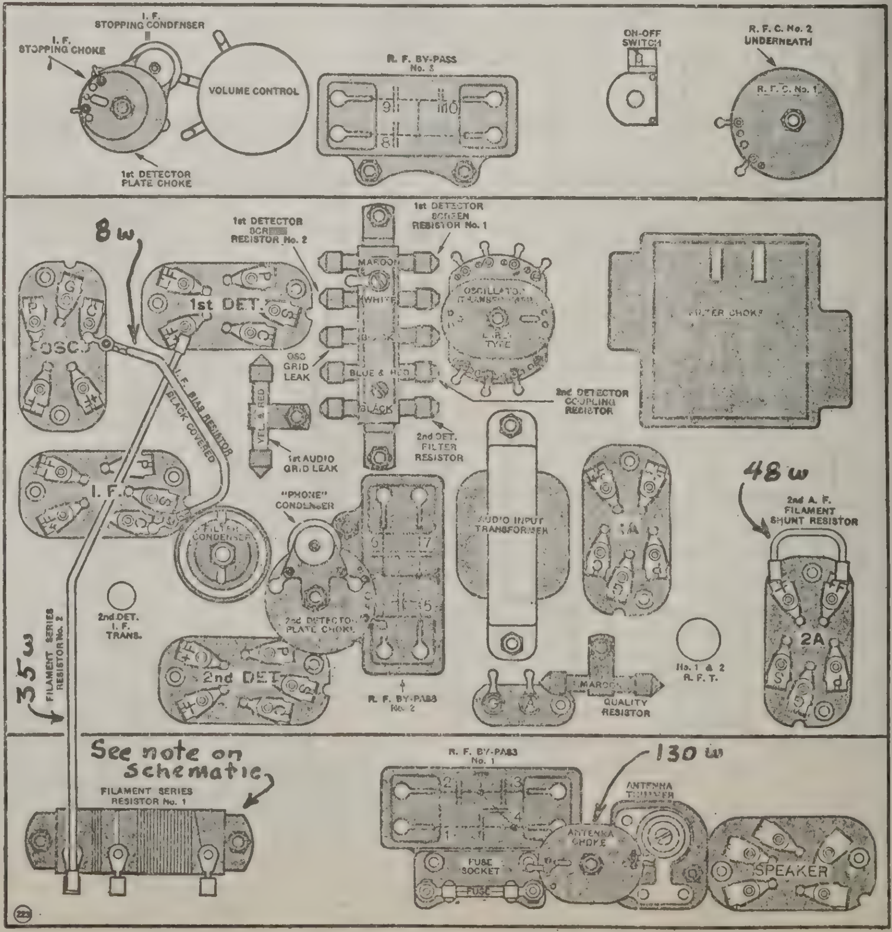
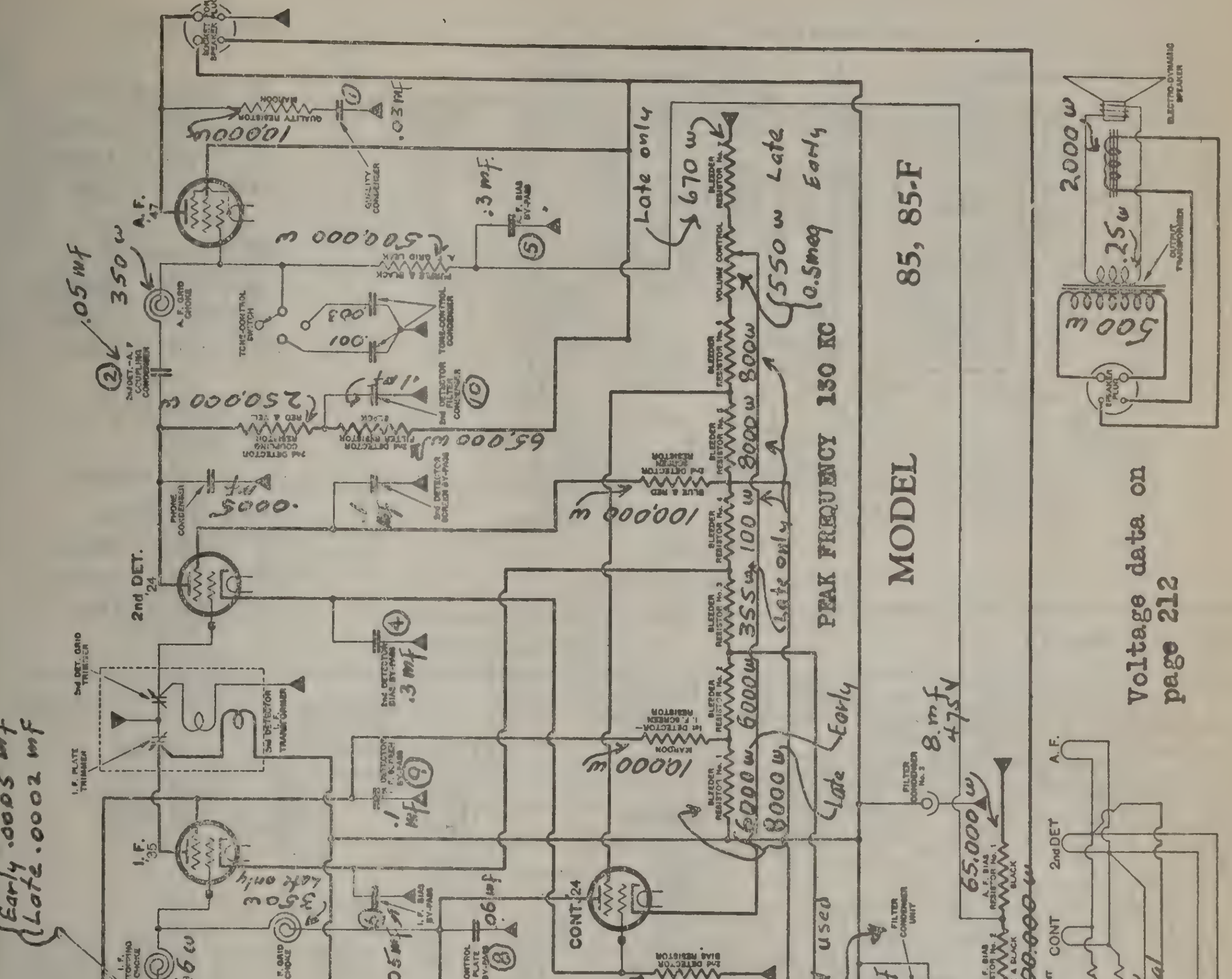

I. F.
STOPPING CONDENSER
I. F.
STOPPING CHOKE
VOLUME CONTROL
1st DETECTOR
PLATE CHOKE
R. F. BY-PASS
No. 3
9
10
8
ON-OFF
SWITCH
R. F. C. No. 2
UNDERNEATH
R. F. C. No. 1
8 w
1st DETECTOR
SCREEN
RESISTOR No. 2
1st DETECTOR
SCREEN
RESISTOR No. 1
OSC.
1st DET.
MAROON
WHITE
BLACK
BLUE & RED
BLACK
OSC
GRID
LEAK
OSCILLATOR
TRANSFORMER
TYPE
FILTER CHOKE
2nd DETECTOR
COUPLING
RESISTOR
I. F. BIAS RESISTOR
BLACK COVERED
YEL. & RED
1st AUDIO
GRID LEAK
2nd DET.
FILTER
RESISTOR
I. F.
FILTER
CONDENSER
"PHONE"
CONDENSER
6
7
5
AUDIO INPUT
TRANSFORMER
1A
48 w
2nd A. F.
FILAMENT
SHUNT RESISTOR
2A
35 w
FILAMENT SERIES
RESISTOR No. 2
2nd DET.
I. F.
TRANS.
2nd DETECTOR
PLATE CHOKE
2nd DET.
R. F. BY-PASS
No. 2
MAROON
QUALITY
RESISTOR
No. 1 & 2
R. F. T.
See note on
schematic
FILAMENT SERIES
RESISTOR No. 1
R. F. BY-PASS
No. 1
2
3
1
4
130 w
ANTENNA
TRIMMER
ANTENNA
CHOKE
FUSE
SOCKET
FUSE
SPEAKER
223

Chart of Model 84-D. (Early Type Without Tone Control.)

MODEL 85, 85-F

ATWATER KENT MFG. CO.


MODEL
85, 85-F
PEAK FREQUENCY 130 KC
Voltage data on page 212
1st DET. '35
I.F. '35
2nd DET. '24
A.F. '47
CONT. '24
OSC. '27
RECTIFIER 80
ELECTRO-DYNAMIC SPEAKER
OUTPUT TRANSFORMER
POWER TRANSFORMER
OSCILLATOR TRANSFORMER
110 VOLT LINE
ON-OFF SWITCH
DIAL LIGHT
FILAMENT-SHUNT RESISTOR
BLEEDER RESISTOR No. 1
BLEEDER RESISTOR No. 2
BLEEDER RESISTOR No. 3
BLEEDER RESISTOR No. 4
BLEEDER RESISTOR No. 5
VOLUME CONTROL
TONE-CONTROL SWITCH
TONE-CONTROL CONDENSER
QUALITY RESISTOR
QUALITY CONDENSER
PHONE CONDENSER
FILTER CONDENSER UNIT
TRACKING CONDENSER
Early 79 w Late 84 w
Early .0005 mf Late .0002 mf
single 8 mf 475 V used in early 85
Used in early 85
Late only
670 w
550 w Late
0.5 meg Early
8000 w
800 w
100 w
355 w
6000 w
10000 w
100,000 w
65,000 w
250,000 w
500,000 w
350 w
66 w
30,000 w
800,000 w
1100 w
2,000 w
25 w
500 w
10 w total
.05 mf
.03 mf
.3 mf
.1 mf
.0002 mf
.00145 mf
8 mf 475 V
N.B.

N.B. Filter resistor not used in 85-F

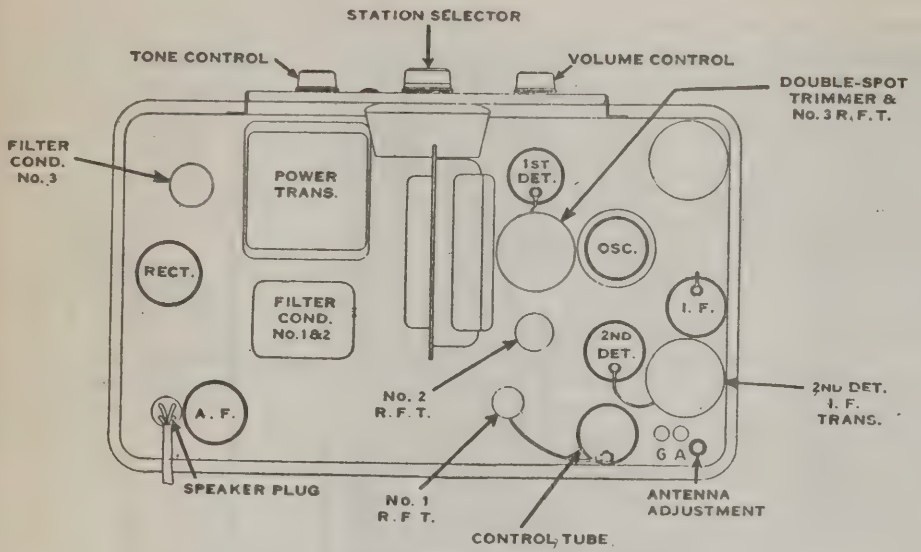
Antenna choke used in early 85 has d-c. resistance of 130 w

few early-type Model 85 do not have automatic volume control; they have three electrolytic filter condensers; the circuit of these early Model 85 sets is similar Model 80. The tracking condenser is mounted on the oscillator transformer in Model 82 and some 85 sets. The filament circuit of Model 82 is somewhat ferent from that shown above.

Voltage reference on page 1-56.

MODEL 85, 85-F

ATWATER KENT MFG. CO.


STATION SELECTOR
TONE CONTROL
VOLUME CONTROL
DOUBLE-SPOT TRIMMER & No. 3 R. F. T.
FILTER COND. No. 3
POWER TRANS.
1ST DET.
OSC.
RECT.
FILTER COND. No. 1 & 2
I. F.
2ND DET.
No. 2 R. F. T.
2ND DET. I. F. TRANS.
A. F.
G A
SPEAKER PLUG
No. 1 R. F. T.
CONTROL TUBE
ANTENNA ADJUSTMENT

Top View of Model 85, 85-F.

The circle in the top right corner represents the shield for the coupling unit between the 1st-detector and I. F. tubes.

CONDENSERS

RF Bypass # 1
19160 Early
19980 Late
All 400 volts

RF Bypass # 2
19150 Early
19990 Late
All 400 volts

RF Bypass # 3
15262
All 400 volts

Tone Control
# 16490 Early
# 20010 Late
All 100 volts

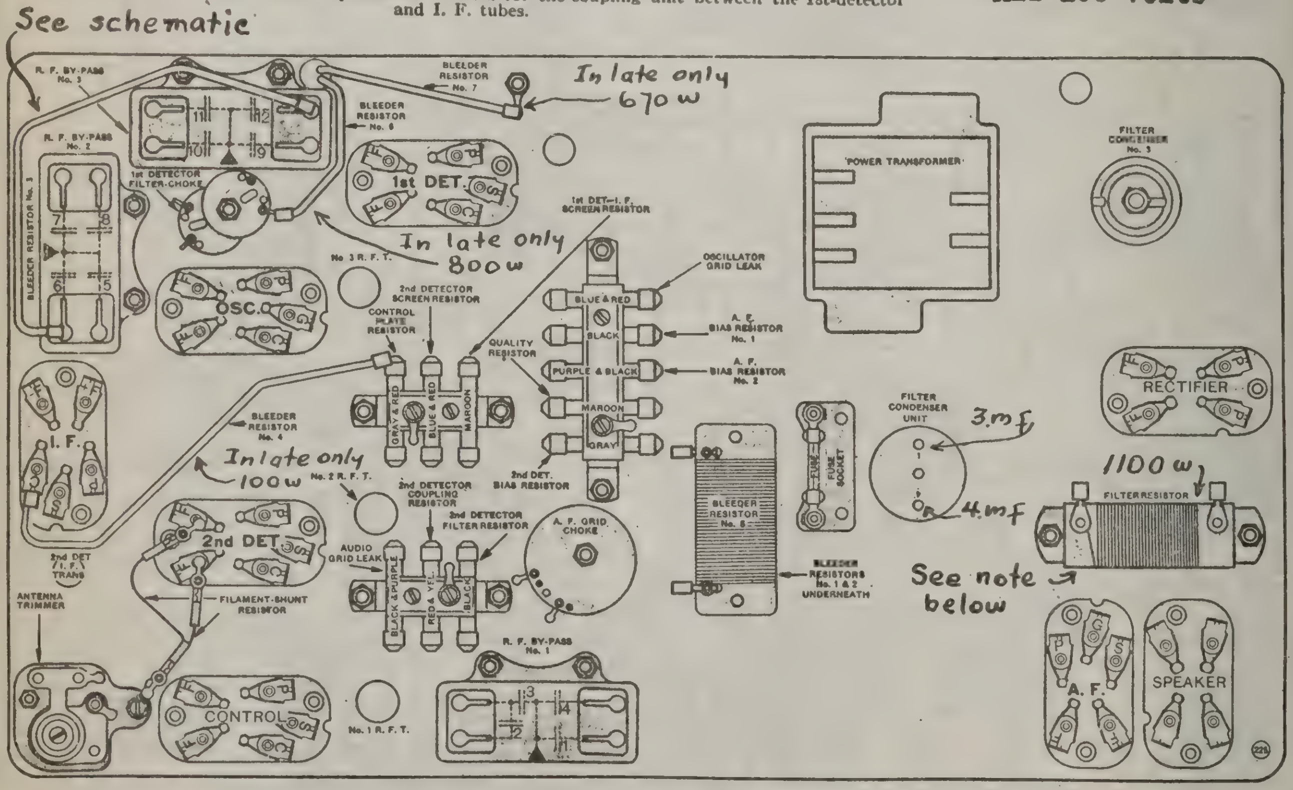

See schematic
R. F. BY-PASS No. 3
R. F. BY-PASS No. 2
BLEEDER RESISTOR No. 7
BLEEDER RESISTOR No. 6
In late only 670 w
11 12 10 9
1st DETECTOR FILTER-CHOKE
BLEEDER RESISTOR No. 1
7 8 6 5
1st DET.
In late only 800 w
No. 3 R. F. T.
1st DET—I. F. SCREEN RESISTOR
POWER TRANSFORMER
FILTER CONDENSER No. 3
OSC.
2nd DETECTOR SCREEN RESISTOR
CONTROL PLATE RESISTOR
QUALITY RESISTOR
OSCILLATOR GRID LEAK
BLUE & RED
BLACK
A. F. BIAS RESISTOR No. 1
PURPLE & BLACK
A. F. BIAS RESISTOR No. 2
MAROON
GRAY
GRAY & RED
BLUE & RED
MAROON
I. F.
BLEEDER RESISTOR No. 4
In late only 100 w
No. 2 R. F. T.
2nd DETECTOR COUPLING RESISTOR
2nd DET. BIAS RESISTOR
FILTER CONDENSER UNIT
3 mf
4 mf
FUSE SOCKET
BLEEDER RESISTOR No. 5
RECTIFIER
1100 w
FILTER RESISTOR
2nd DET.
2nd DETECTOR FILTER RESISTOR
AUDIO GRID LEAK
A. F. GRID CHOKE
BLACK & PURPLE
RED & YEL.
BLACK
BLEEDER RESISTORS No. 1 & 2 UNDERNEATH
See note below
2nd DET I. F. TRANS
ANTENNA TRIMMER
FILAMENT-SHUNT RESISTOR
R. F. BY-PASS No. 1
3 4 1 2
CONTROL
No. 1 R. F. T.
A. F.
SPEAKER

Chart of Model 85, 85-F.

The filter resistor is not used in Model 85-F.

By-pass Condensers in Model 85, 85-F

R. F. By-pass No. 1

1—Quality condenser.
2—2nd-detector—A. F. coupling condenser.
3—Phone condenser.
4—2nd-detector bias by-pass.

R. F. By-pass No. 2

5—A. F. bias by-pass.
6—I. F. bias by-pass.
7—Tracking condenser.
8—Control-plate by-pass.

R. F. By-pass No. 3

9—1st-detector—I. F. screen by-pass.
10—2nd-detector filter condenser.
11—1st-detector filter condenser
12—1st-detector bias by-pass.

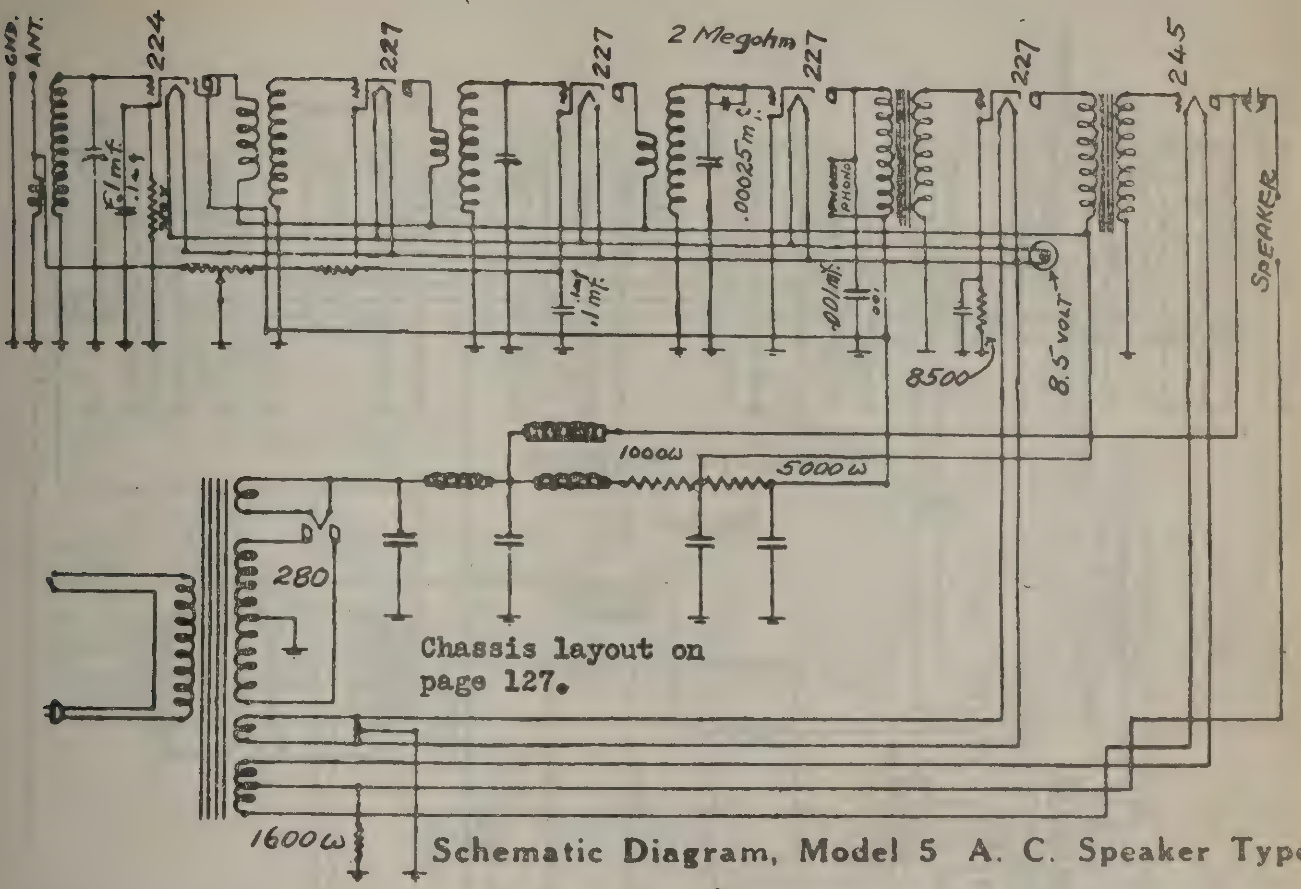
Tone-control Condenser (on front panel)

Two top contacts—2nd-detector screen by-pass and oscillator plate-circuit by-pass.

Two bottom contacts—tone-control condensers.

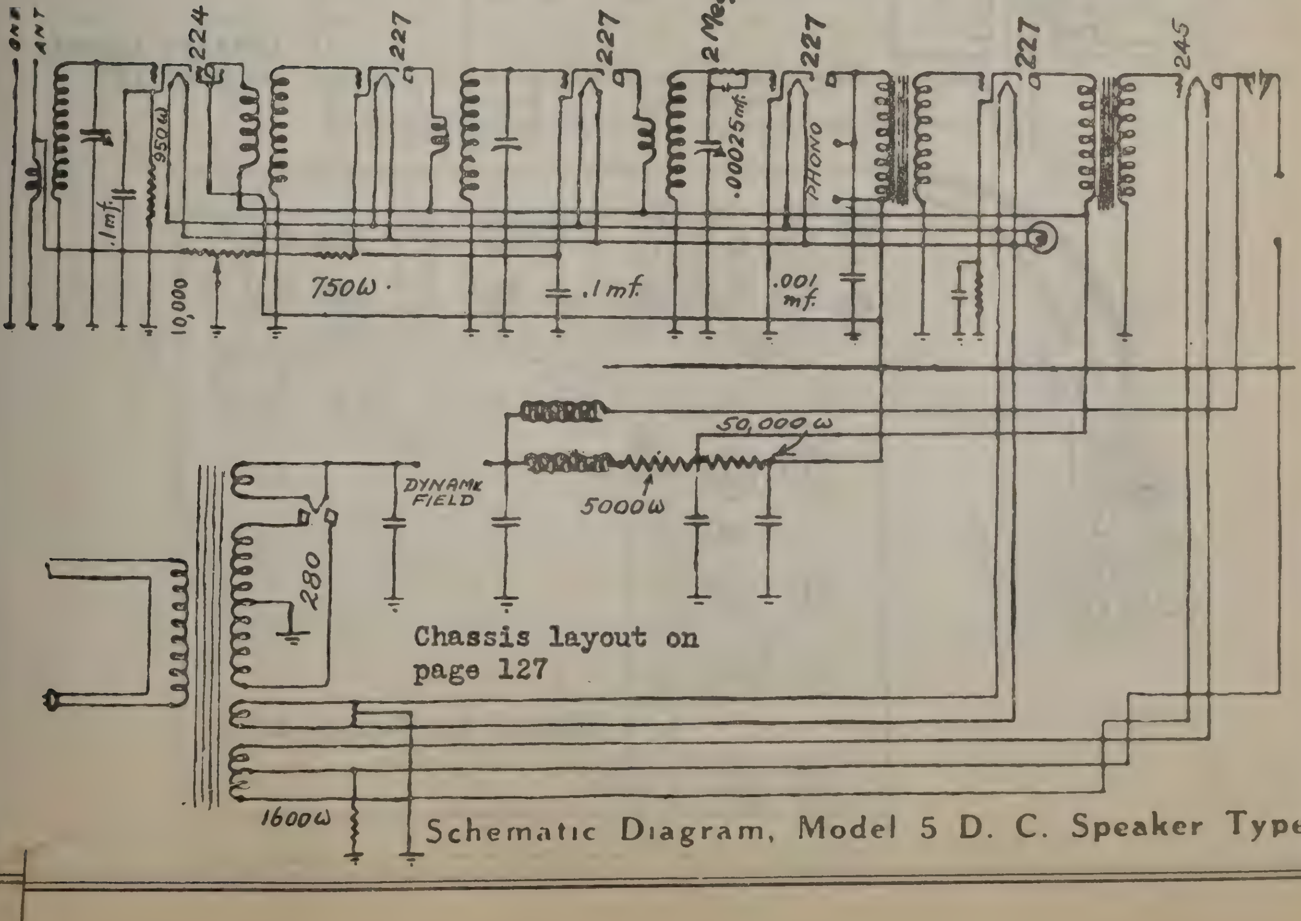
ATCHISON RADIO MFG. CO.

MODEL 5 AC
MODEL 5 DC


GND.
ANT.
224
227
227
2 Megohm
227
227
24.5
.1 mf.
.00025 m.f.
PHONO
.1 mf.
.1 mf.
.001 mf.
8500
8.5 VOLT
SPEAKER
1000ω
5000ω
280
1600ω

Chassis layout on page 127.

Schematic Diagram, Model 5 A. C. Speaker Type

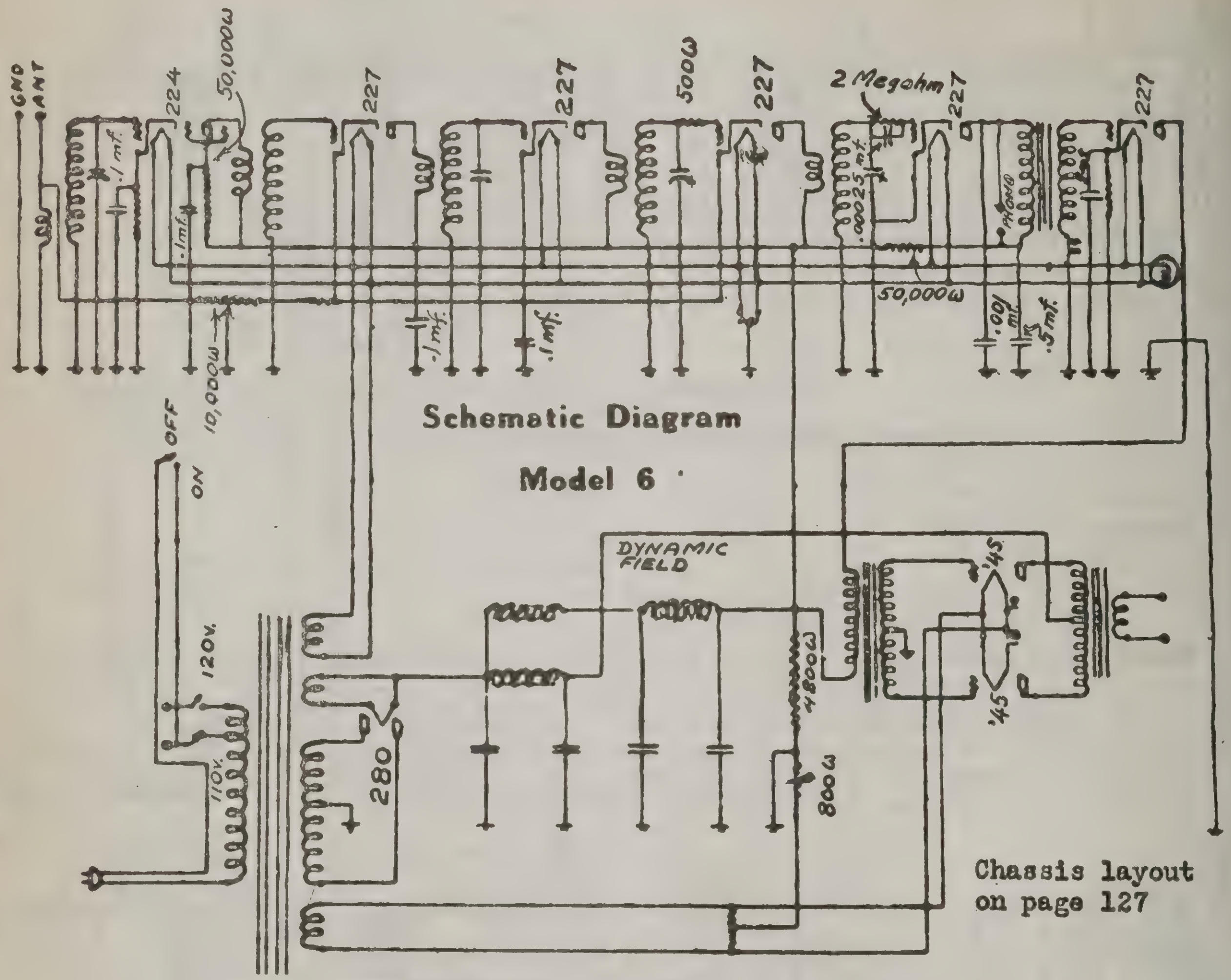

GND
ANT
224
227
227
2 Meg
227
227
245
950ω
.1 mf.
10,000
750ω
.1 mf.
.00025 mf.
PHONO
.001 mf.
50,000ω
5000ω
DYNAMIC FIELD
280
1600ω

Chassis layout on page 127

Schematic Diagram, Model 5 D. C. Speaker Type

MODEL 6 AC

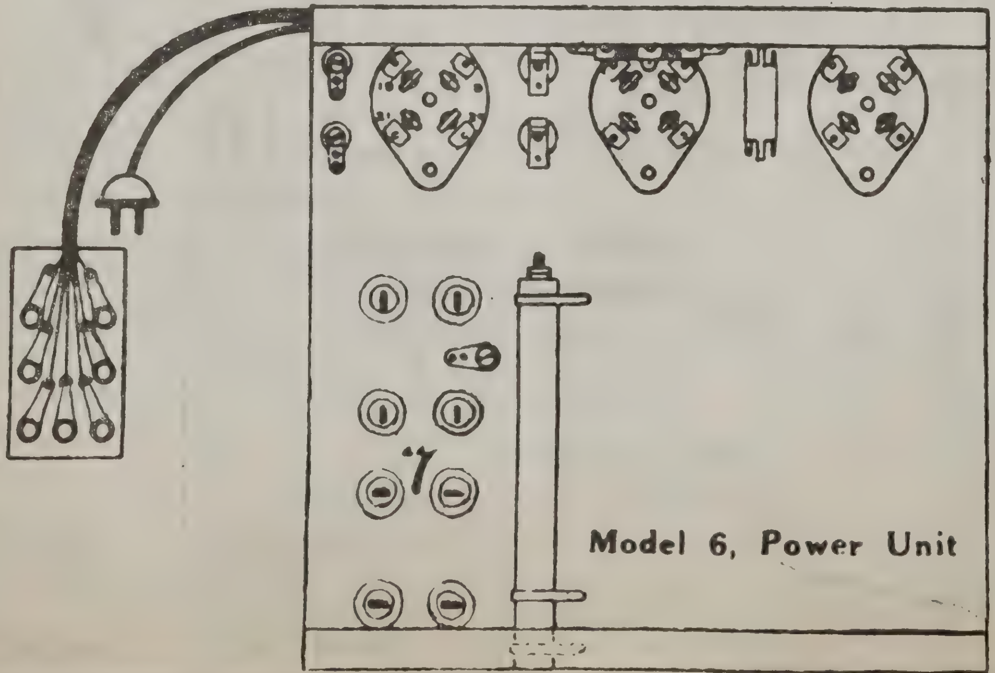
ATCHISON RADIO MFG. CO.


GND
ANT
224
.1 mf.
.1 mf.
50,000ω
227
227
500ω
227
2 Megohm
227
227
.00025 mf.
PHONO
50,000ω
.001 mf.
.5 mf.
.1 mf.
.1 mf.
10,000ω
OFF
ON
120V.
110V.
280
DYNAMIC FIELD
4800ω
800ω
'45
'45

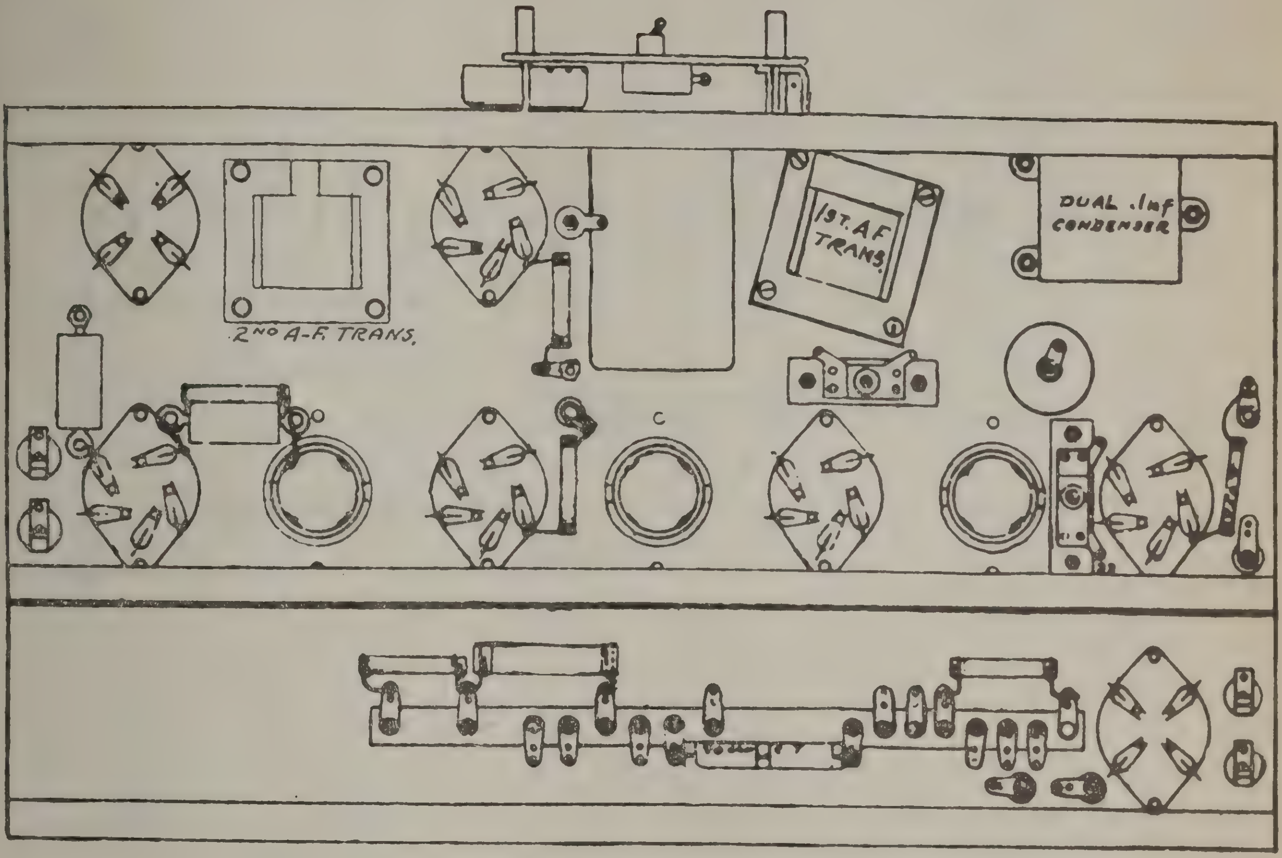
Schematic Diagram

Model 6

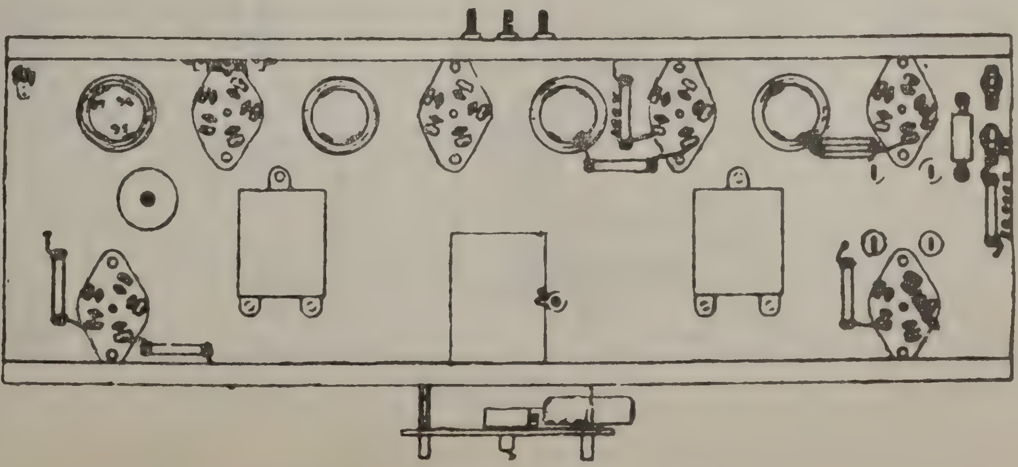
Chassis layout on page 127



Model 6, Power Unit


2ND A-F. TRANS.
1ST. A.F TRANS.
DUAL .1mf CONDENSER

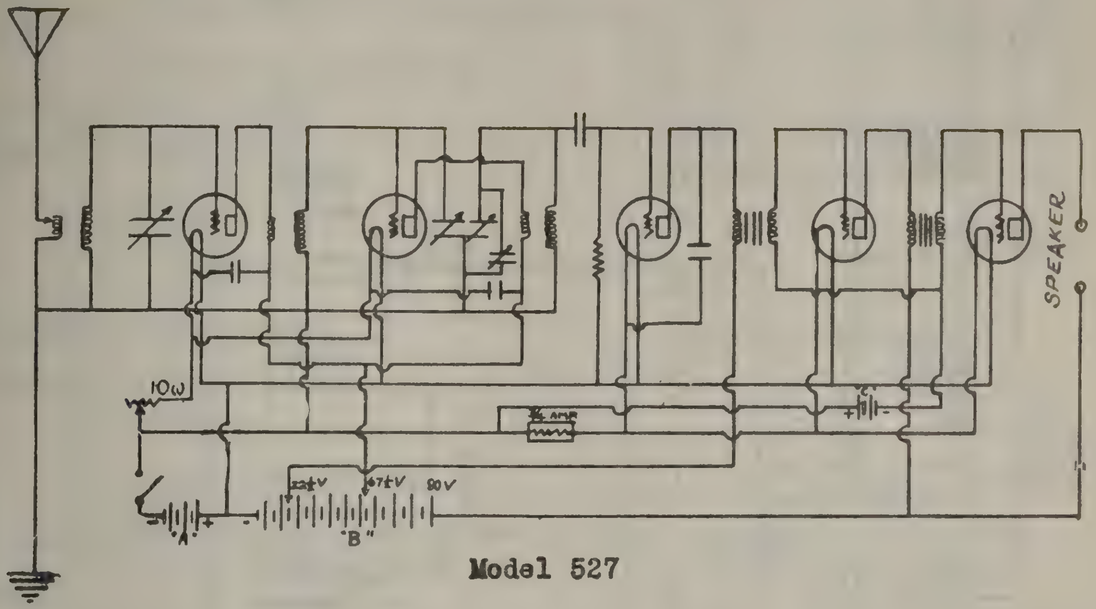
Model 5, Chassis Arrangement



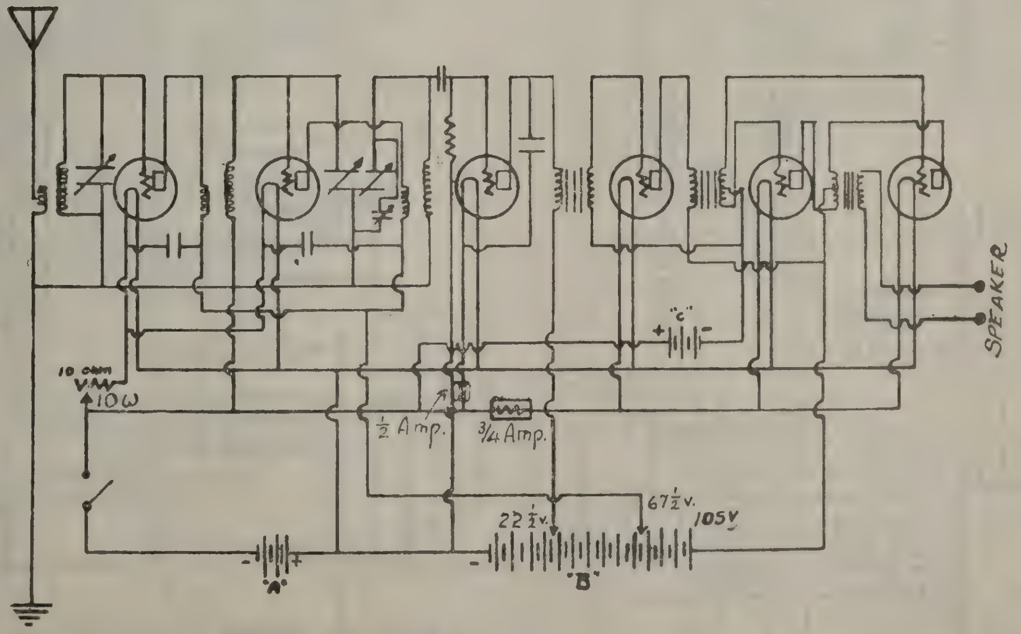
Model 6. Chassis Arrangement

AUDIOLA RADIO CO.

MODEL 527
MODEL 627


10ω
¼ AMP
"C"
+
-
22½V
67½V
90V
"A"
"B"
SPEAKER

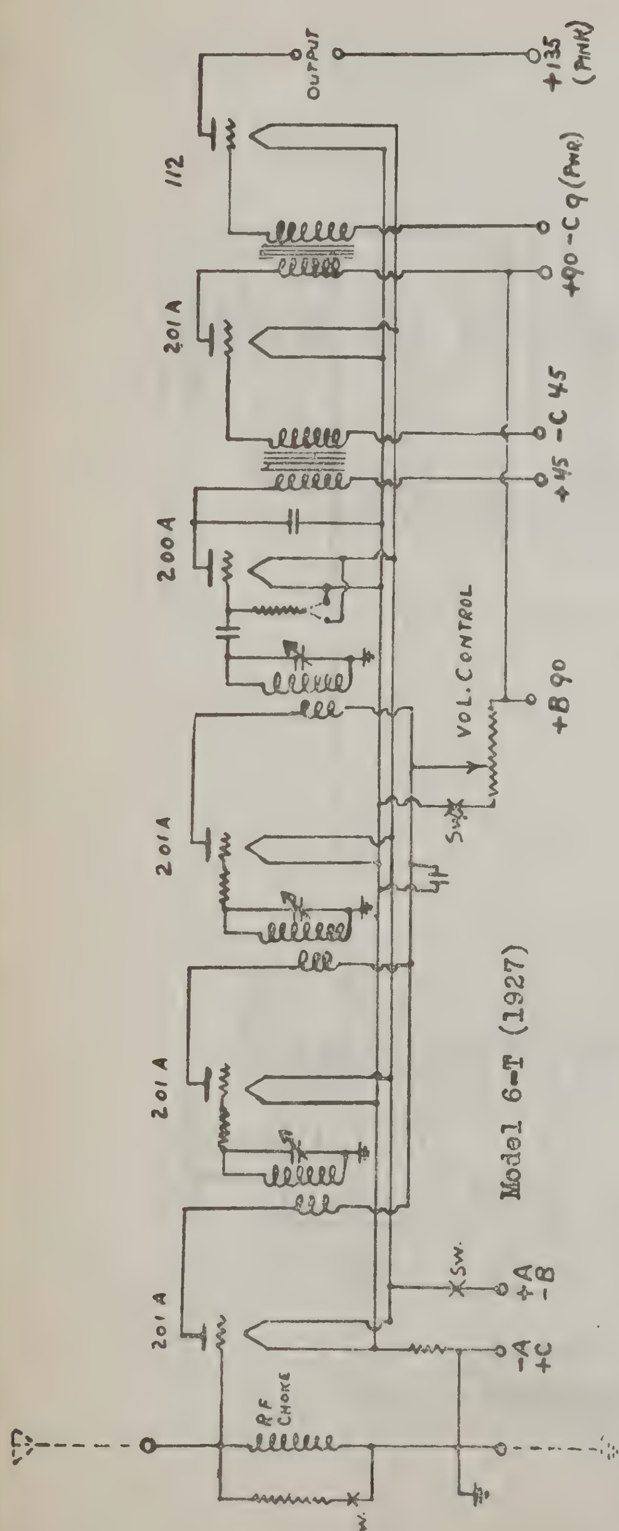
Model 527


10 ohm
V.R.
10ω
"C"
+
-
½ Amp.
¾ Amp.
22½V.
67½V.
105V
-
"A"
+
-
"B"
SPEAKER

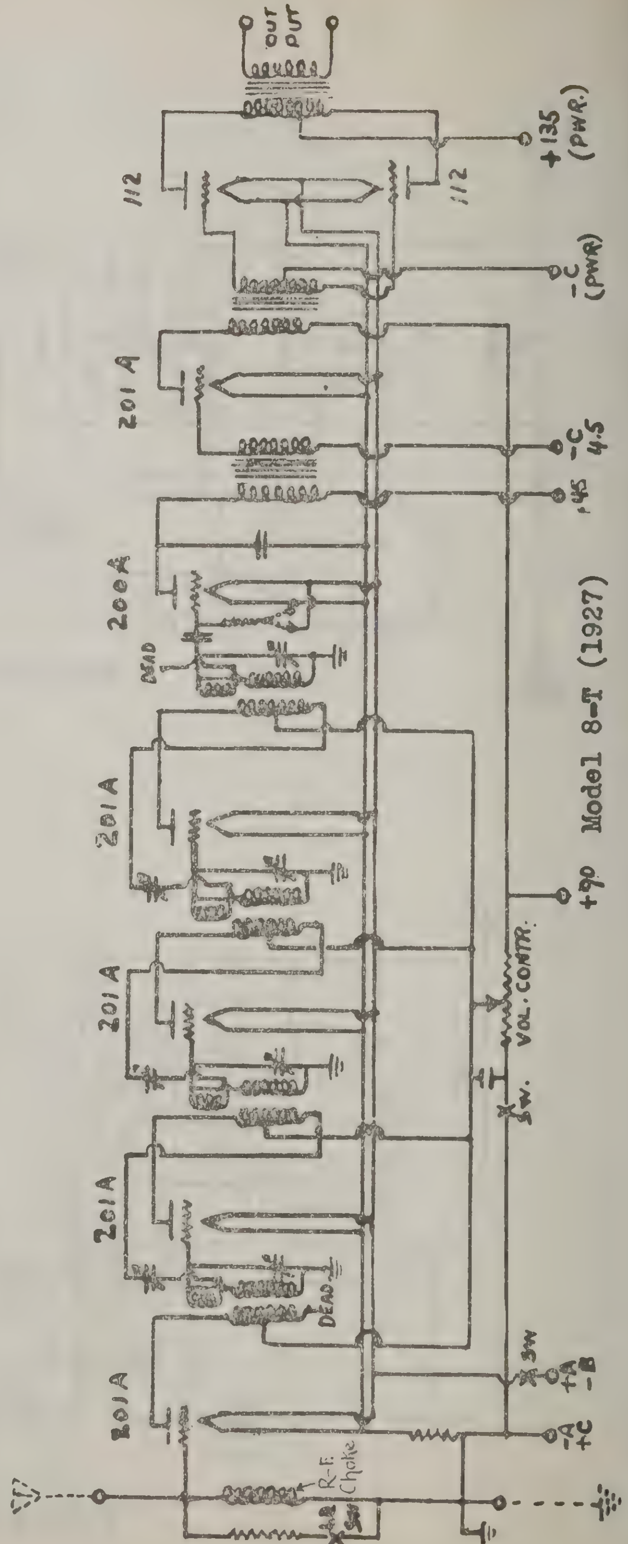
Model 627

MODEL 6-T (1927)
MODEL 8-T (1927)

AUDIOLA RADIO CO.


201 A
RF CHOKE
Sw.
201 A
201 A
201 A
200 A
201 A
112
OUTPUT
+135 (PINK)
+90 -C 9 (PWR)
+45
-C 4.5
+B 90
VOL. CONTROL
Sw.
+A
-B
-A
+C

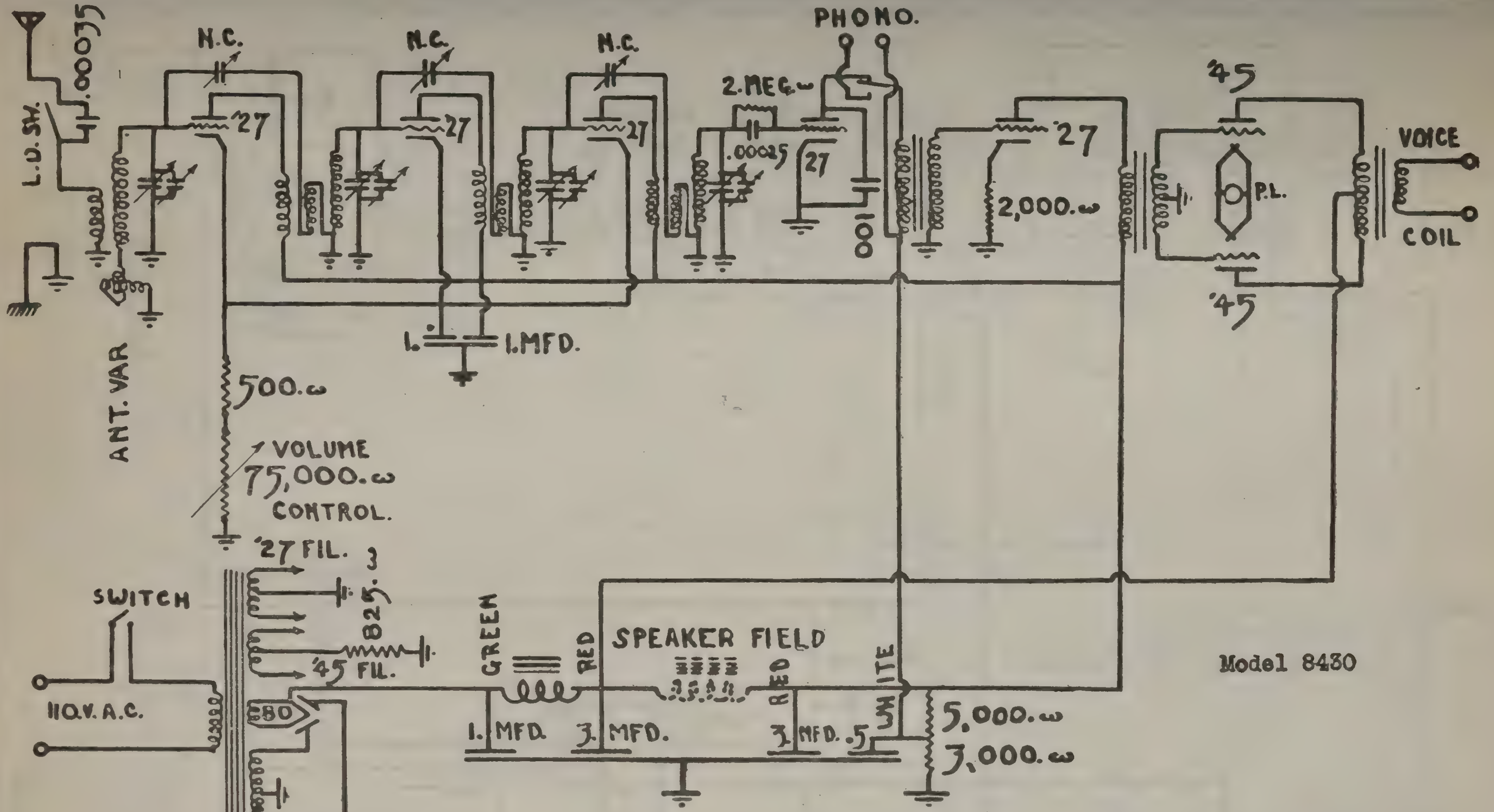
Model 6-T (1927)


201 A
R-F Choke
Sw
201 A
DEAD
201 A
201 A
201 A
200 A
DEAD
201 A
112
112
OUT PUT
+135 (PWR.)
-C (PWR)
-C 4.5
+45
+90
VOL. CONTR.
Sw.
Sw
+A
-B
-A
+C

Model 8-T (1927)

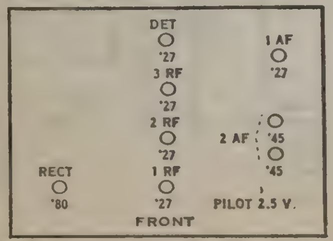
AUDIOLA RADIO CO.

MODEL 8430


L.D. SW.
.00035
ANT. VAR
N.C.
27
N.C.
27
N.C.
27
2.MEG.ω
.00025
27
100
PHONO.
27
2,000.ω
45
P.L.
'45
VOICE
COIL
1.
1.MFD.
500.ω
VOLUME
75,000.ω
CONTROL.
'27 FIL.
3
825
'45 FIL.
SWITCH
110.V. A.C.
80
GREEN
RED
SPEAKER FIELD
RED
WHITE
1. MFD.
3. MFD.
3. MFD.
.5
5,000.ω
3,000.ω

Model 8430

Model 8430 (1929)


DET
'27
1 AF
'27
3 RF
'27
2 RF
2 AF
'45
'27
'45
RECT
'80
1 RF
'27
PILOT 2.5 V.
FRONT

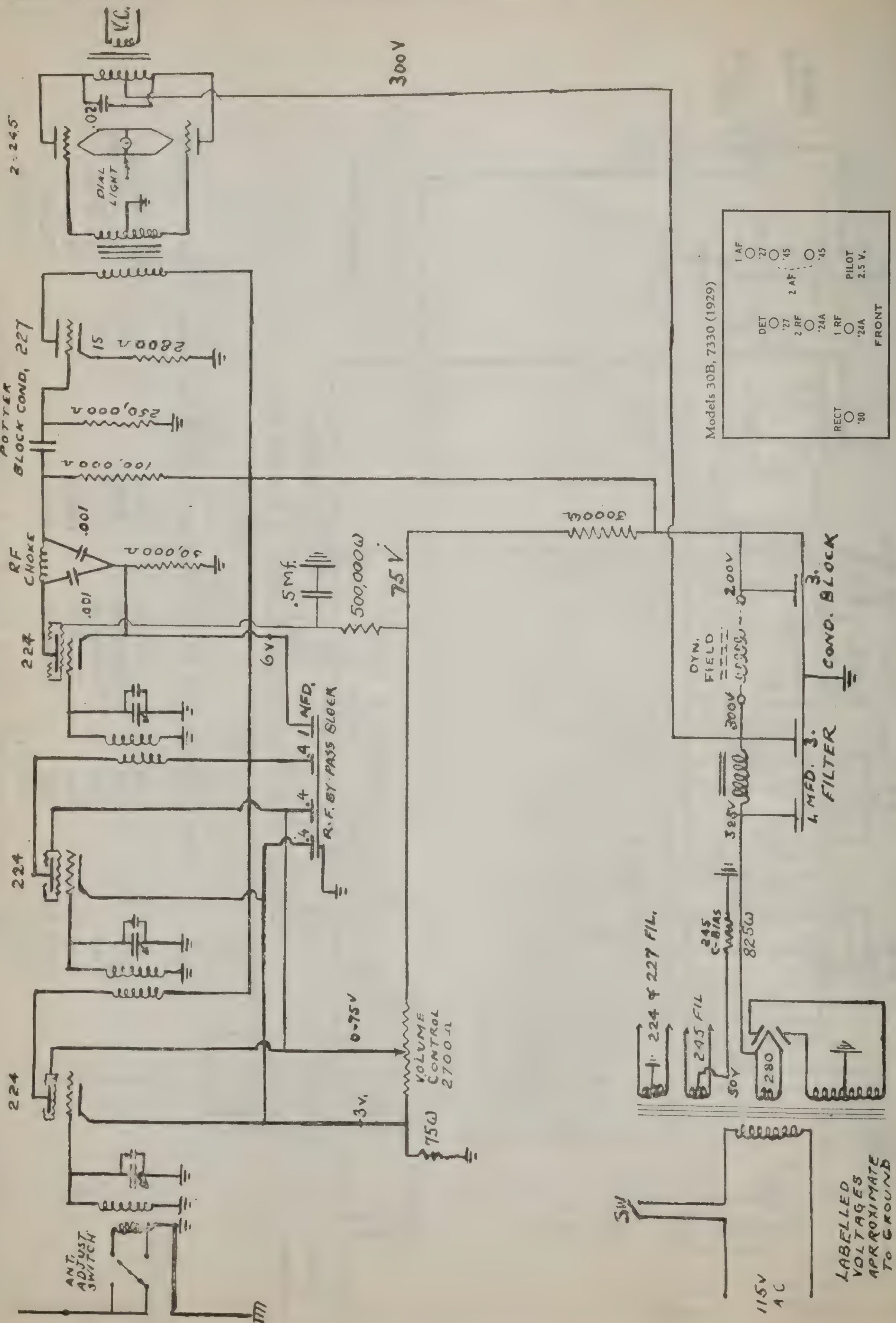
Line Voltage 115 Volts. Volume control Maximum. Watts. 90-100.

	Fil.	Plate	Grid	Plt. Crnt.
R-F	2.4	135-150	8-10	5. - 8. ma
Det.	2.4	50-60*		2. - 4.
A-F (1st)	2.4	135-150	10-14	4. - 6.
A-F (2nd)	2.4	210-250	40-50	22.-32.
Rect.	4.7-5.2			95.-105.

Voltage across field 80 - 100. Field current 40-50 ma.

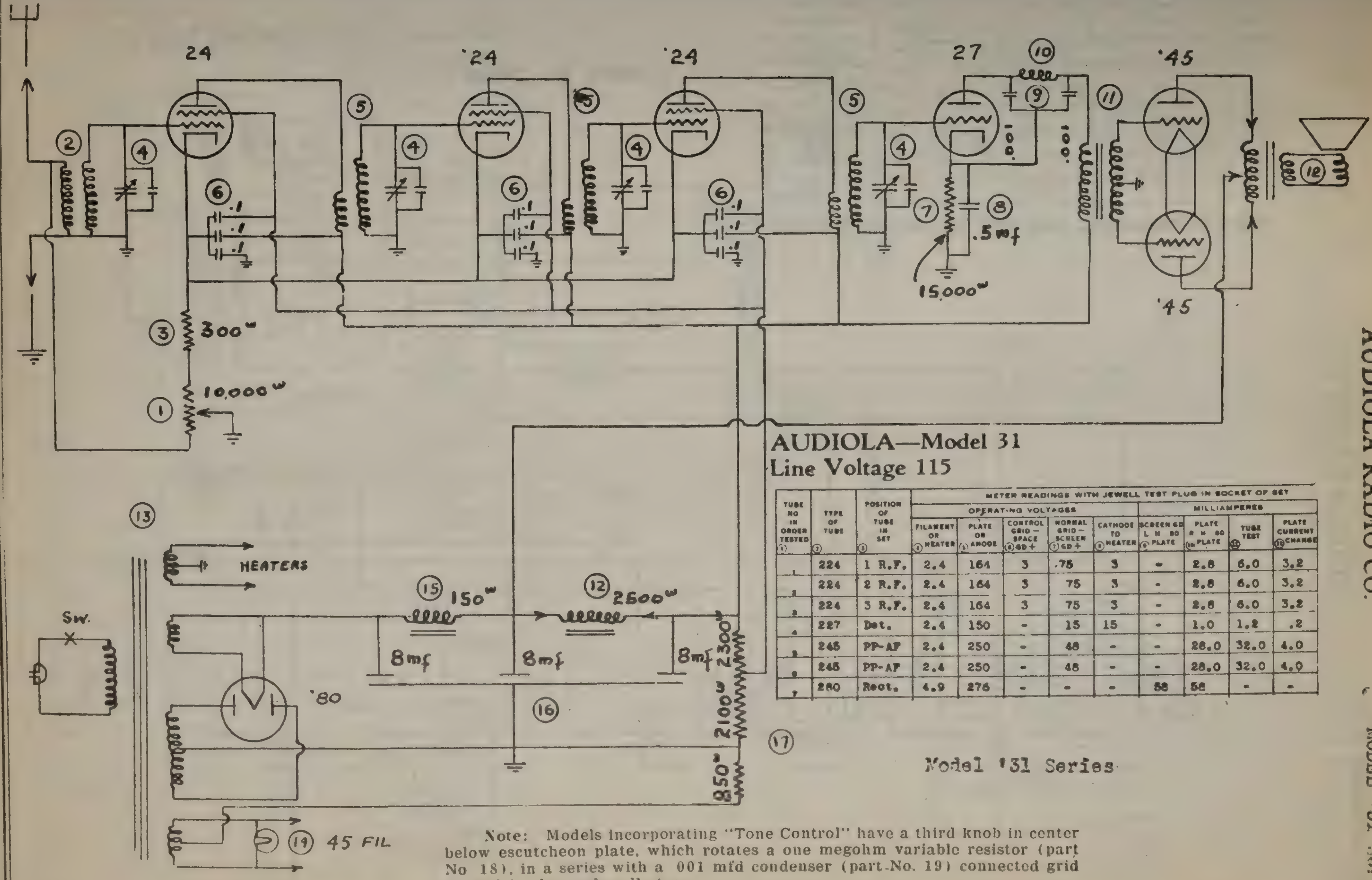
MODEL 30-B
MODEL 7330

AUDIOLA RADIO CO.


V.C.
300V
2-245
.02
DIAL LIGHT
227
15
2800Ω
.1 MFD POTTER BLOCK COND.
250,000Ω
100,000Ω
RF CHOKE
.001
.001
50,000Ω
3000Ω
.5 MF.
500,000Ω
75V
224
6V
1 MFD.
.4
.4
.4
R.F. BY-PASS BLOCK
224
0-75V
VOLUME CONTROL 2700Ω
3V.
75Ω
224
ANT. ADJUST SWITCH
DYN. FIELD
200V
300V
325V
3. COND. BLOCK
4 MFD. 3. FILTER
245 C-BIAS
825Ω
224 & 227 FIL.
245 FIL
50Y
280
SW
115V AC
LABELLED VOLTAGES APPROXIMATE TO GROUND
Models 30B, 7330 (1929)
RECT '80
DET '27
2 RF '24A
1 RF '24A
1 AF '27
2 AF '45
'45
PILOT 2.5 V.
FRONT

AUDIOLA RADIO CO.

MODEL '31 Series


24
'24
'24
27
'45
'45
'80
②
③ 300Ω
① 10,000Ω
④
⑤
⑥ .1 .1 .1
⑦ 15,000Ω
⑧ .5 mf
⑨
⑩
⑪
⑫
⑬
⑮ 150Ω
⑫ 2500Ω
⑯
⑰
2300Ω
2100Ω
850Ω
8mf
8mf
8mf
100
100
HEATERS
SW.
⑲ 45 FIL

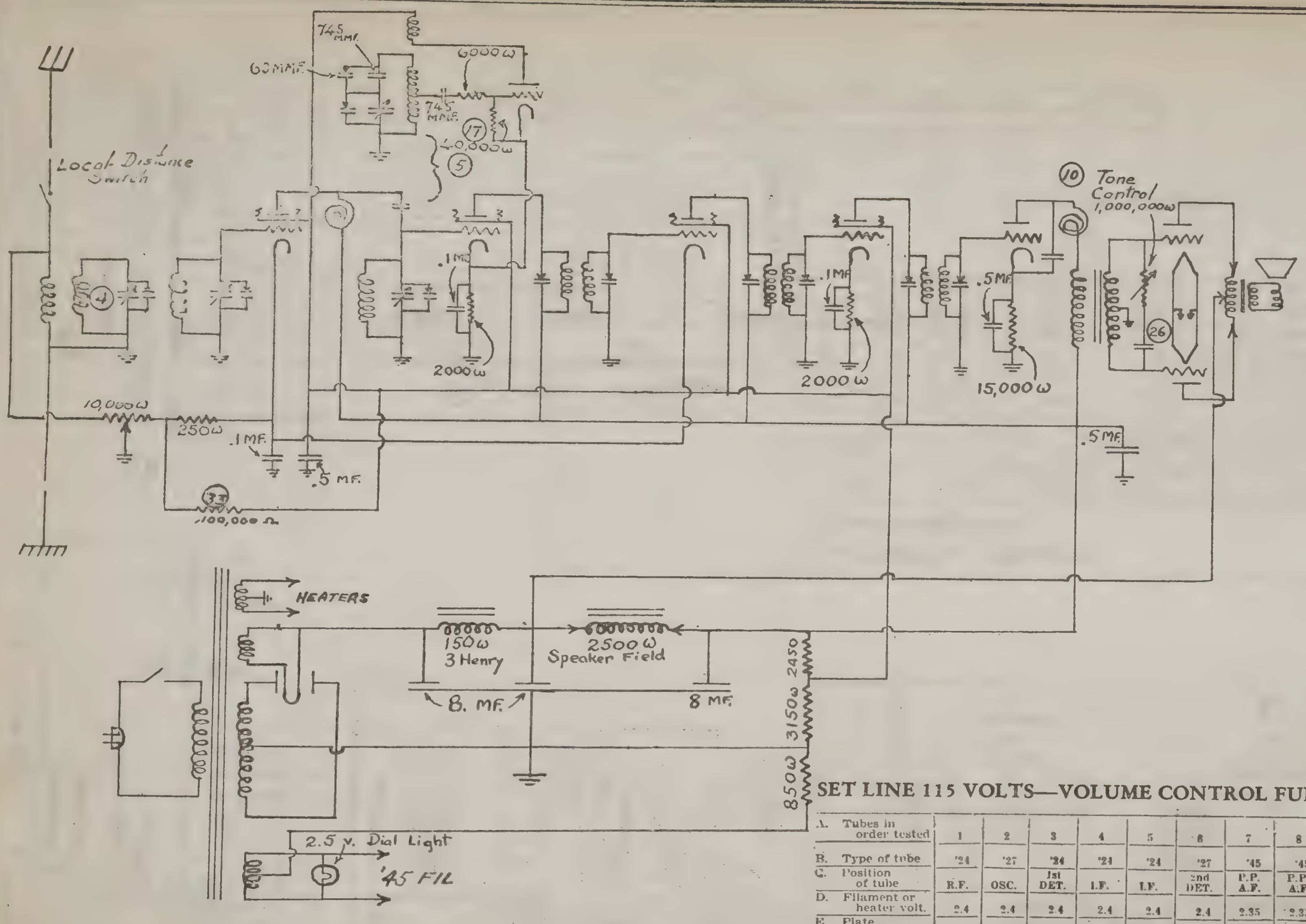
AUDIOLA—Model 31
Line Voltage 115

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GD +	⑦ NORMAL GRID—SCREEN GD +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L H 80 PLATE	⑩ PLATE R H 80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	224	1 R.F.	2.4	164	3	.75	3	-	2.8	6.0	3.2
2	224	2 R.F.	2.4	164	3	75	3	-	2.8	6.0	3.2
3	224	3 R.F.	2.4	164	3	75	3	-	2.8	6.0	3.2
4	227	Det.	2.4	150	-	15	15	-	1.0	1.2	.2
5	245	PP-AF	2.4	250	-	48	-	-	28.0	32.0	4.0
6	245	PP-AF	2.4	250	-	48	-	-	28.0	32.0	4.0
7	280	Rect.	4.9	276	-	-	-	58	58	-	-

Model '31 Series

Note: Models incorporating "Tone Control" have a third knob in center below escutcheon plate, which rotates a one megohm variable resistor (part No 18), in a series with a 001 mfd condenser (part No. 19) connected grid to grid in the push-pull stage

AUDIOLA RADIO CO.


745 MMF.
60 MMF.
6000 ω
745 MMF.
17
40,000 ω
5
Local Distance Switch
10 Tone Control 1,000,000 ω
.1 MF.
2000 ω
.1 MF.
2000 ω
.5 MF.
15,000 ω
26
10,000 ω
250 ω
.1 MF.
.5 MF.
.5 MF.
33
100,000 Ω
HEATERS
150 ω 3 Henry
2500 ω Speaker Field
8. MF.
8 MF.
2450
3150 ω
850 ω
2.5 v. Dial Light
'45 FIL

SET LINE 115 VOLTS—VOLUME CONTROL FULL ON

A. Tubes in order tested	1	2	3	4	5	6	7	8	9
B. Type of tube	'24	'27	'24	'24	'24	'27	'45	'45	'80
C. Position of tube	R.F.	OSC.	1st DET.	I.F.	I.F.	2nd DET.	P.P. A.F.	P.P. A.F.	RECT.
D. Filament or heater volt.	2.4	2.4	2.4	2.4	2.4	2.4	2.35	2.35	4.7
E. Plate voltage	160	80	160	160	160	150	245	245	260
F. Control grid voltage	2.5	..	8.0	2.5	1.0	18	48	48	..
G. Screen grid voltage	80	..	80	80	80	..	..	..	..
H. Cathode to heater	2.5	*12.0	8.0	2.5	4.0	18	..	..	..
I. Plate current	4.0	*7.0	.2	3.0	2.0	1.0	28	28	58

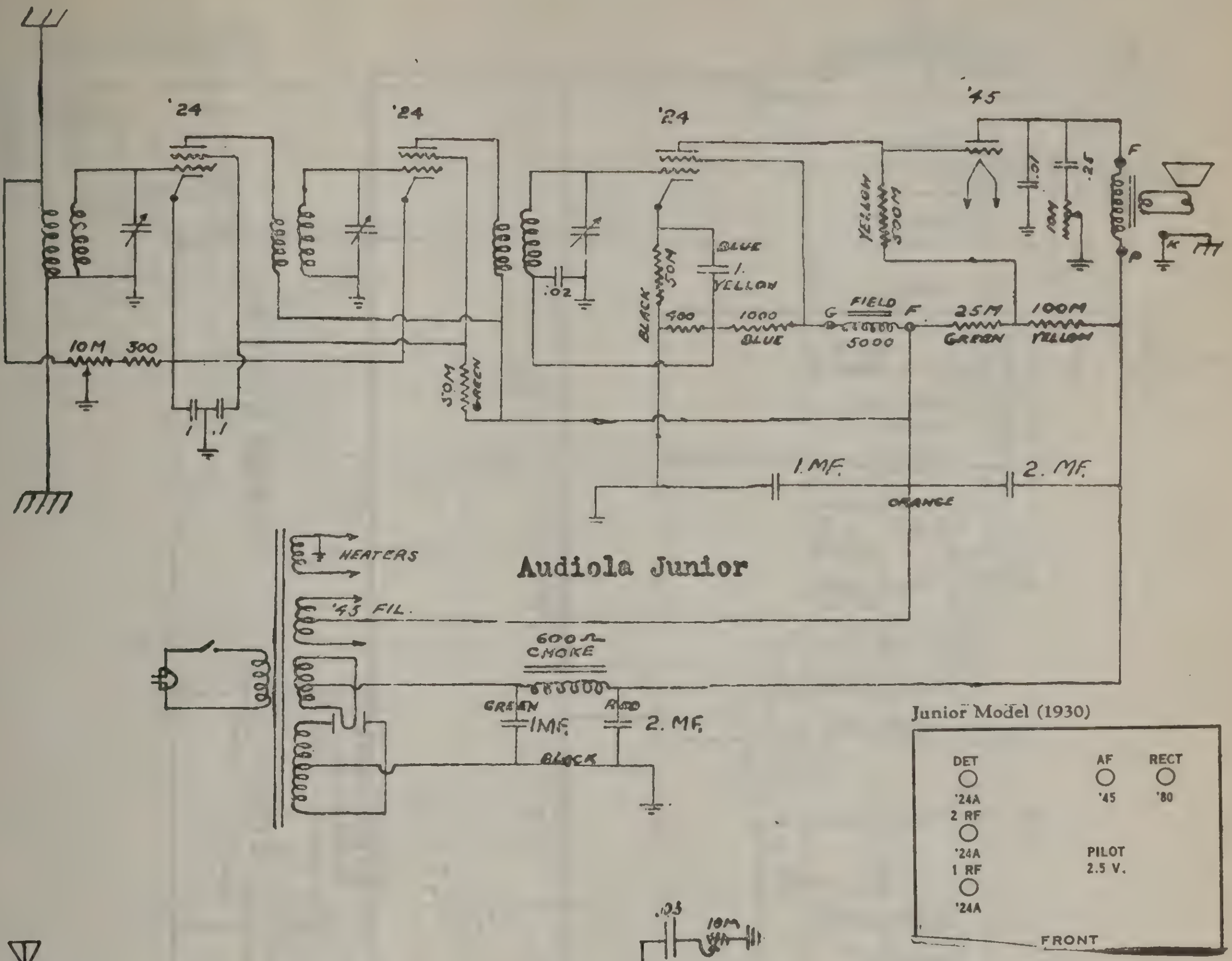
*Non-Oscillating.

Model '31 Super

IF PEAK 175 KC

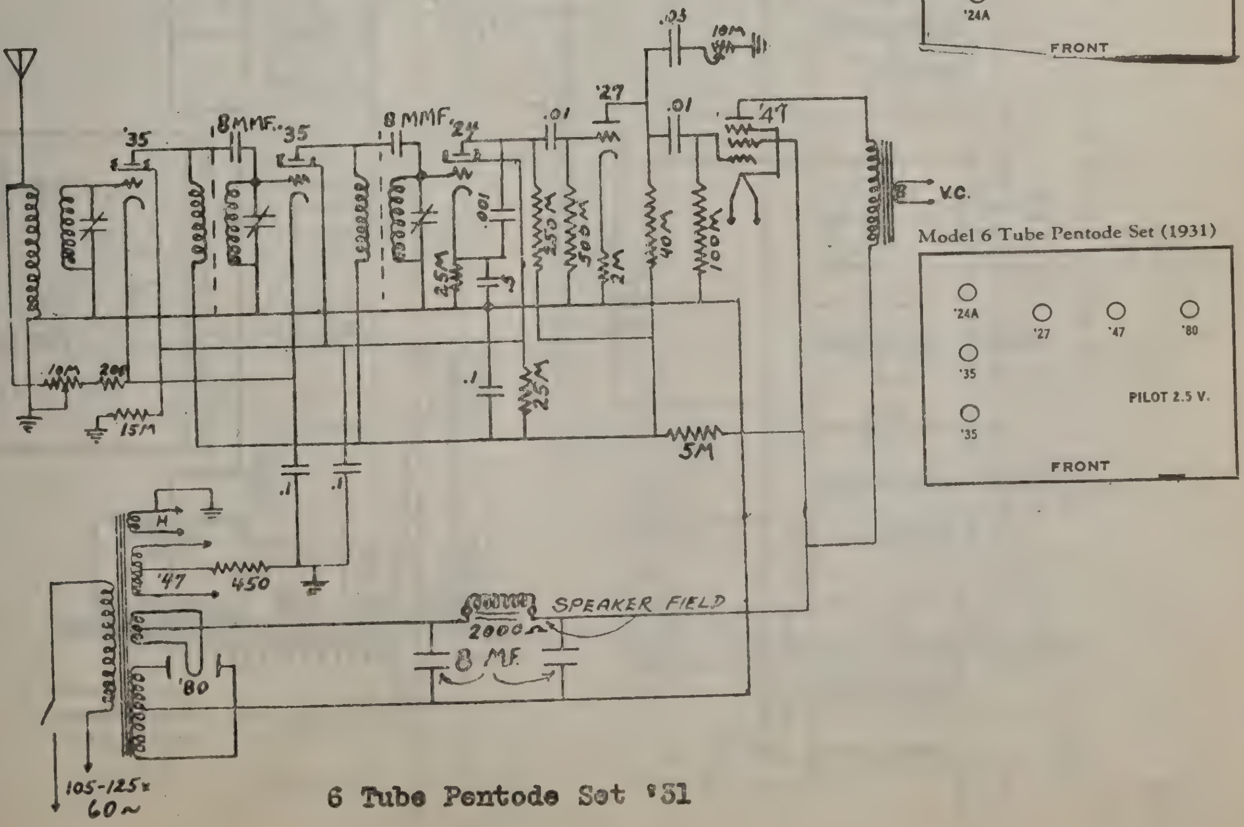
MODEL Audiola Jr.
MODEL 6 Tube Pentode '31

AUDIOLA RADIO CO.


'24
'24
'24
'45
10M
300
.1
.1
.02
30M
GREEN
BLACK
30M
BLUE
1.
YELLOW
400
1000
BLUE
G
FIELD
F
5000
25M
GREEN
100M
YELLOW
YELLOW
300M
.01
.25
10M
F
P
K
1.MF.
2. MF.
ORANGE
HEATERS
'45 FIL.
600 Ω
CHOKE
GREEN
RED
1MF.
2. MF.
BLACK
DET
'24A
2 RF
'24A
1 RF
'24A
AF
'45
RECT
'80
PILOT
2.5 V.
FRONT

Audiola Junior

Junior Model (1930)

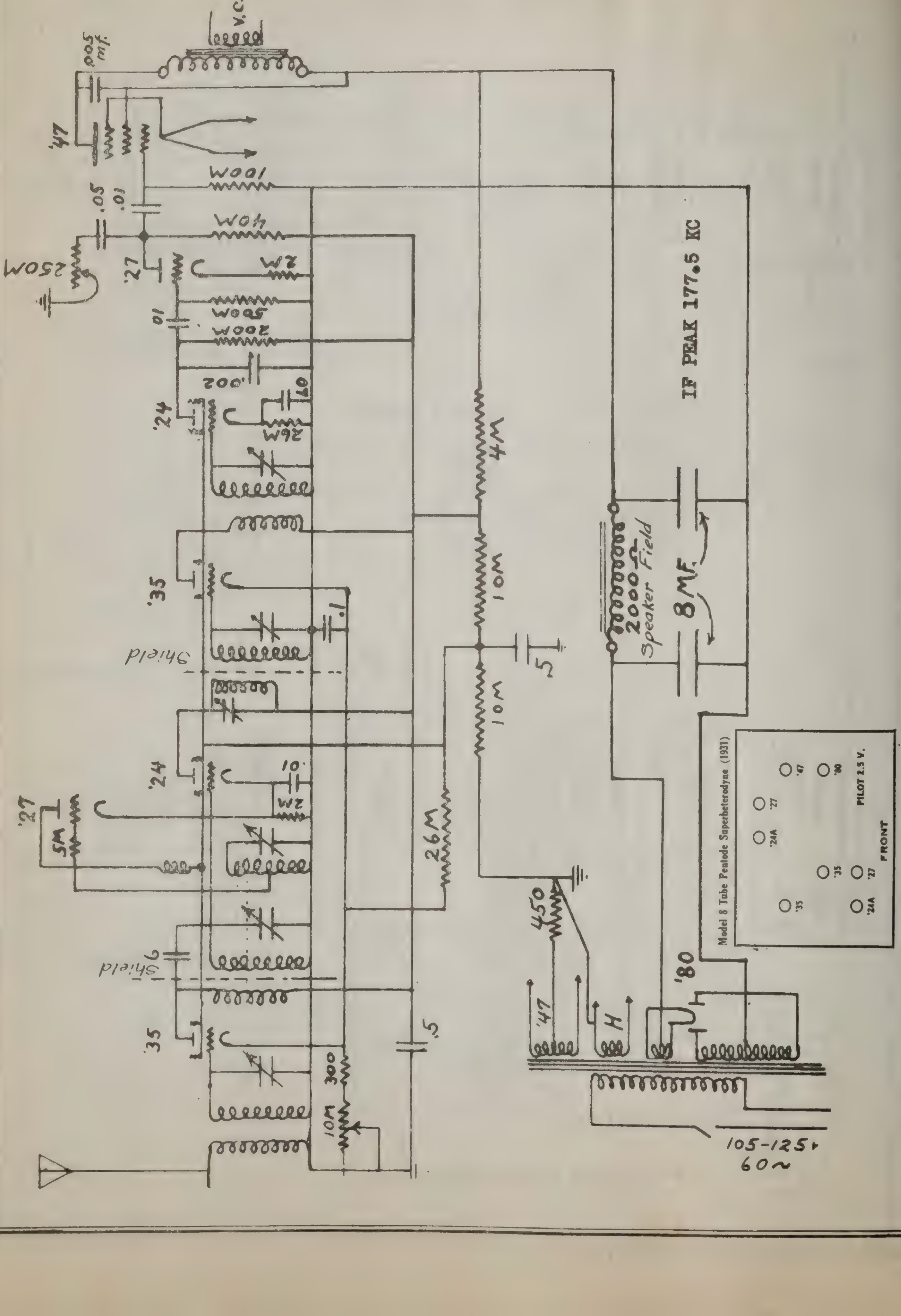

'35
8MMF.
'35
8 MMF.
'24
.01
'27
.05
10M
.01
'47
V.C.
.001
25M
.5
250M
500M
2M
40M
100M
10M
200
15M
.1
25M
5M
.1
.1
H
'47
450
SPEAKER FIELD
2000 Ω
8 MF.
'80
105-125v
60~
'24A
'27
'47
'80
'35
'35
PILOT 2.5 V.
FRONT

Model 6 Tube Pentode Set (1931)

6 Tube Pentode Set '31

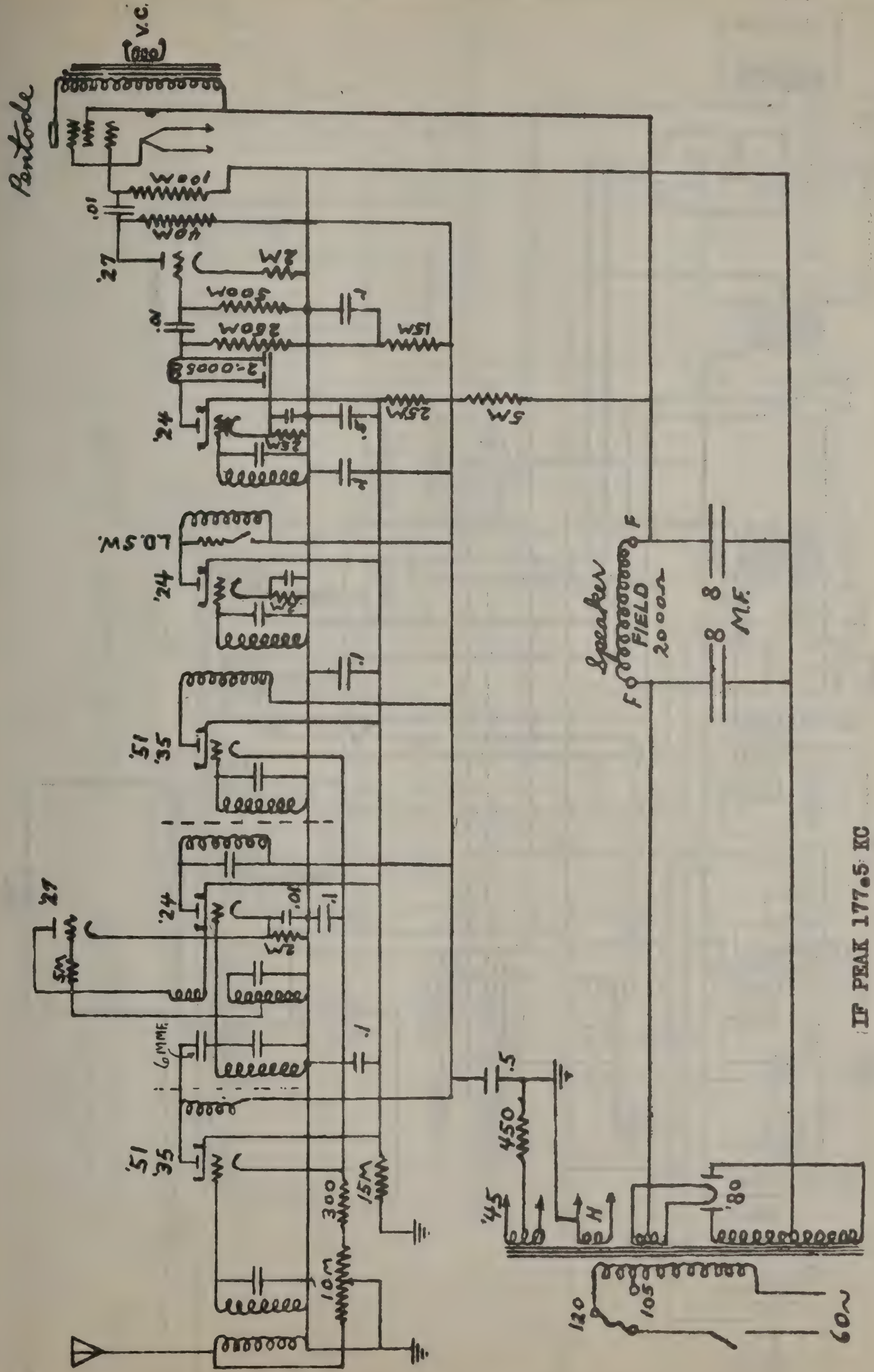
MODEL 8 Tube Super
Pentode '31

AUDIOLA RADIO CO.


V.C.
.005 mf.
'47
100M
.05
.01
40M
250M
'27
2M
500M
.01
200M
.002
'24
.01
26M
4M
'35
.1
10M
Shield
10M
'24
.01
2M
'27
5M
26M
2000Ω Speaker Field
8MF.
.5
IF PEAK 177.5 KC
450
'47
H
'80
.6
Shield
'35
300
10M
.5
105-125v
60~
Model 8 Tube Pentode Superheterodyne (1931)
'47
'80
'27
'24A
PILOT 2.5 V.
'35
'35
'27
'24A
FRONT

AUDIOLA RADIO CO.

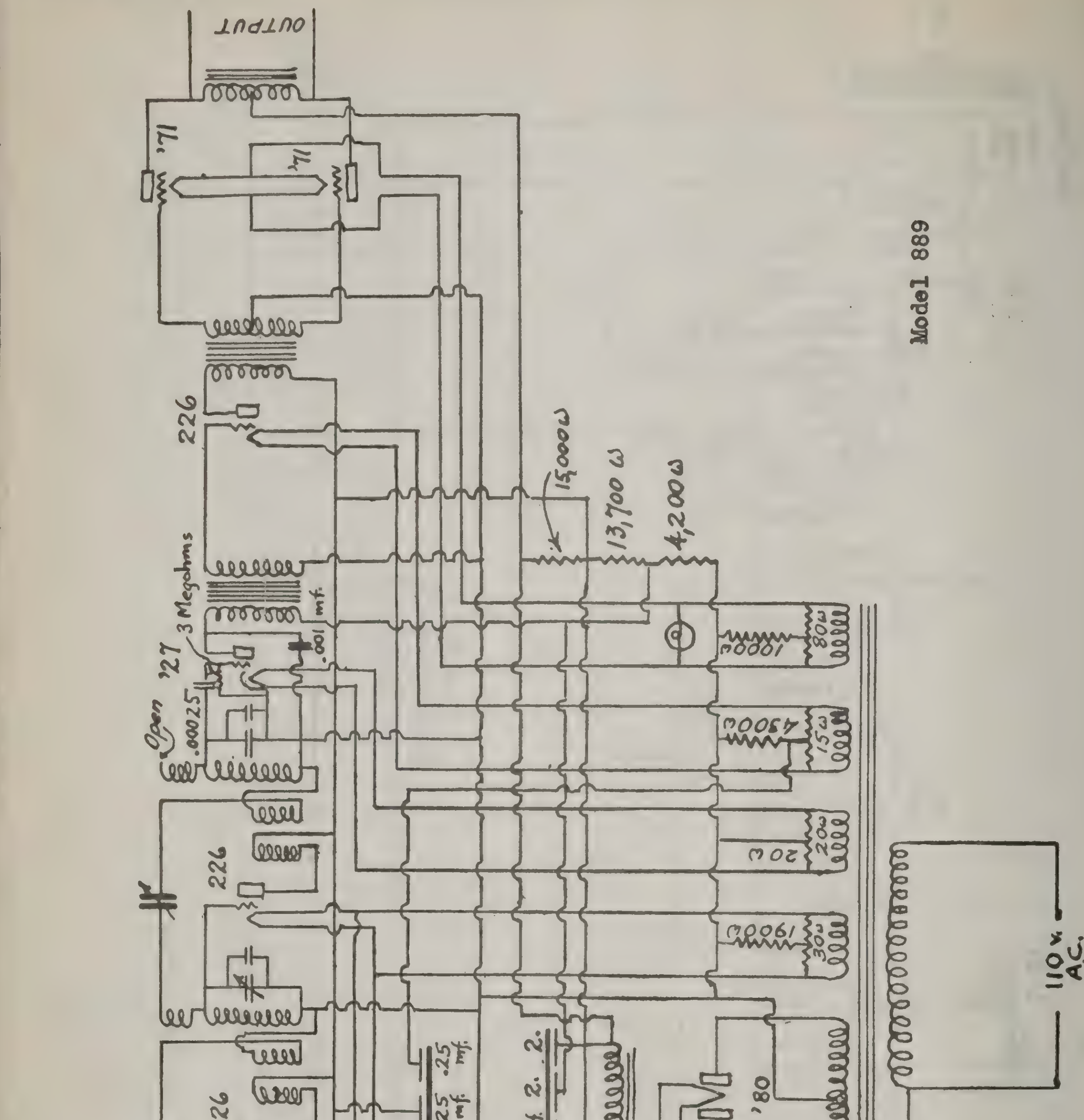
MODEL 9 Tube Super
(1) Pentode '31


V.C.
Pentode
100M
.01
40M
'27
2M
500M
.01
.1
250M
15M
2-.0005
'24
25M
.1
25M
5M
.1
LO.SW.
'24
2M
.1
'51
'35
'24
.01
.1
2M
'27
5M
6MMF.
.1
.5
450
'51
'35
300
15M
10M
Speaker
FIELD
2000Ω
F
F
8
8
M.F.
'45
H
'80
120
105
60~

IF PEAK 177.5 KC

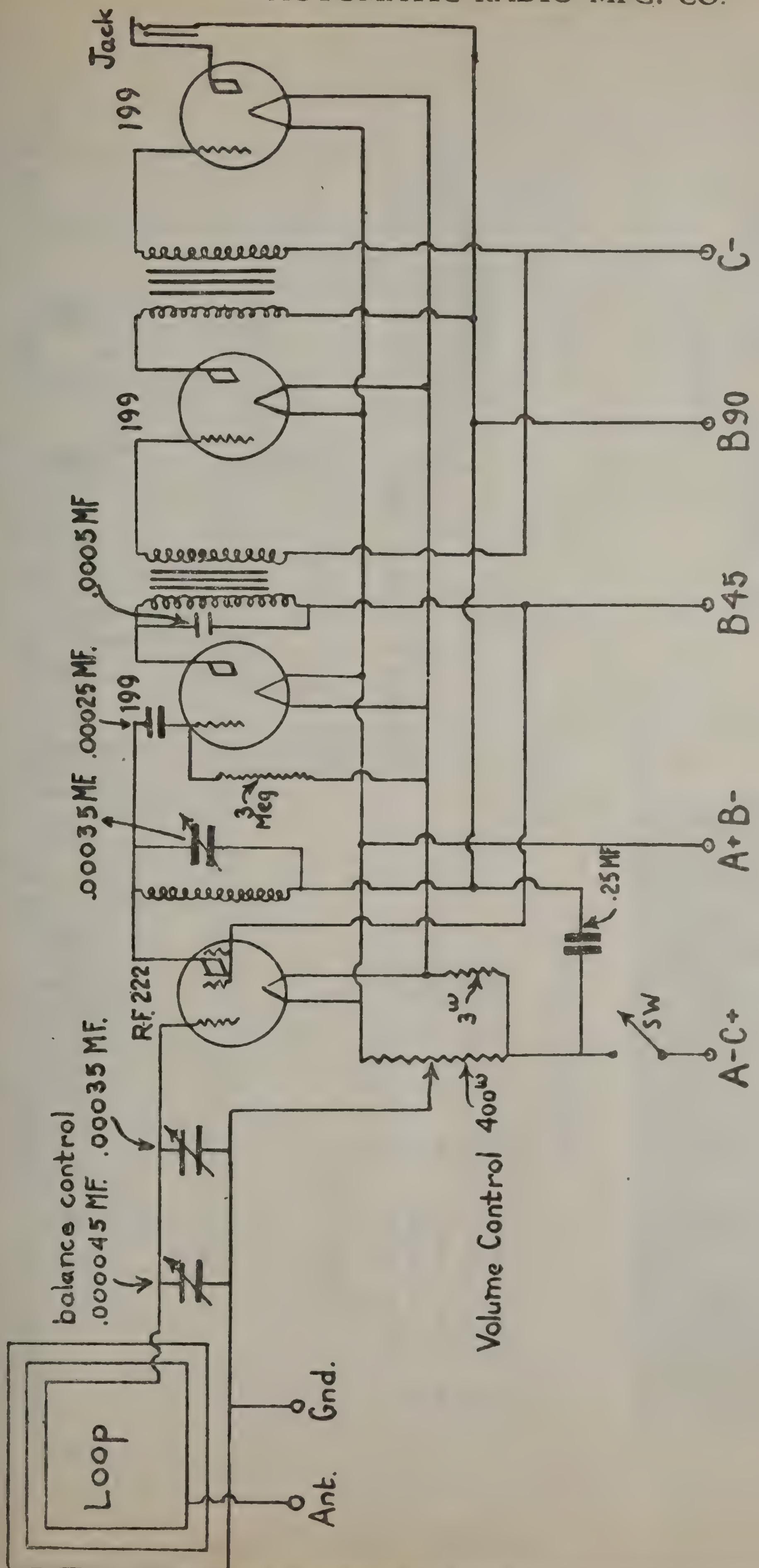
MODEL 889

AUDIOLA RADIO CO.


OUTPUT
'71
'71
226
15,000ω
13,700 ω
4,200ω
3 Megohms
'27
.001 mf.
Open
.00025
1000ω
80ω
4500ω
15ω
20ω
20ω
1900ω
30ω
226
226
226
.25 mf.
.25 mf.
.25 mf.
.25 mf.
1. .5 2 mf. 2. 2.
'80
110 v. A.C.
.01 mf.
500ω
Model 889

AUTOMATIC RADIO MFG. CO.

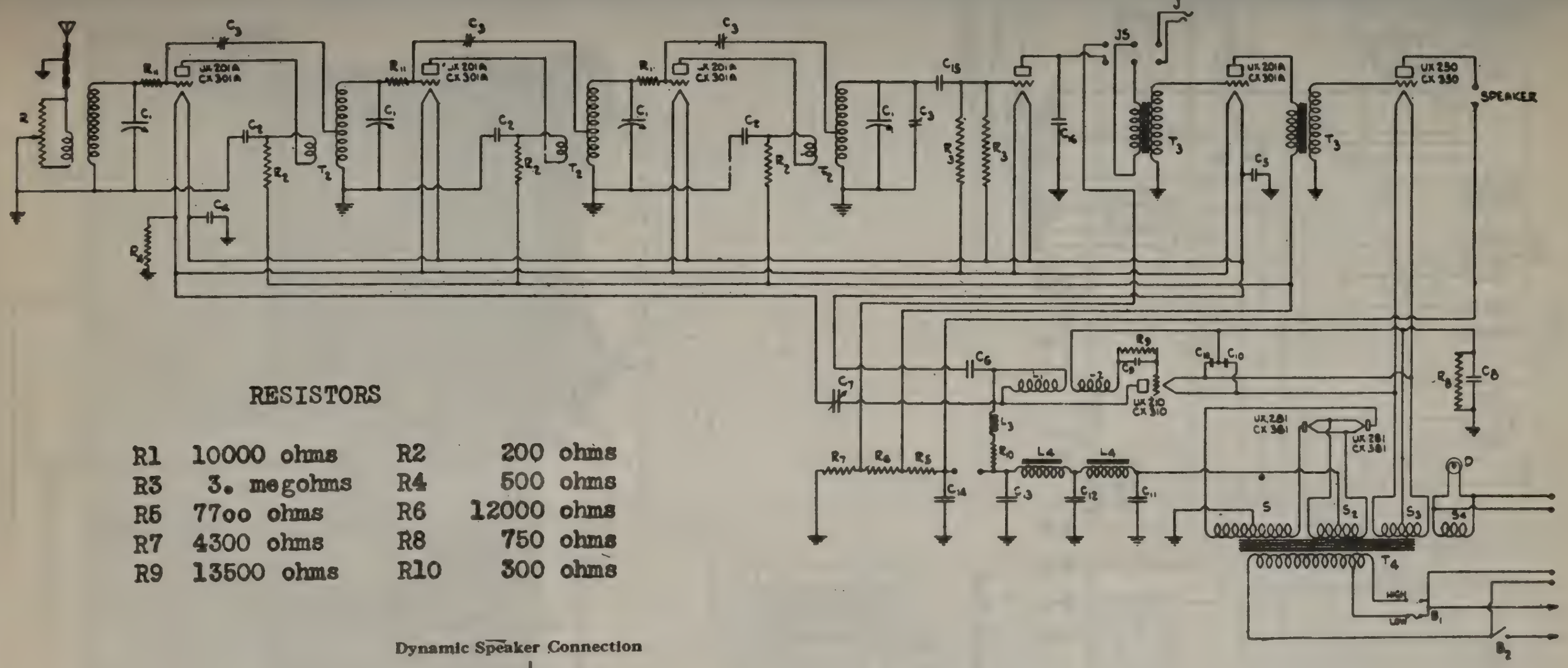
MODEL "TOM THUMB"
Screen Grid Four
Battery


Jack
199
199
.0005 MF
.00025 MF.
199
.00035 MF
3 Meg
R.F. 222
balance control
.000045 MF.
.00035 MF.
3Ω
Volume Control 400Ω
.25 MF
SW
C-
B90
B45
A+ B-
A- C+
Loop
Ant.
Gnd.

Schematic diagram of "Tom Thumb" screen grid four (battery)

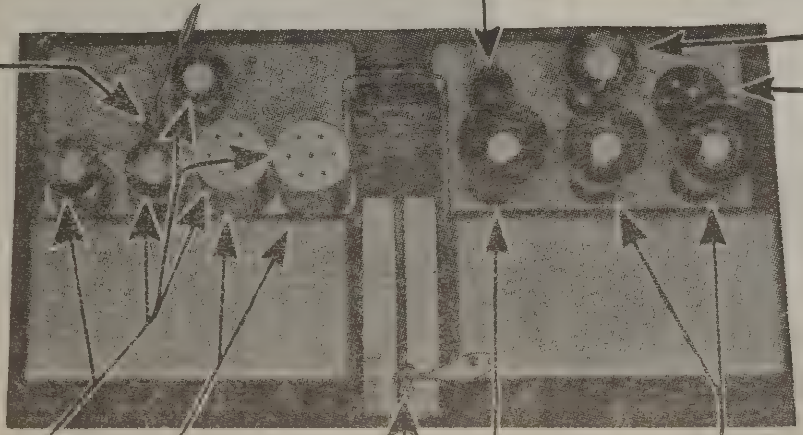
BALKEIT RADIO CO.

MODEL B-7 and B-9


UX201A
CX301A
UX250
CX350
UX210
CX310
UX281
CX381
SPEAKER
J
JS
T2
T3
T4
S
S2
S3
S4
L3
L4
D
HIGH
LOW
B1
B2

RESISTORS

R1	10000 ohms	R2	200 ohms
R3	3. megohms	R4	500 ohms
R5	77oo ohms	R6	12000 ohms
R7	4300 ohms	R8	750 ohms
R9	13500 ohms	R10	300 ohms

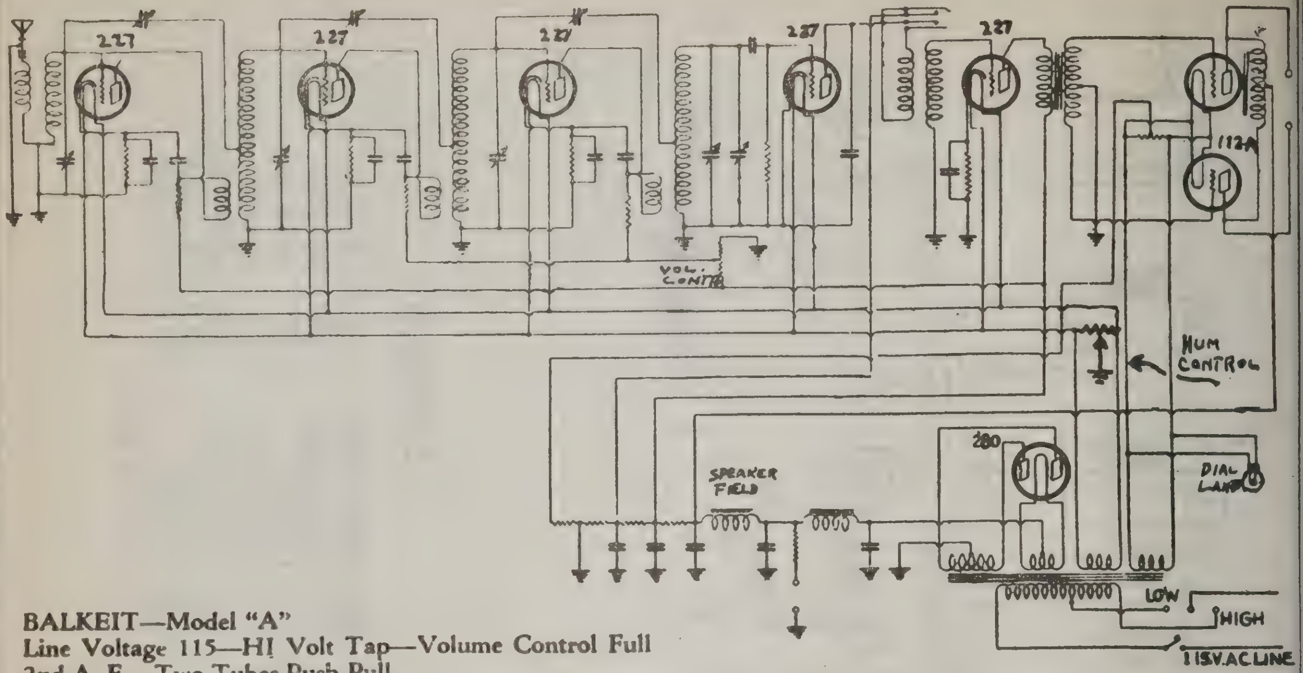

Dynamic Speaker Connection
Phonograph Pickup Jack
UX210 or CX310
Fuse Panel
Five Tubes UX202A or CX301A
Tube Shields
Pilot Lamp
UX250 or CX350
Two Tubes UX281 or CX 381

CONDENSERS

C1	.00037 mfd	C2	.1 mfd
C3	.00002 mfd	C4	.5 mfd
C5	1. mfd	C6	.006 mfd
C7	.00025 mfd	C8	2. mfd
C9	.0025 mfd	C10	.002 mfd
C11	2. mfd	C12	3. mfd
C13	4. mfd	C14	4. mfd
C15	.00015 mfd		

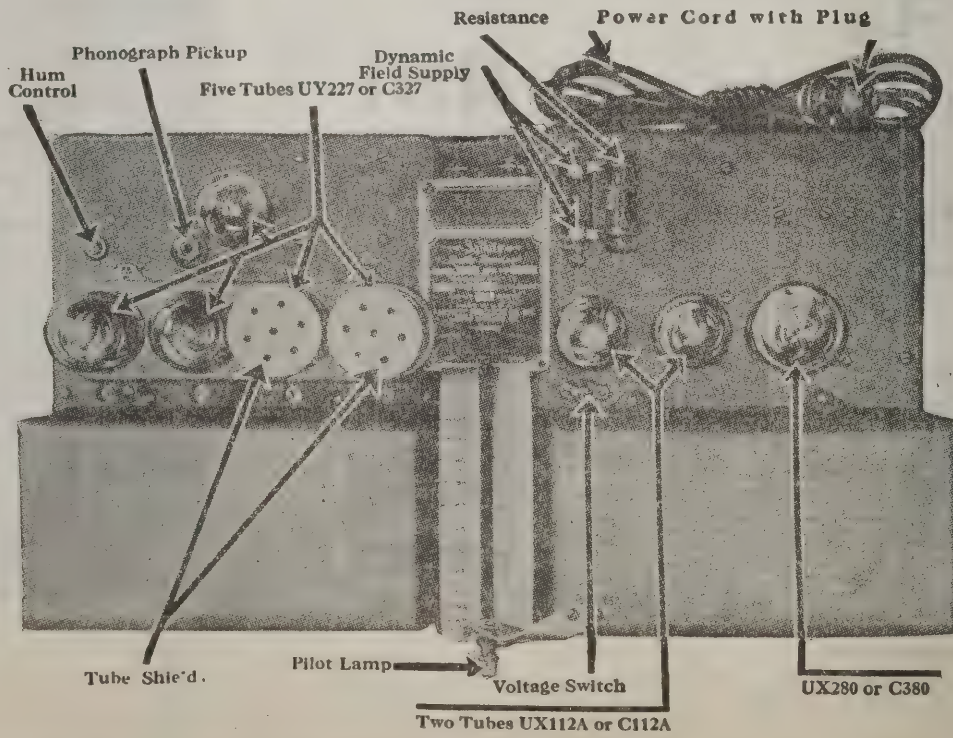
MODEL A-3,A-5,A-7

BALKEIT RADIO CO.


227
227
227
227
227
112A
VOL. CONTR
HUM CONTROL
280
SPEAKER FIELD
DIAL LAMP
LOW
HIGH
115V.AC LINE

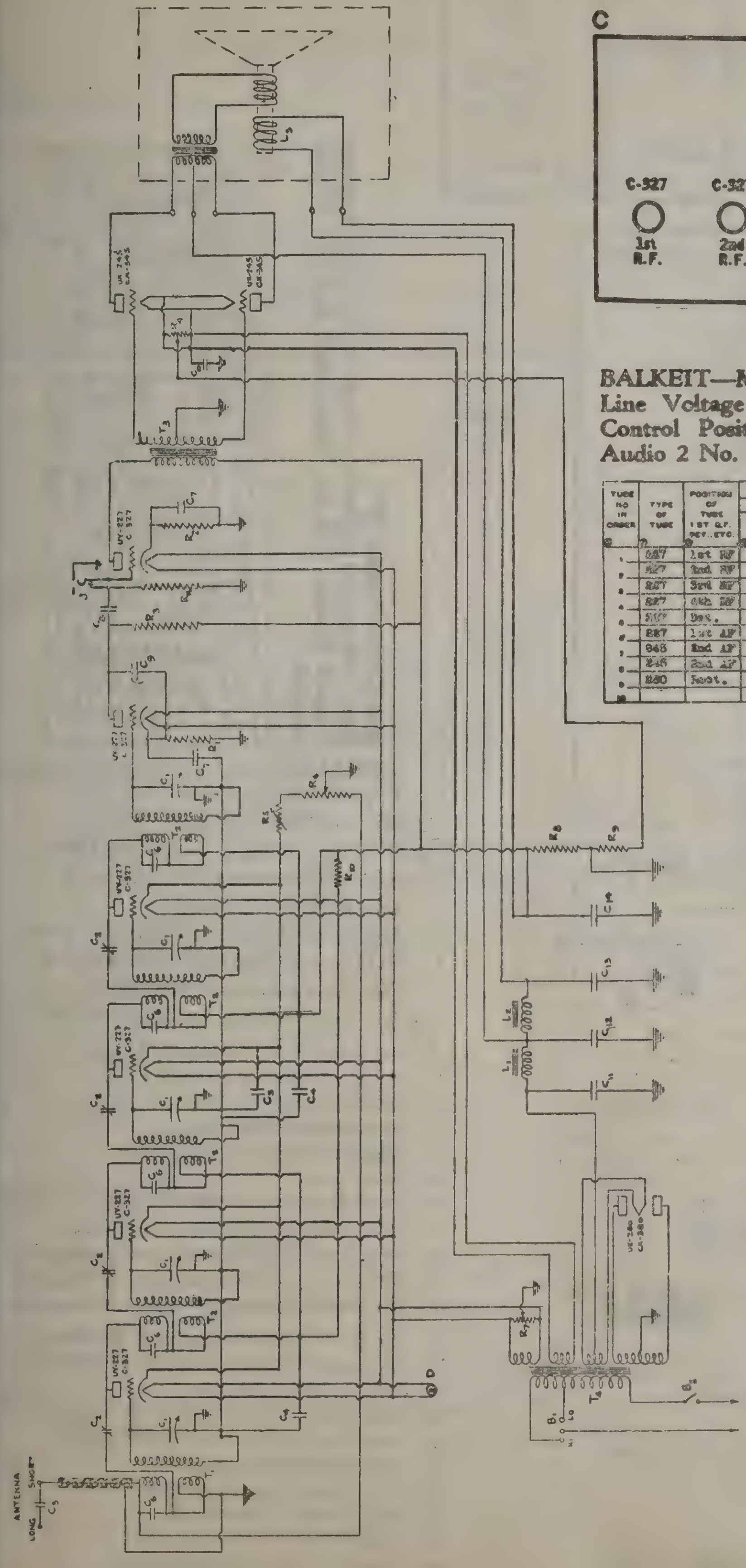
BALKEIT—Model "A"
Line Voltage 115—HI Volt Tap—Volume Control Full
2nd A. F.—Two Tubes Push Pull

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	227	1st.R.F.	2.3	98	2.1	84	5	-	3.1	4.5	1.4
2	227	2nd.R.F.	2.3	98	2.1	84	5	-	3.1	4.5	1.4
3	227	3rd.R.F.	2.3	98	2.1	84	5	-	3.1	4.5	1.4
4	227	Detector	2.3	46	2.1	30	0	-	2.2	2.4	0.2
5	227	1st.A.F.	2.3	98	2.1	84	5	-	3.1	4.5	1.4
6	112A	2nd.A.F.	4.7	142	4.5	132	9.5	-	9.0	13.8	4.8
7	112A	2nd.A.F.	4.7	142	4.5	132	9.5	-	9.0	13.8	4.8
8	280	Rectifier	-	-	4.5	-	-	-	32.0	-	-
9											
10											

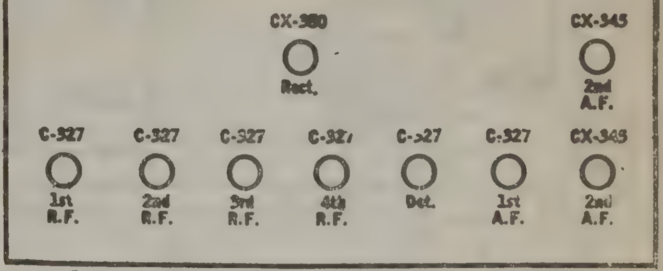

Resistance
Power Cord with Plug
Phonograph Pickup
Dynamic Field Supply
Hum Control
Five Tubes UY227 or C327
Tube Shie'd.
Pilot Lamp
Voltage Switch
Two Tubes UX112A or C112A
UX280 or C380

MODEL "C"

BALKEIT RADIO CO.


UX-245 CX-345
UY-227 C-327
UX-280 CX-380
T1
T2
T3
T4
L1
L2
L3
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
C5
C6
C7
C8
C9
C12
C13
C14
J
D
B1
HI
LO
B2
ANTENNA
LONG
SHORT

C (A.C.)


CX-380
Rect.
CX-345
2nd A.F.
C-327
1st R.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
4th R.F.
C-327
Det.
C-327
1st A.F.
CX-345
2nd A.F.

BALKEIT—Model "C"
Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On—Use 120 V. Scale—2nd Audio 2 No. 245 in Parallel

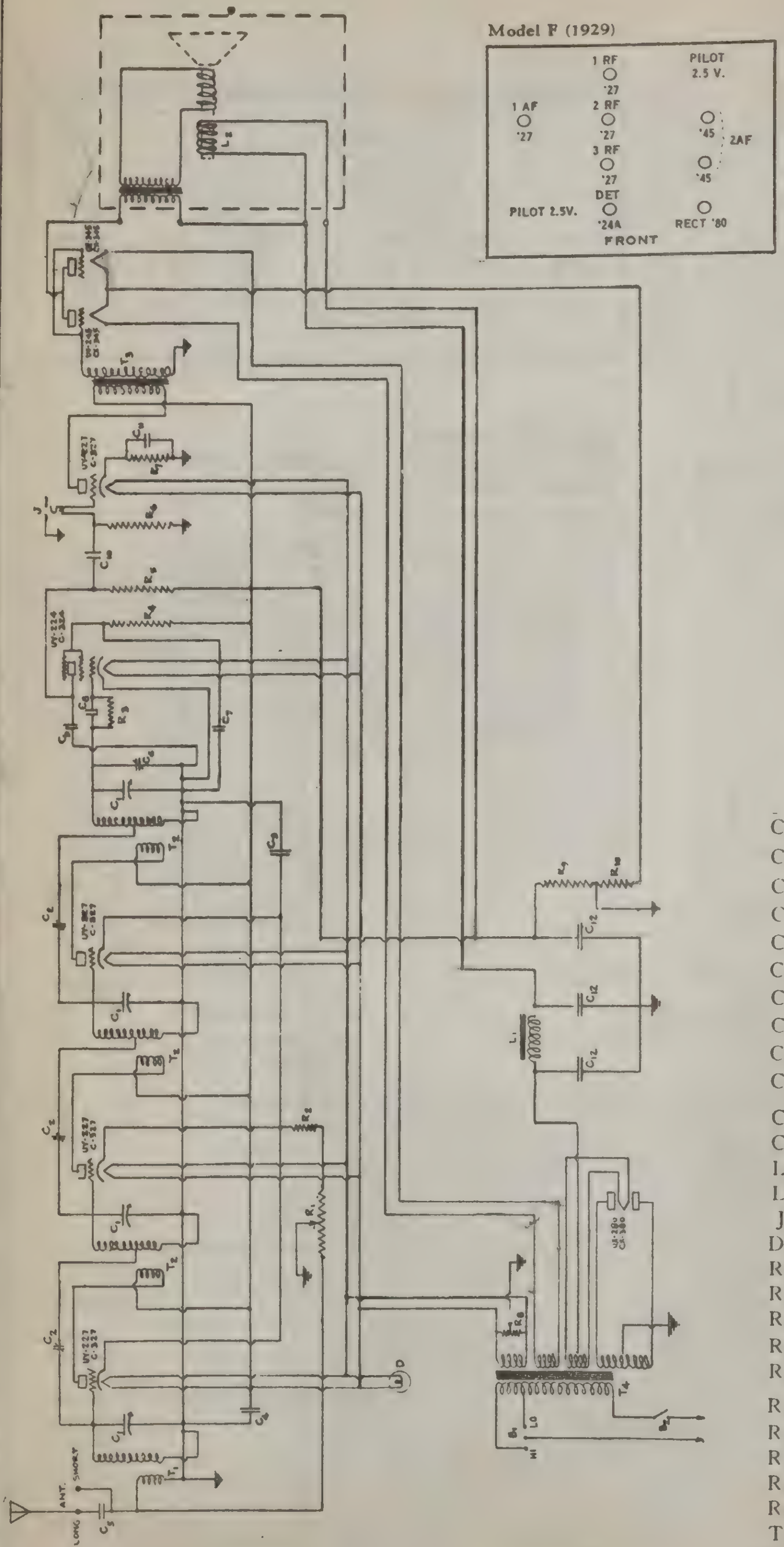
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL GRID)	CATHODE-HEATER VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE CHANGE M.A.	SCREEN GRID VOLTS
1	227	1st RF	2.35	118	2.4	117	10	10	3.8	4.6	.8	-
2	227	2nd RF	2.35	118	2.4	117	10	10	3.8	4.6	.8	-
3	227	3rd RF	2.35	118	2.4	117	10	10	3.8	4.6	.8	-
4	227	4th RF	2.35	118	2.4	117	20	10	3.8	4.6	.8	-
5	227	Det.	2.35	62	2.4	62	6.5	6.5	0.3	0.4	.1	-
6	227	1st AF	2.35	118	2.4	117	2	7.5	4.6	6.1	1.5	-
7	245	2nd AF	2.4	-	2.3	225	41	-	24	28	6.	-
8	245	2nd AF	2.4	-	2.3	225	41	-	24	28	4.	-
9	280	Rect.	-	-	4.75	-	-	-	94	-	-	-
10												

C-1	Tuning Condenser		
C-2	Neutralizing Condenser		
C-3	R. F. Grid Bias Condenser	.25	MF
C-4	R. F. Plate By-Pass Condenser	.25	MF
C-5	Antenna Condenser	.00025	MF
C-6	Primary By-Pass Condenser	.00025	MF
C-7	Grid Bias Condenser	1.0	MF
C-8	1st Audio Coupling Condenser	0.1	MF
C-9	Detector Plate Condenser	.002	MF
C-10	By-Pass Condenser	.25	MF
C-11	Filter Condenser	2	MF
C-12	Filter Condenser	2	MF
C-13	Filter Condenser	2	MF
C-14	Filter Condenser	1	MF
J	Phonograph Jack		
L-1	Filter Choke		
L-2	Filter Choke		
L-3	Speaker Field		
R-1	Detector Grid Bias Resistance	25,000 Ohms	
R-2	1st Audio Grid Bias Resistance	1,750 Ohms	
R-3	1st Audio Coupling Resistance	.1 Megohn	
R-4	Mid-Tap Resistance	20 Ohms	
R-5	R. F. Grid Bias Resistance	2,000 Ohms	
R-6	Volume Control	15,000 Ohms	
R-7	Hum Control	20 Ohms	
R-8	Loss Current Resistance	3,600 Ohms	
R-9	245 Grid Bias Resistance	770 Ohms	
R-10	R. F. Plate Rsistance		
R-11	1st Audio Grid Resistance	.5 Megohn	
T-1	Antenna Transformer		
T-2	R. F. Interstage Transformer		
T-3	Input Push-Pull Transformer		
T-4	Power Transformer		
B-1	HI-LO S.P.D.T. Toggle Switch		
B-2	S.P.S.T. Toggle Switch		
D'	Dial Lamp		

Chassis layout on next page.

MODEL "F"

BALKEIT RADIO CO.


ANT.
SHORT
LONG
C5
T1
C1
C2
UY-227 C-327
T2
UY-224 C-324
C6
C7
C8
C9
R3
R4
R5
C10
J
UY-227 C-327
C11
R6
R7
T3
UY-245 CX-345
L2
R1
R2
D
C4
C3
R9
R10
C12
L1
UX-280 CX-380
R8
T4
B1
LO
HI
B2

Model F (1929)
1 RF
'27
2 RF
'27
3 RF
'27
DET
'24A
1 AF
'27
PILOT 2.5V.
PILOT 2.5 V.
'45
'45
2AF
RECT '80
FRONT

BALKEIT—Model "F"
Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On *Last Stage Is 2 No. 245 in Parallel

Tube No. in Order	Type of Tube	Position of Tube 1st RF Det etc	Readings, Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts	B Volts	A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate Change M.A.	Screen Grid Volts
1	227	1st RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
2	227	2nd RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
3	227	3rd RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
4	224	Det.	2.4	50	2.3	50	0.2	-	0.7	0.7	-	5.
5	227	1st A	2.4	128	2.3	100	8.5	8.5	6.2	7.8	1.3	-
6	245	2nd A*	5.2	290	2.4	175	31	-	24.	28	4.	-
7	245	2nd A*	5.2	290	2.4	175	31	-	24.	28	4	-
8	280	Rect.	-	-	4.75	-	-	-	80.	-	-	-
9												
10												

C_1	Tuning Condenser.
C_2	Neutralizing Condenser.
C_3	R.F. Grid Bias Condenser .25 MF.
C_4	R.F. Plate By-Pass Condenser .25 MF.
C_5	Antenna Condenser .00025 MF.
C_6	Det. Padding Condenser.
C_7	Det. Screen Grid Bias Condenser .25 MF.
C_8	Det. Control Grid Condenser .0001 MF.
C_9	Det. Plate Condenser .0005 MF.
C_{10}	1st Audio Coupling Condenser 0.1 MF.
C_{11}	1st Audio Grid Condenser 0.5 MF.
C_{12}	Filter Condensers 8.0 MF Each.
L_1	Filter Choke.
L_2	Speaker Field 2500 Ohms.
J	Phonograph Jack.
D	Dial Lamp.
R_1	Volume Control 15,000 Ohms.
R_2	R.F. Grid Bias Resistance 620 Ohms.
R_3	Det. Control Grid Resistance .5 Megohm
R_4	Det. Screen Grid Resistance .5 Megohm
R_5	1st Audio Coupling Resistance .1 Megohm.
R_6	1st Audio Grid Resistance .5 Megohm.
R_7	1st Audio Grid Bias Resistance 1750 Ohms.
R_8	Hum Control 20 Ohms.
R_9	Loss Current Resistance 4500 Ohms
R_{10}	245 Grid Bias Resistance 650 Ohms
T_1	Antenna Transformer.
T_2	R.F. Inter stage Transformer.
T_3	Input Audio Transformer
T_4	Power Transformer.
B_1	Hi-Lo S.P.D.T. Toggle Switch.
B_2	S.P.S.T. Toggle Switch.

Chassis layout on next page

Balkite Models and Specifications

Current Models

Balkite AB 6-180, "A" and "B" Current Supply

	Max. Output	
"A"	6 volts	2 amperes
"B"	180	55 m.a.

B Voltages, 180, 135, 90, 67½, 45 or 22½

Consumption: watts 127
Dimensions: 10¼″ x 18½″ x 7¾″

Balkite AB 6-135, "A" and "B" Current Supply.

	Max. Output	
"A"	6 volts	2 amperes
"B"	135	40 m.a.

B Voltages, 135, 90, 67½, 45 or 22½

Consumption: watts 117
Dimensions: 10¼″ x 18½″ x 7¾″

Balkite A-6, "A" Current Supply.

Output
6 volts 2 amperes

Consumption: watts 100
Dimensions: 6″ x 10¾″ x 8⅜″

Balkite B-180, "B" Current Supply.

Output
180 volts 55 m.a.

Voltages, 180, 135, 90, 67½ and 45 or 22½

Consumption: watts 27
Dimensions 4½″ x 12¾″ x 8¾″

Balkite B-135, "B" Current Supply.

Output
135 volts 40 m.a.

Voltages, 135, 90, 67½ and 45 or 22½
Consumption: watts 17
Dimensions: 4½″ x 8¼″ x 8⁵⁄₁₆″

Balkite BW, "B" Current Supply.

Output
90 volts 18 m.a.

Voltage, 90 and 45 or 22½
Consumption: watts 6
Dimensions: 3⁵⁄₁₆″ x 7⅝″ x 8¾″

Balkite Model J Charger, Full Rate and Trickle Charger

Charging Rates

High Rate, 2½ amperes
Low Rate, ½ ampere

Consumption: watts 60
Dimensions: 5⅜″ x 8½″ x 7⅝″

Balkite Model N Trickle Charger, Trickle Charger

Charging Rates
High Rate, .8 ampere
Low Rate, .5 ampere

Consumption: watts 20
Dimensions: 4⅛″ x 7½″ x 6¼″

Balkite Model K Trickle Charger, Trickle Charger

Charging Rate, .5 ampere
Consumption: watts 15
Dimensions: 2¾″ x 5½″ x 5¼″

Previous Models

Balkite BY, "B" Current Supply.

Output
150 volts 40 milliamperes

Voltages, 150, 135, 90, 67½ and 45 or 22½
Consumption: watts 17
Dimensions: 4½″ x 12¾″ x 8¾″

Balkite BX, "B" Current Supply.

Output
135 volts 30 milliamperes

Voltages, 135, 90, 67½ and 45 or 22½
Consumption: watts 12
Dimensions: 4½″ x 8¼″ x 8⅝″

Balkite Combination, Model "KX", "B" Current Supply and Trickle Charger.

"B" Output
135 volts 30 milliamperes

"B" Voltages, 135, 90, 67½ and 45 or 22½
"A" Charging Rate, 0.5 ampere
Consumption: watts 17
Dimensions: 13¼″ x 4½″ x 8⅞″

Balkite "B", Model D, "B" Current Supply.

Output
90 volts 20 milliamperes

Voltages, 90, 45 or 22½
Consumption: watts 7
Dimensions: 3⅝″ x 7⅝″ x 8¾″

Balkite BII, "B Current Supply.

Output
90 volts 40 milliamperes

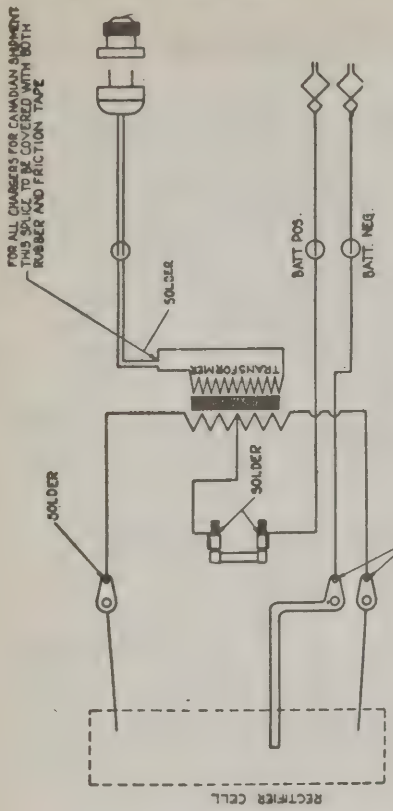
Voltages, 90, 45, 22½
Consumption: watts 10

Balkite Model H Charger, High Rate Charger.
Charging Rate, 2½ amperes
Consumption: watts 60

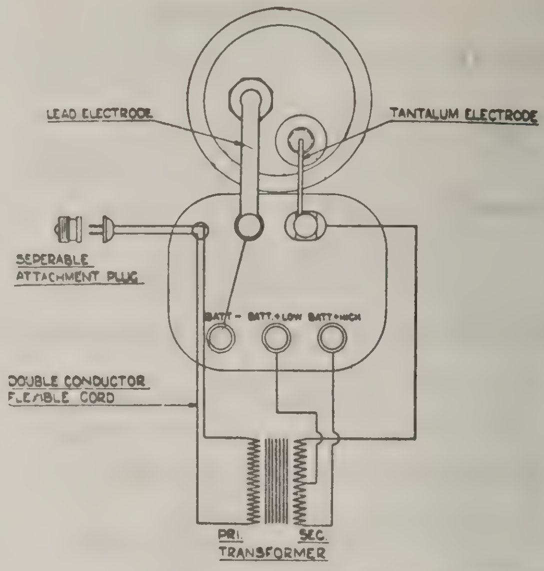
Balkite Model A Charger, High Rate Charger.
Charging Rate, 3 amperes
Consumption: watts 80

MODEL H - J Chargers
MODEL K - N Chargers

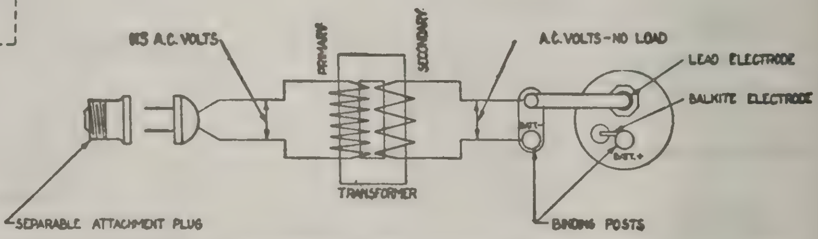
BALKITE PRODUCTS CO.


FOR ALL CHARGERS FOR CANADIAN SHIPMENT THIS SPLICE TO BE COVERED WITH BOTH RUBBER AND FRICTION TAPE
SOLDER
BATT. POS.
BATT. NEG.
TRANSFORMER
SOLDER
SOLDER
SOLDER
RECTIFIER CELL

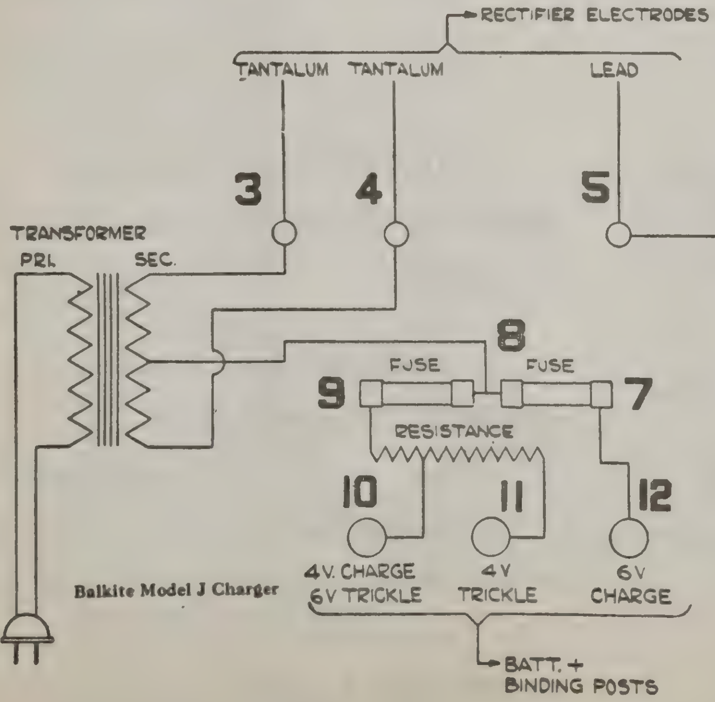
Wiring Diagram, Balkite Model H Charger


LEAD ELECTRODE
TANTALUM ELECTRODE
SEPERABLE ATTACHMENT PLUG
BATT - BATT.+LOW BATT.+HIGH
DOUBLE CONDUCTOR FLEXIBLE CORD
PRI.
SEC.
TRANSFORMER

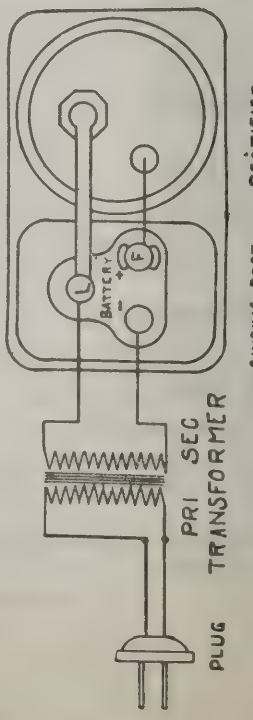
Wiring Diagram, Balkite Model N Charger


115 A.C. VOLTS
PRIMARY
SECONDARY
A.C. VOLTS-NO LOAD
LEAD ELECTRODE
BALKITE ELECTRODE
BATT.-
BATT.+
TRANSFORMER
SEPARABLE ATTACHMENT PLUG
BINDING POSTS

Wiring Diagram, Balkite Model K, Trickle Charger


RECTIFIER ELECTRODES
TANTALUM
TANTALUM
LEAD
3
4
5
TRANSFORMER
PRI.
SEC.
8
6
FUSE
FUSE
9
7
RESISTANCE
BATT. -
10
11
12
4V. CHARGE
6V TRICKLE
4V
TRICKLE
6V
CHARGE
BATT. +
BINDING POSTS

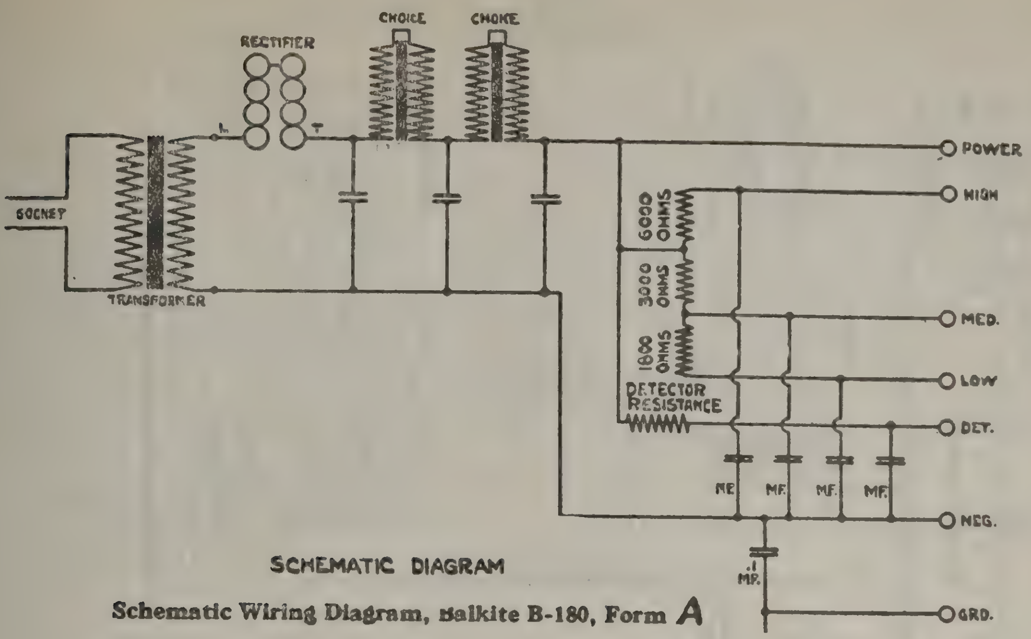
Balkite Model J Charger


RECTIFIER
BATTERY
+
-
BINDING POST
PRI SEC
TRANSFORMER
PLUG

Wiring Diagram. Balkite Model K. Trickle Charger

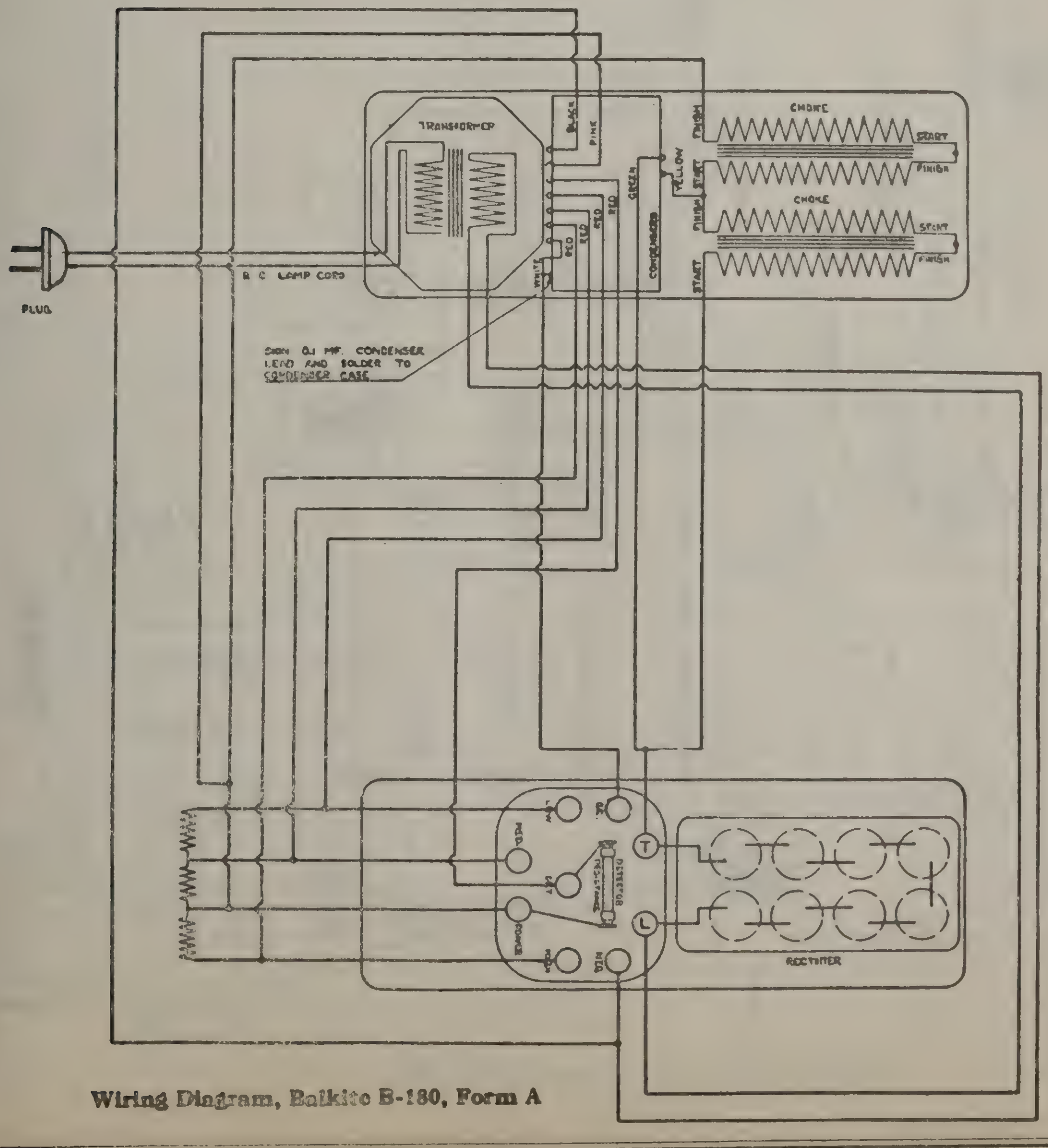
MODEL B-180 Form A

BALKITE PRODUCTS CO.


RECTIFIER
CHOKE
CHOKE
SOCKET
TRANSFORMER
POWER
HIGH
6000 OHMS
3000 OHMS
1800 OHMS
MED.
LOW
DETECTOR RESISTANCE
DET.
MF.
MF.
MF.
MF.
NEG.
.1 MF.
GRD.

SCHEMATIC DIAGRAM

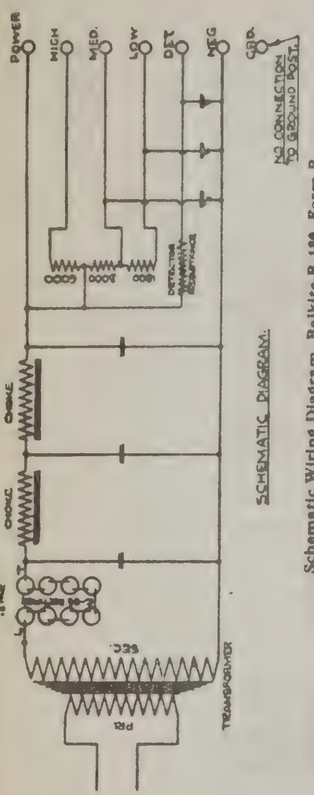
Schematic Wiring Diagram, Balkite B-180, Form A


TRANSFORMER
BLACK
PINK
YELLOW
GREEN
RED
RED
RED
WHITE
CONDENSER
FINISH
START
CHOKE
START
FINISH
FINISH
START
CHOKE
START
FINISH
PLUG
B C LAMP CORD
SKIN 0.1 MF. CONDENSER LEAD AND SOLDER TO CONDENSER CASE
R
T
L
DETECTOR
RECTIFIER

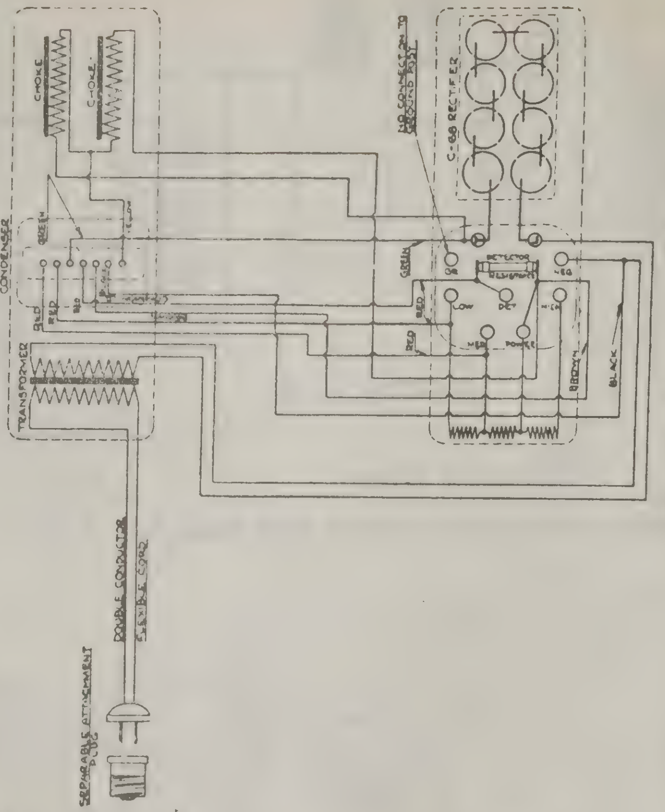
Wiring Diagram, Balkite B-180, Form A

MODEL AB-6-180 Form A
MODEL B-180 Form B

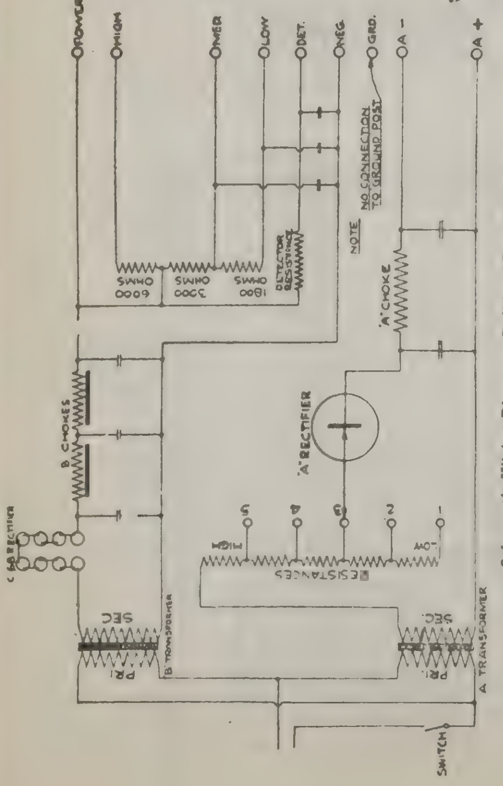
BALKITE PRODUCTS CO.


POWER
HIGH
MED.
LOW
DET
NEG
GRD.
NO CONNECTION TO GROUND POST
6000
3000
1800
DETECTOR RESISTANCE
CHOKE
CHOKE
SEC.
PRI.
TRANSFORMER
SCHEMATIC DIAGRAM

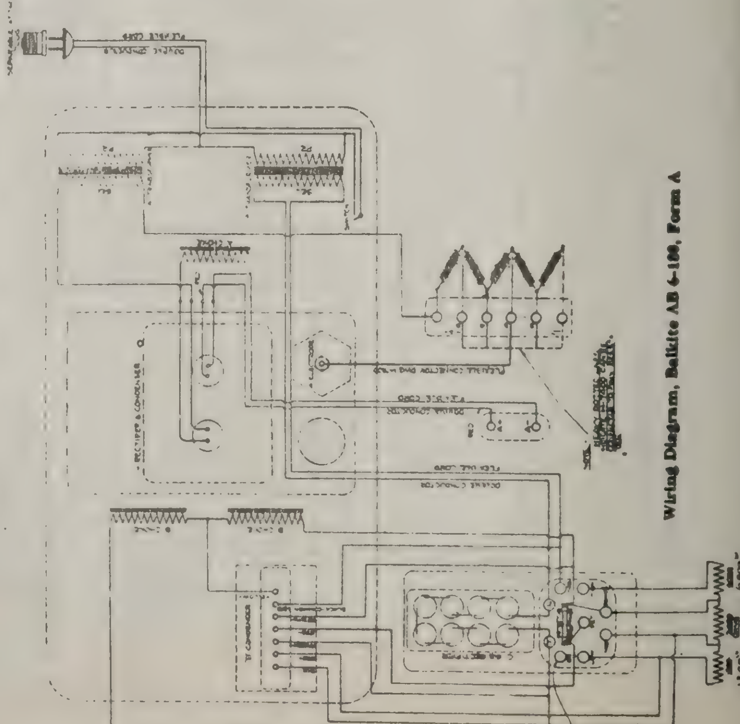
Schematic Wiring Diagram, Balkite B-180, Form B


CHOKE
CHOKE
CONDENSER
GREEN
YELLOW
RED
TRANSFORMER
C-88 RECTIFIER
NO CONNECTION TO GROUND POST
GR
NEG
LOW
DET
MED
POWER
DETECTOR RESISTANCE
BROWN
BLACK
DOUBLE CONDUCTOR FLEXIBLE CORD
SEPARABLE ATTACHMENT PLUG

Wiring Diagram, Balkite B-180, Form B


POWER
HIGH
MED
LOW
DET.
NEG.
GRD.
A –
A +
NOTE
NO CONNECTION TO GROUND POST
6000 OHMS
3000 OHMS
1800 OHMS
DETECTOR RESISTANCE
'A' CHOKE
'A' RECTIFIER
B CHOKES
C RECTIFIER
SEC
PRI
B TRANSFORMER
RESISTANCES
HIGH
LOW
SEC.
PRI.
A TRANSFORMER
SWITCH

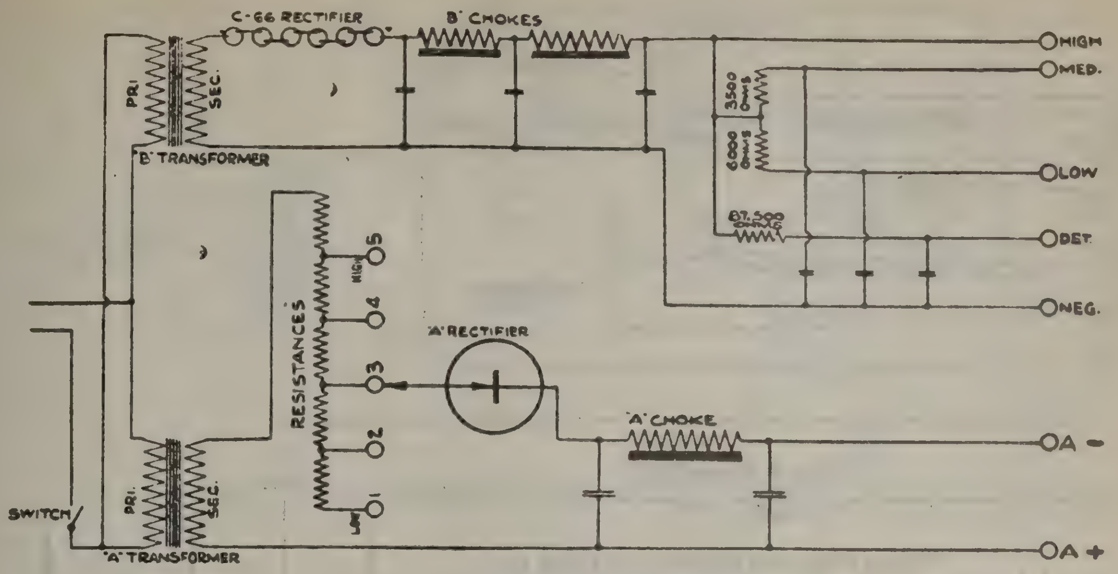
Schematic Wiring Diagram, Balkite AB 6-180, Form A


1800
3000
6000

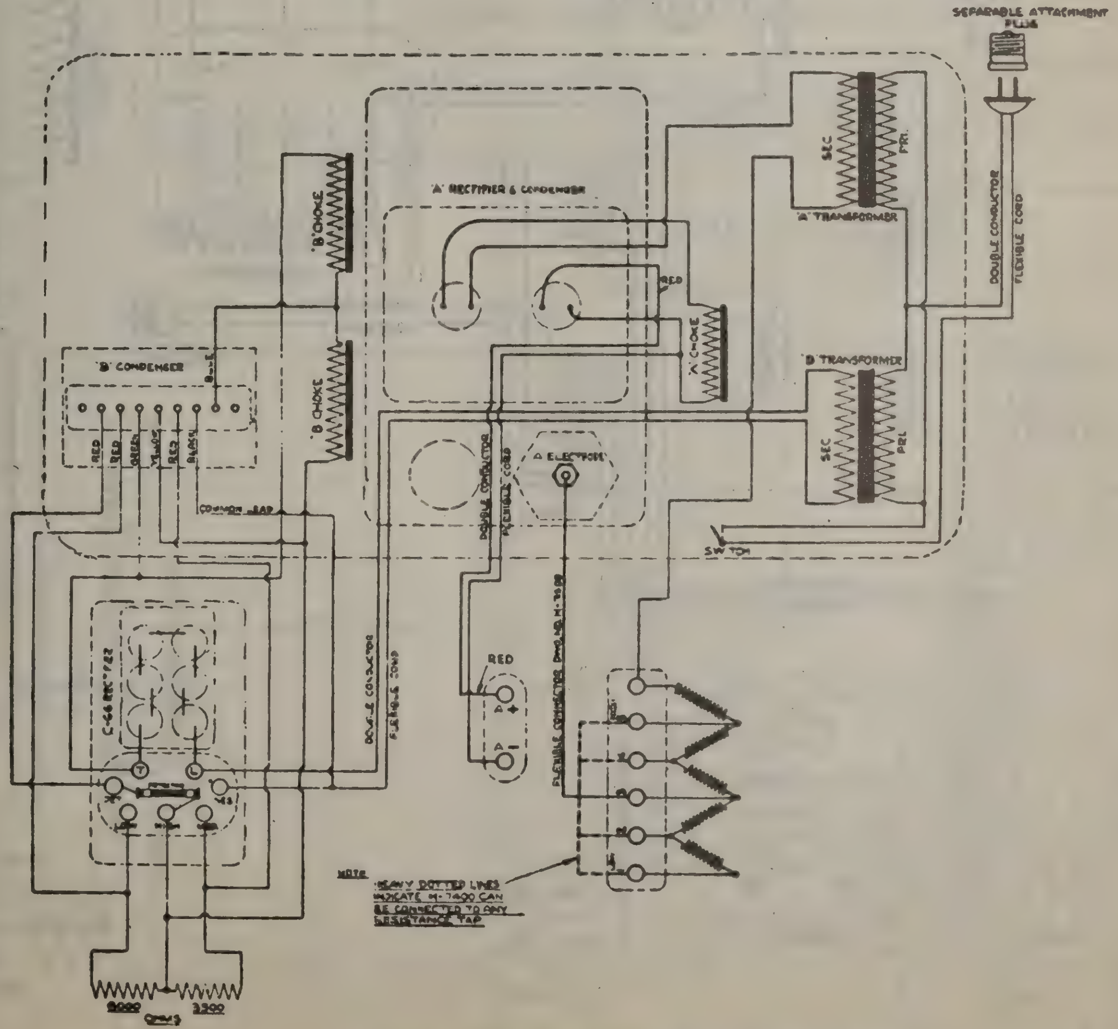
Wiring Diagram, Balkite AB 6-180, Form A

MODEL AB-6-135 Form A

BALKITE PRODUCTS CO.


C-66 RECTIFIER
'B' CHOKES
PRI.
SEC.
'B' TRANSFORMER
HIGH
MED.
3500 OHMS
6000 OHMS
LOW
87,500 OHMS
DET.
NEG.
RESISTANCES
HIGH
5
4
3
2
1
LOW
'A' RECTIFIER
'A' CHOKE
A −
A +
SWITCH
PRI.
SEC.
'A' TRANSFORMER

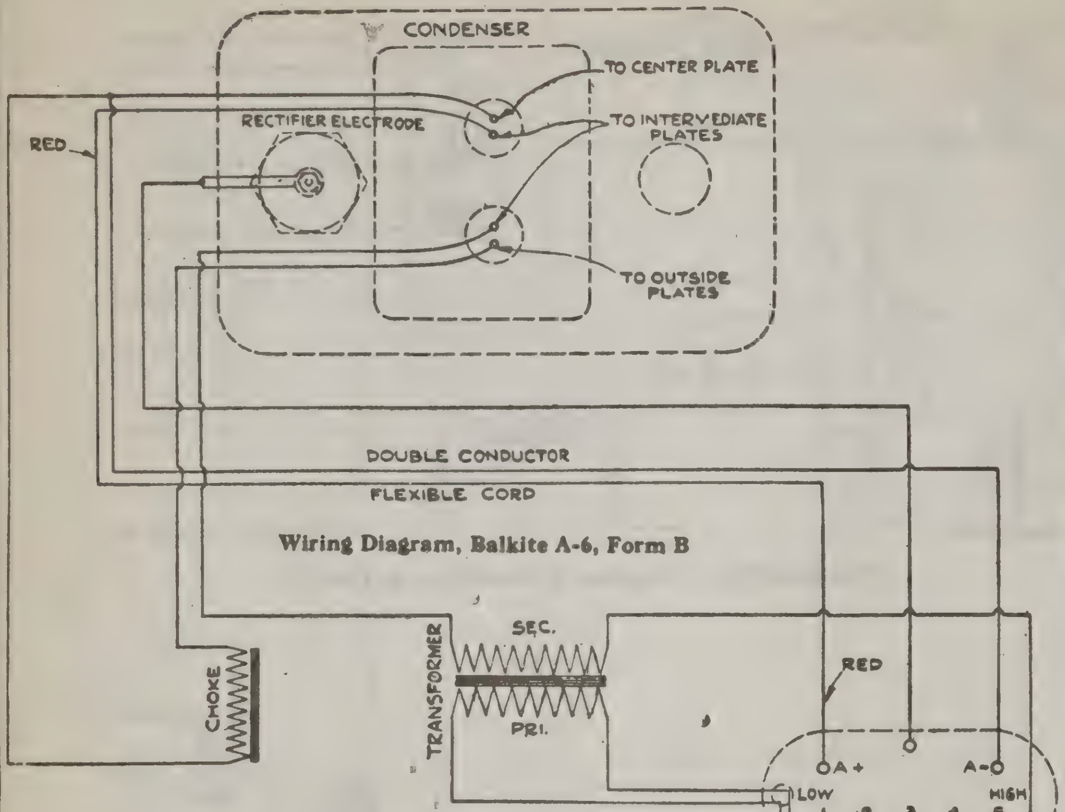
Schematic Wiring Diagram, Balkite AB 6-135, Form A


SEPARABLE ATTACHMENT PLUG
DOUBLE CONDUCTOR
FLEXIBLE CORD
SEC.
PRI.
'A' TRANSFORMER
'A' RECTIFIER & CONDENSER
RED
'B' CHOKE
'A' CHOKE
'B' CONDENSER
RED
RED
GREEN
YELLOW
RED
BLACK
COMMON LEAD
'B' TRANSFORMER
SEC.
PRI.
'A' ELECTRON
DOUBLE CONDUCTOR
FLEXIBLE CORD
SWITCH
C-66 RECT'FIER
DOUBLE CONDUCTOR
FLEXIBLE CORD
RED
A +
A −
FLEXIBLE CONNECTOR
NOTE
HEAVY DOTTED LINES INDICATE M-7400 CAN BE CONNECTED TO ANY RESISTANCE TAP
6000
OHMS
3500

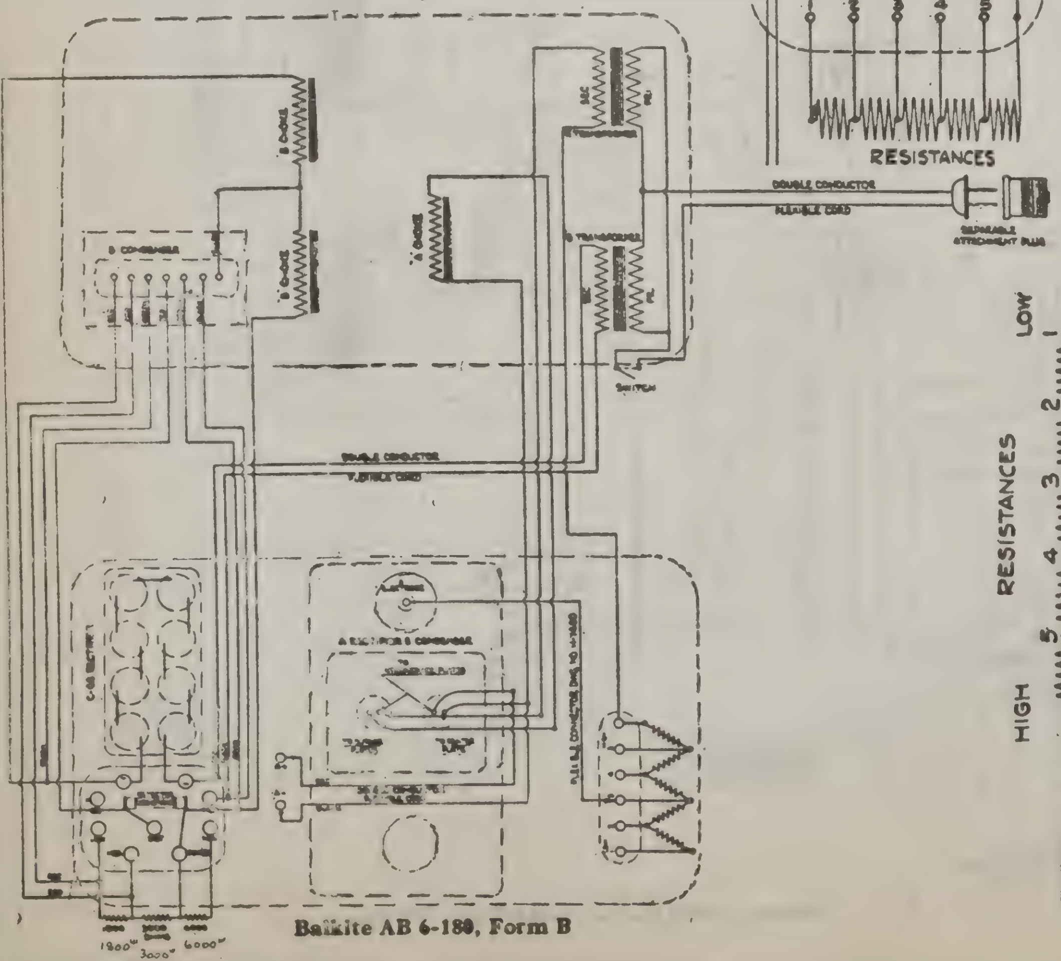
Wiring Diagram, Balkite AB 6-135, Form A

MODEL AB-6 Form B

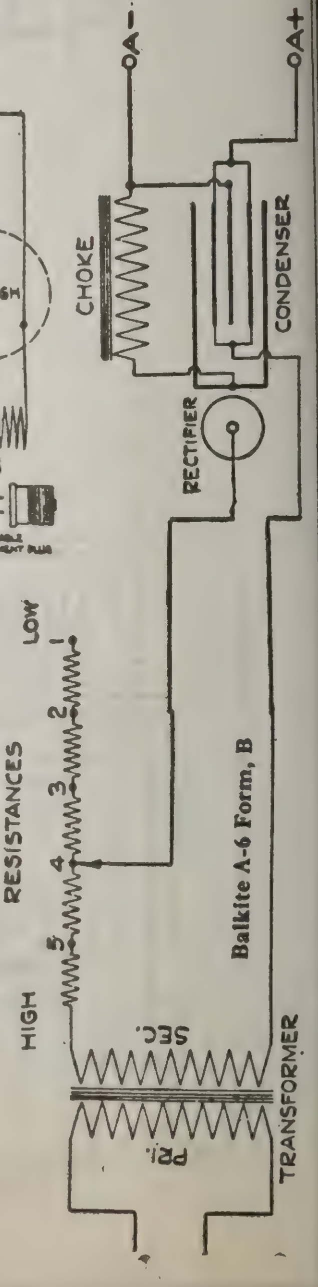
BALKITE PRODUCTS CO.


CONDENSER
TO CENTER PLATE
RECTIFIER ELECTRODE
TO INTERVEDIATE PLATES
RED
TO OUTSIDE PLATES
DOUBLE CONDUCTOR
FLEXIBLE CORD
CHOKE
TRANSFORMER
SEC.
PRI.
RED
A+
A-
LOW
HIGH
1
2
3
4
5
RESISTANCES

Wiring Diagram, Balkite A-6, Form B


B CHOKE
A CHOKE
B CONDENSER
SEC
PRI
B TRANSFORMER
SWITCH
DOUBLE CONDUCTOR
FLEXIBLE CORD
SEPARABLE ATTACHMENT PLUG
A RECTIFIER & CONDENSER
1800
3000
6000

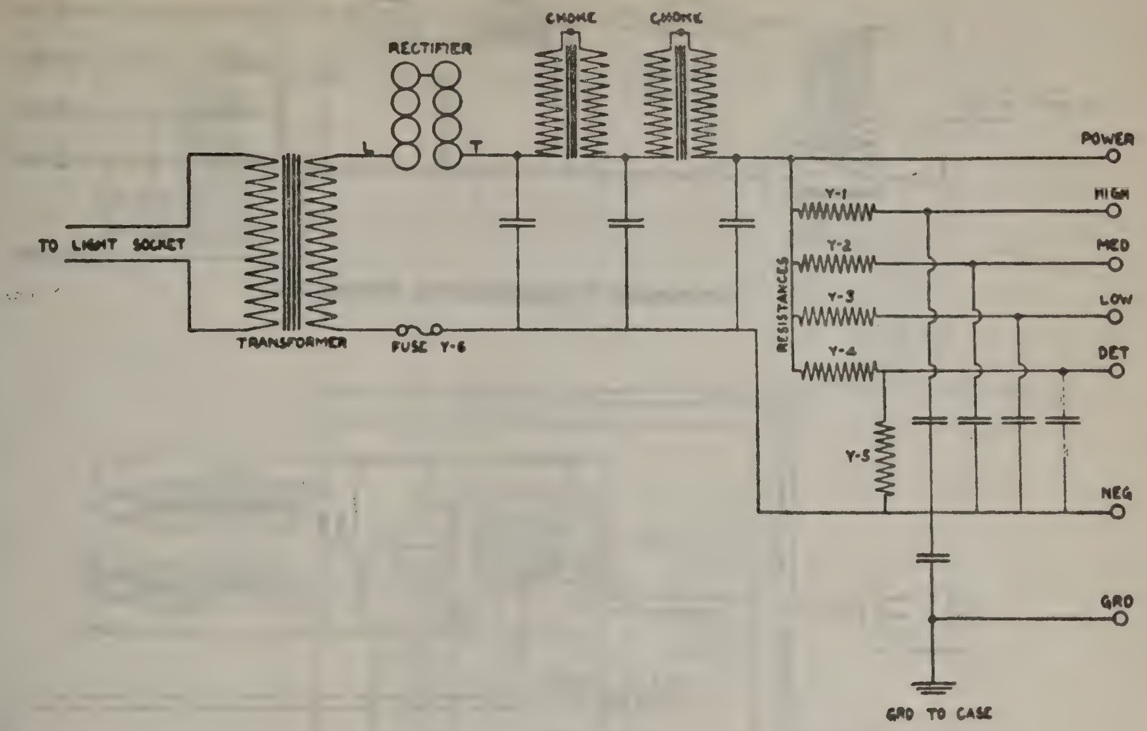
Balkite AB 6-180, Form B


A-
A+
CHOKE
CONDENSER
RECTIFIER
LOW
1
2
3
4
5
RESISTANCES
HIGH
SEC.
PRI.
TRANSFORMER

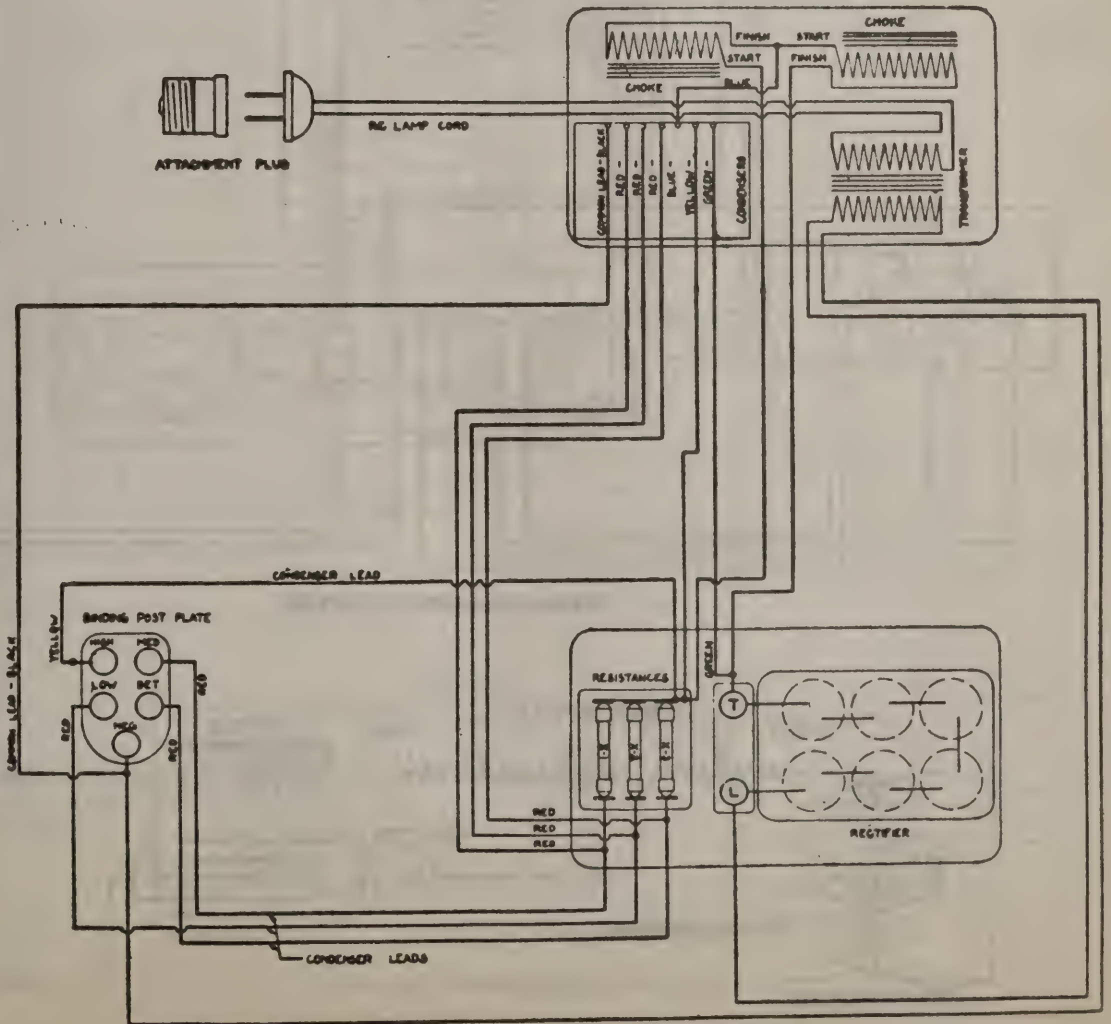
Balkite A-6 Form, B

MODEL BY

BALKITE PRODUCTS CO.


CHOKE
CHOKE
RECTIFIER
L
T
POWER
HIGH
MED
LOW
DET
NEG
GRD
Y-1
Y-2
Y-3
Y-4
Y-5
RESISTANCES
TO LIGHT SOCKET
TRANSFORMER
FUSE Y-6
GRD TO CASE

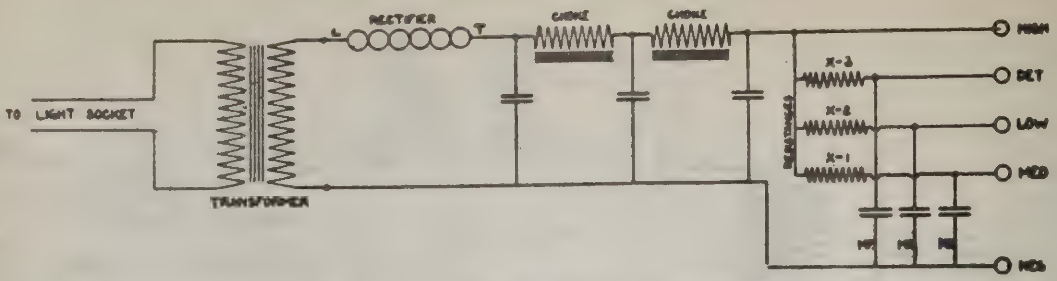
Schematic Wiring Diagram, Balkite BY


CHOKE
FINISH
START
START
FINISH
CHOKE
BLUE
RC LAMP CORD
ATTACHMENT PLUG
COMMON LEAD - BLACK
RED -
RED -
RED -
BLUE -
YELLOW -
GREEN -
CONDENSERS
TRANSFORMER
CONDENSER LEAD
BINDING POST PLATE
YELLOW
COMMON LEAD - BLACK
HIGH
MED
LOW
DET
NEG
RED
RED
RED
RESISTANCES
GREEN
T
L
RED
RED
RED
RECTIFIER
CONDENSER LEADS

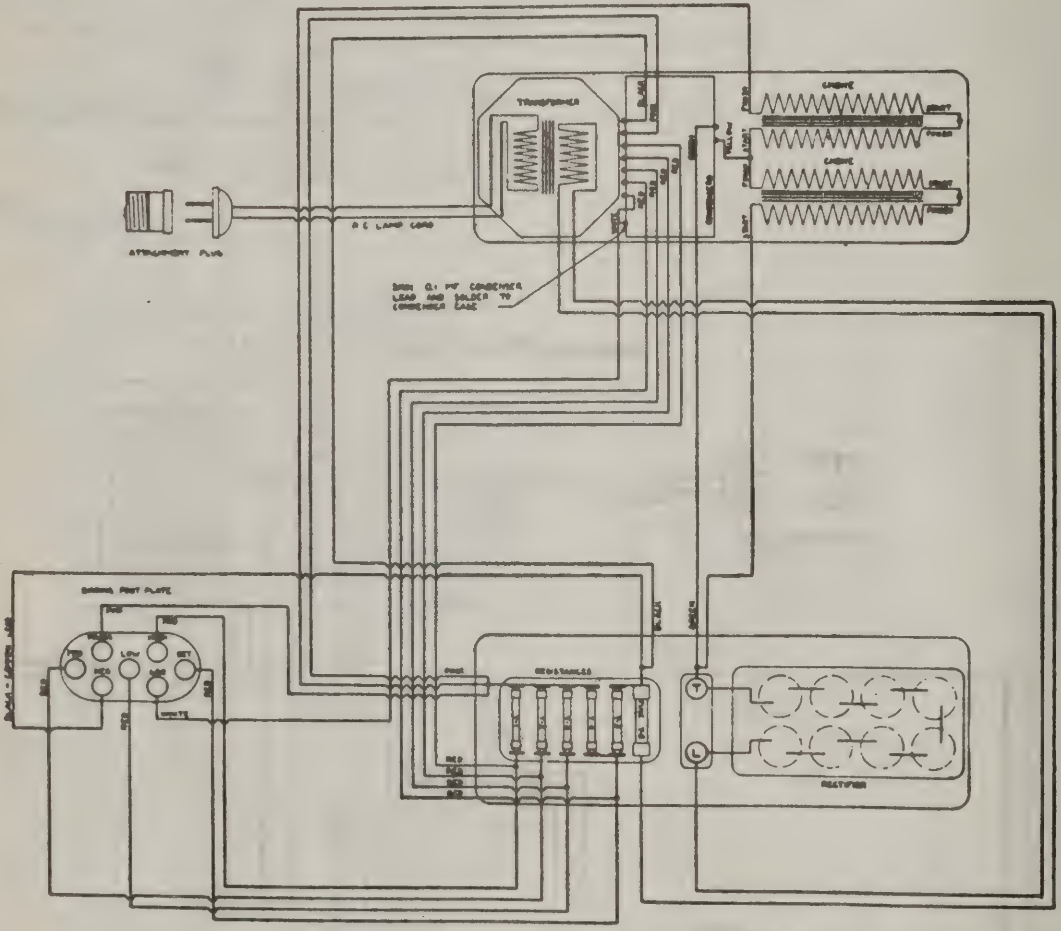
Wiring Diagram, Balkite BY

MODEL A-6
MODEL B-X

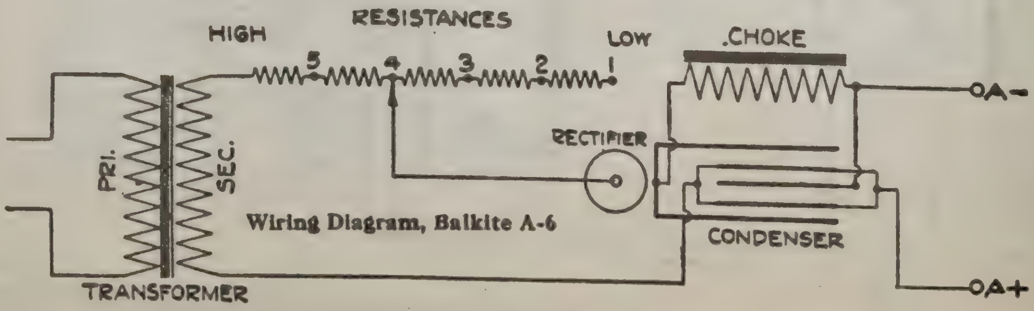
BALKITE PRODUCTS CO.


TO LIGHT SOCKET
TRANSFORMER
RECTIFIER
L
T
CHOKE
CHOKE
X-3
X-2
X-1
RESISTANCES
HIGH
DET
LOW
MED
NEG

Schematic Wiring Diagram, Balkite BX


TRANSFORMER
CHOKE
CHOKE
A.C. LAMP CORD
ATTACHMENT PLUG
SKIN 0.1 MF CONDENSER LEAD AND SOLDER TO CONDENSER CASE
BINDING POST PLATE
HIGH
DET
LOW
MED
NEG
RESISTANCES
RECTIFIER
BLACK
GREEN
RED
WHITE
YELLOW

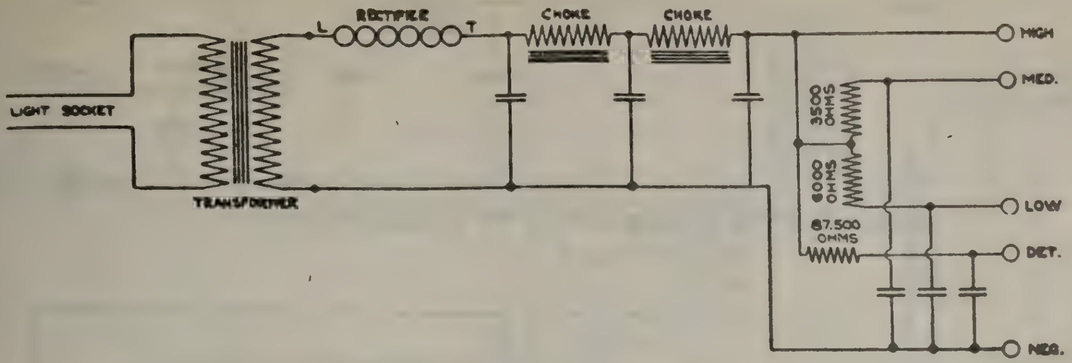
Wiring Diagram, Balkite BX


RESISTANCES
HIGH
LOW
5
4
3
2
1
.CHOKE
PRI.
SEC.
RECTIFIER
CONDENSER
TRANSFORMER
A−
A+

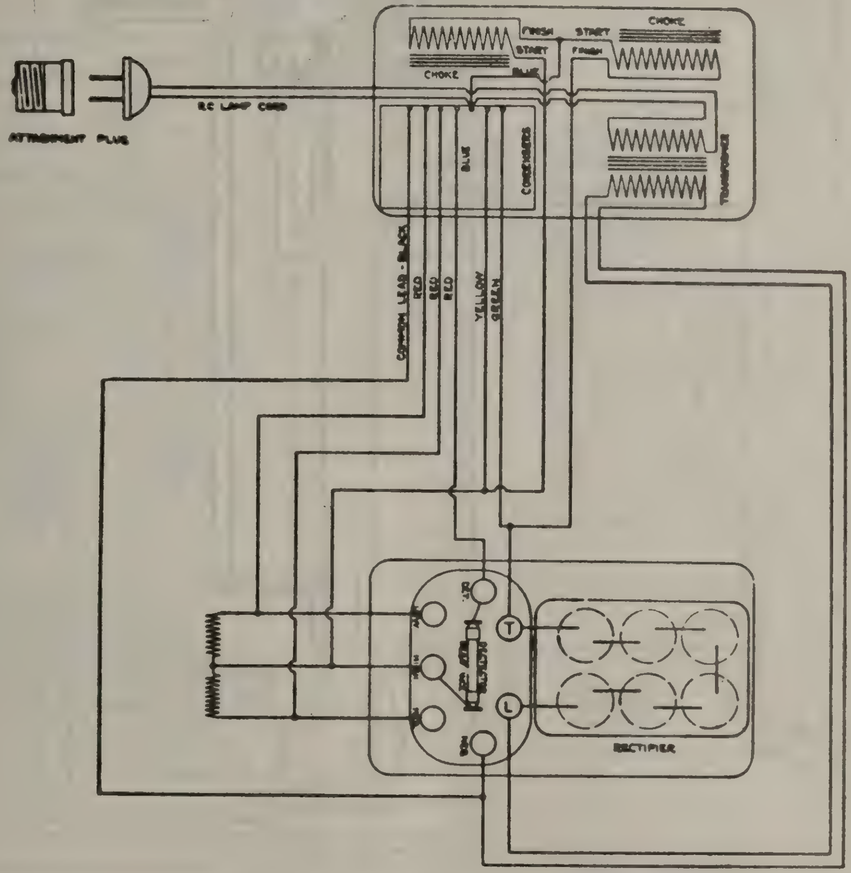
Wiring Diagram, Balkite A-6

BALKITE PRODUCTS CO.

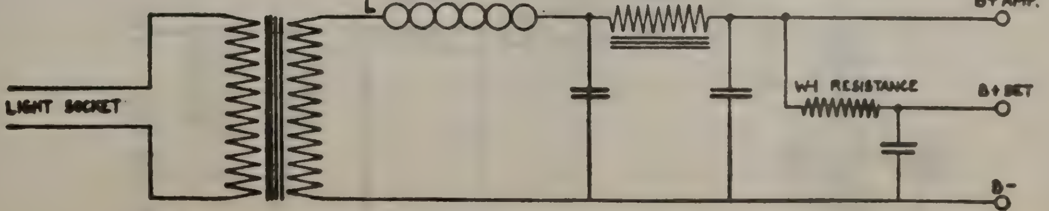
MODEL B-135 Form A
MODEL B-W


RECTIFIER
L
T
CHOKE
CHOKE
HIGH
MED.
LIGHT SOCKET
3500 OHMS
6000 OHMS
TRANSFORMER
LOW
87.500 OHMS
DET.
NEG.

Schematic Wiring Diagram, Balkite B-135


FINISH
START
START
FINISH
CHOKE
CHOKE
BLUE
ATTACHMENT PLUG
RC LAMP CORD
BLUE
CONDENSERS
TRANSFORMER
COMMON LEAD - BLACK
RED
RED
RED
YELLOW
GREEN
T
L
RECTIFIER

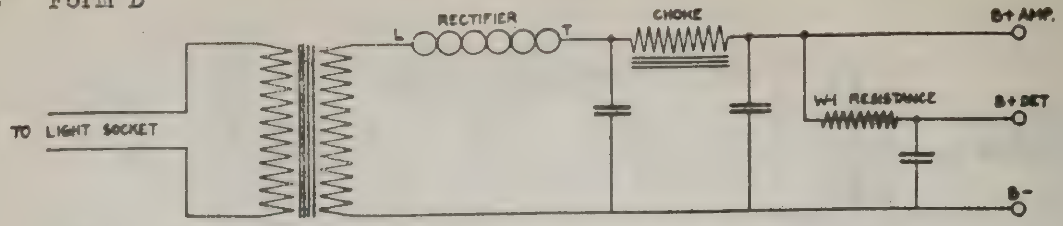
Wiring Diagram, Balkite B-135, Form A


RECTIFIER
L
CHOKE
B+ AMP.
LIGHT SOCKET
W-1 RESISTANCE
B+ DET
B-

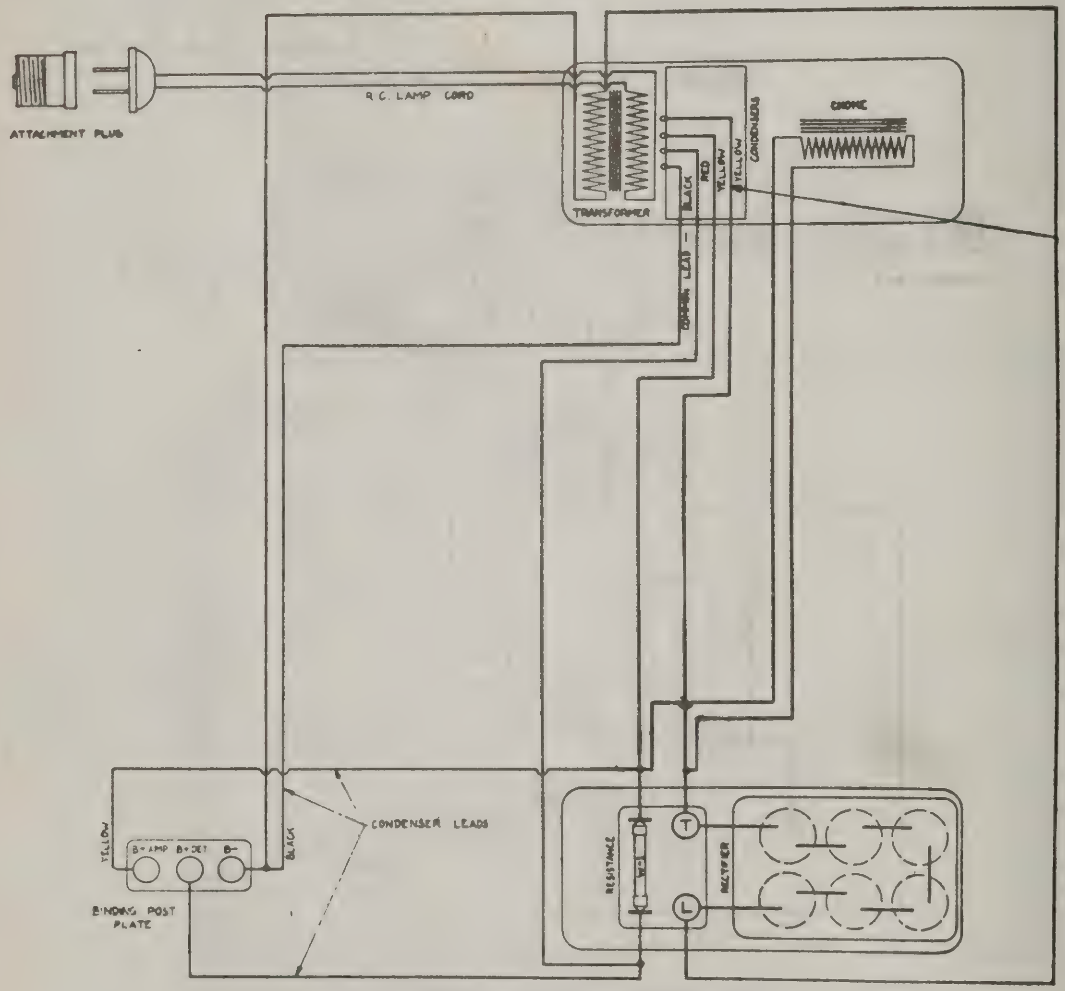
Wiring Diagram, Balkite BW

MODEL B-H
MODEL B-W Form D
MODEL B Form D

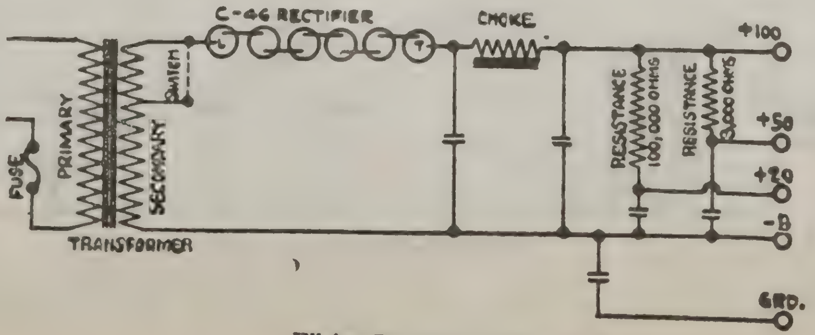
BALKITE PRODUCTS CO.


RECTIFIER
L
T
CHOKE
B+ AMP.
W-H RESISTANCE
B+ DET
TO LIGHT SOCKET
B-

Schematic Wiring Diagram, Balkite BW or Balkite B, Model D


ATTACHMENT PLUG
A.C. LAMP CORD
TRANSFORMER
BLACK
RED
YELLOW
YELLOW
CONDENSERS
CHOKE
COPPER LEAD -
YELLOW
B+AMP
B+DET
B-
BLACK
BINDING POST PLATE
CONDENSER LEADS
RESISTANCE
W-H
T
L
RECTIFIER

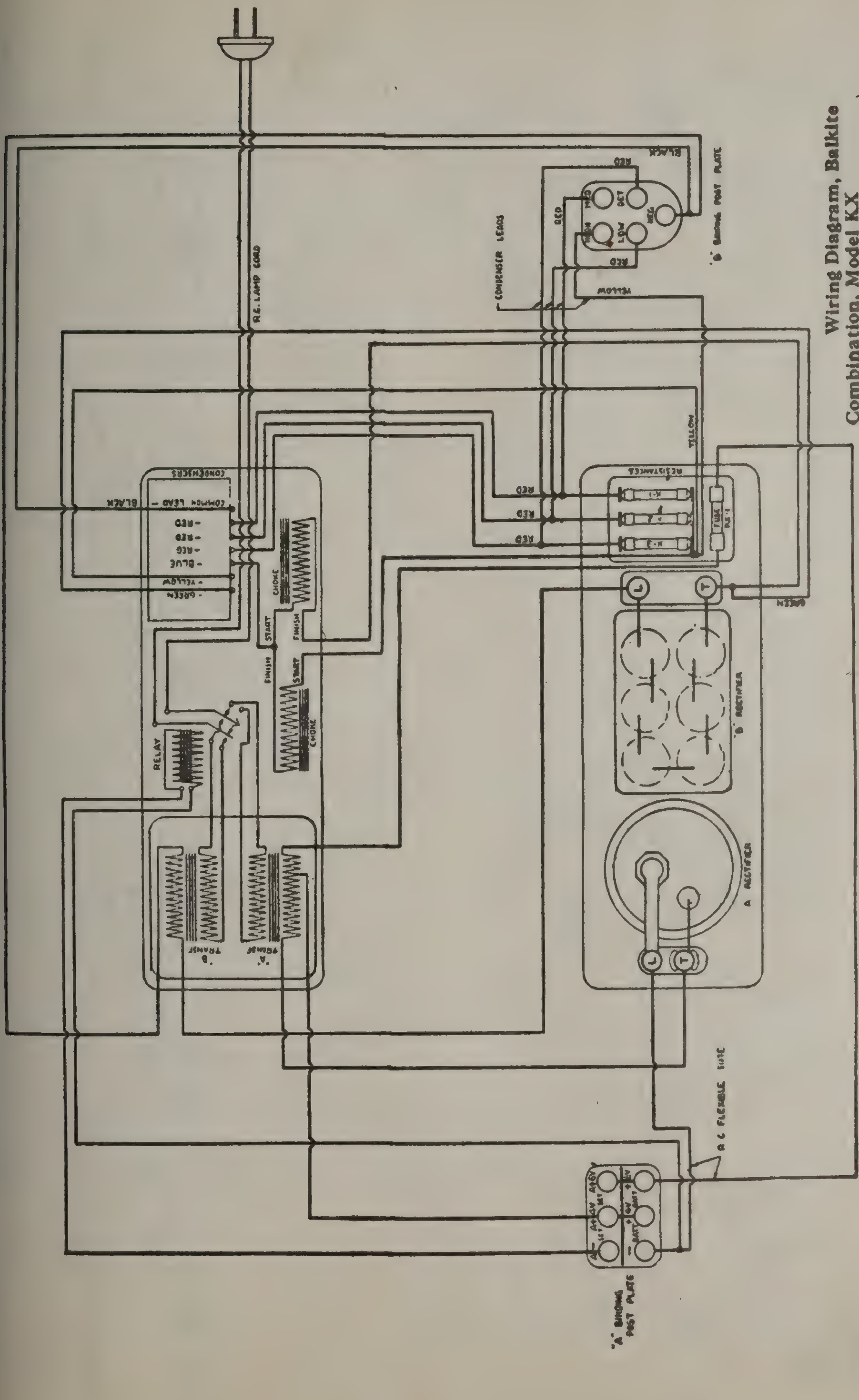
Wiring Diagram, Balkite BW or Balkite B, Model D


C-46 RECTIFIER
CHOKE
+100
SWITCH
PRIMARY
SECONDARY
FUSE
RESISTANCE 100,000 OHMS
RESISTANCE 3,000 OHMS
+50
+20
-B
TRANSFORMER
GRD.

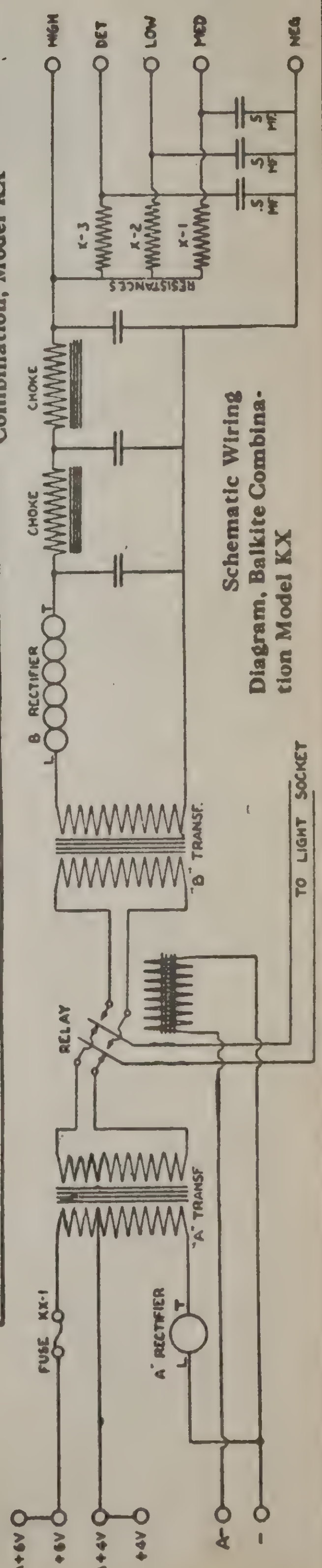
Wiring Diagram, Balkite B-H

BALKITE PRODUCTS CO.

MODEL K-X


R.C. LAMP CORD
CONDENSER LEADS
RED
YELLOW
BLACK
HIGH
MED
DET
LOW
NEG
"B" BINDING POST PLATE
CONDENSERS
COMMON LEAD - BLACK
-RED
-RED
-RED
-BLUE
-YELLOW
-GREEN
CHOKE
START
FINISH
RELAY
TRANSF "B"
POWER "A"
RESISTANCES
K-1
K-2
K-3
FUSE KX-1
GREEN
L
T
"B" RECTIFIER
"A" RECTIFIER
R C FLEXIBLE SIDE
A+6V
A+4V SET
A-SET
+6V
+4V BATT
- BATT
"A" BINDING POST PLATE

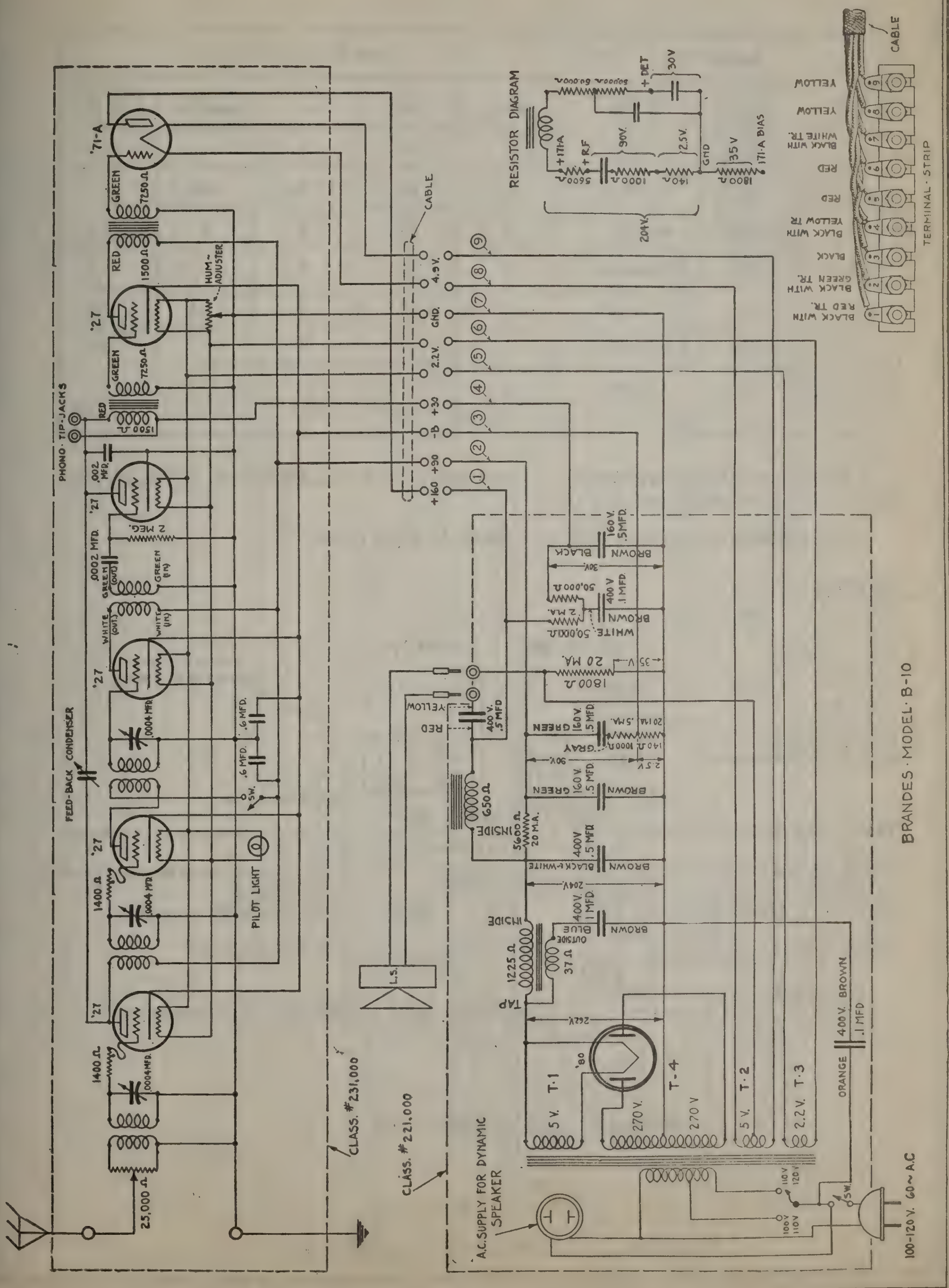
Wiring Diagram, Balkite Combination, Model KX


HIGH
DET
LOW
MED
NEG
K-3
K-2
K-1
RESISTANCES
.5 MF
.5 MF
.5 MF
CHOKE
CHOKE
T
B RECTIFIER
L
"B" TRANSF.
TO LIGHT SOCKET
RELAY
"A" TRANSF
FUSE KX-1
"A" RECTIFIER
T
L
A+6V SET
+6V BATT
A+4V SET
+4V BATT
A- SET
- BATT

Schematic Wiring Diagram, Balkite Combination Model KX

BRANDES PRODUCTS CORP.

MODEL B-10


RESISTOR DIAGRAM
+171-A
+R.F
+DET
30V
90V.
2.5V.
GND
35V
171-A BIAS
5600Ω
1000Ω
140Ω
1800Ω
50,000Ω
60,000Ω
204V.
CABLE
TERMINAL · STRIP
BLACK WITH RED TR.
BLACK WITH GREEN TR.
BLACK
BLACK WITH YELLOW TR.
RED
RED
BLACK WITH WHITE TR.
YELLOW
YELLOW
'71-A
'27
'27
'27
'27
'27
'80
GREEN
RED
7250Ω
1500Ω
HUM-ADJUSTER
PHONO · TIP-JACKS
.002 MFD.
2 MEG.
.0002 MFD.
GREEN (OUT)
GREEN (IN)
WHITE (OUT)
WHITE (IN)
.0004 MFD
.6 MFD.
SW.
FEED-BACK CONDENSER
1400Ω
PILOT LIGHT
25,000Ω
CLASS. #231,000
CLASS. #221,000
L.S.
A.C. SUPPLY FOR DYNAMIC SPEAKER
4.9V.
GND.
2.2V.
+30
-B
+90
+160
160V. .5MFD.
BROWN
BLACK
400V .1 MFD.
2 MA.
WHITE 50,000Ω
20 MA.
1800Ω
35V.
YELLOW
RED
400V. .5 MFD
GREEN
GRAY
201A .5MA.
650Ω
INSIDE
5600Ω 20 M.A.
BLACK & WHITE
400V .5 MFD
400V .1 MFD
OUTSIDE BLUE
1225Ω
37Ω
TAP
262V.
T-1
T-2
T-3
T-4
5V.
270V.
2.2V.
ORANGE
400V. BROWN .1 MFD
110V 120V
100V 110V
SW.
100-120V. 60~ A.C.
BRANDES · MODEL · B-10

MODEL B-10
Voltage

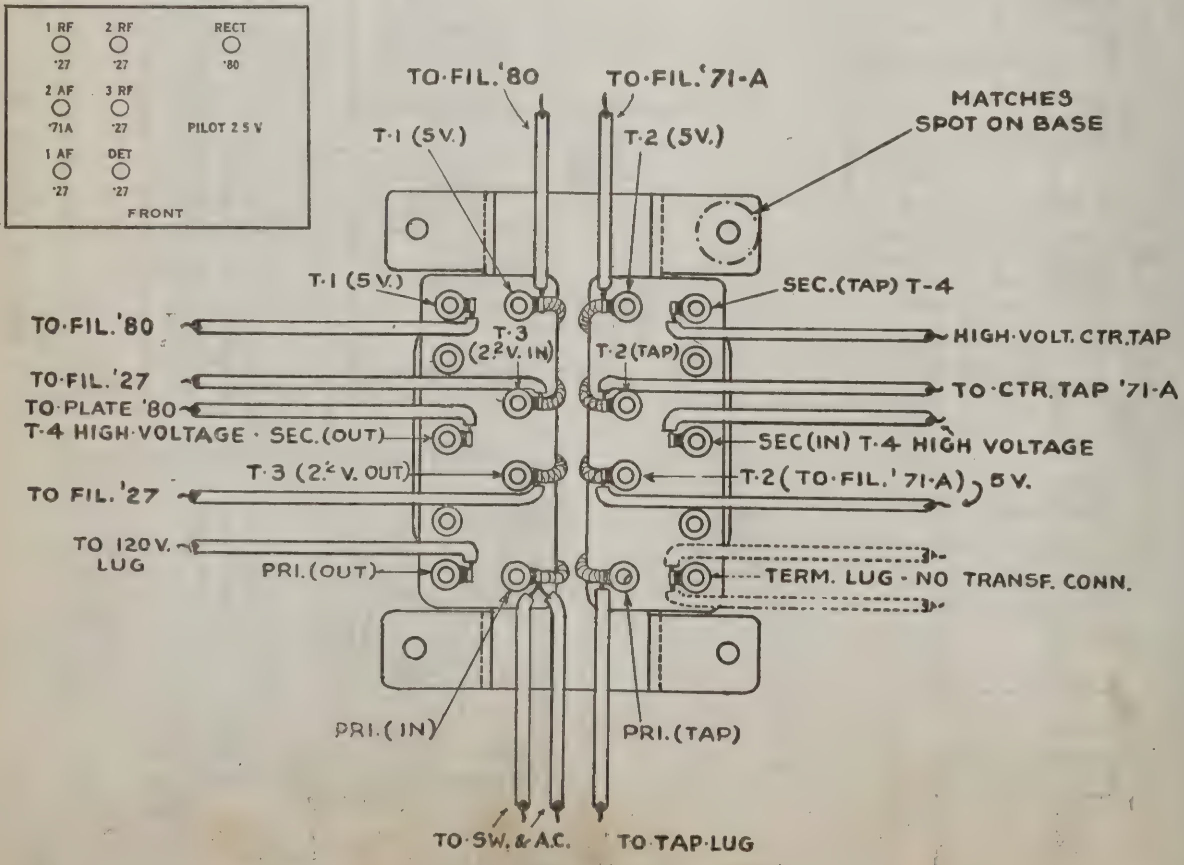
BRANDES PRODUCTS CORP.

Input Voltage 115				Switch 110-120 Side			
Tube No.	Type Tube	Position of Tube	A Volts	B Volts	C Volts	Normal Plate MA	Plate MA Grid Test
1	'27	1st R.F.	2	88	3	4.3	8.
2	'27	2nd R.F.	2	88	3	4.3	8.
3	'27	3rd R.F.	2	88	3	6.	9.2
4	'27	Detector	2	36	3	3.	3.1
5	'27	1st Audio	2	88	3	5.3	8.2
6	'71A	2nd Audio	5	164	35	20.	30
7	'80	Rectifier	5				

The above readings are the average and may vary due to differences in line voltage, variation in tube characteristics, etc.

The readings are given merely as a guide to work from.

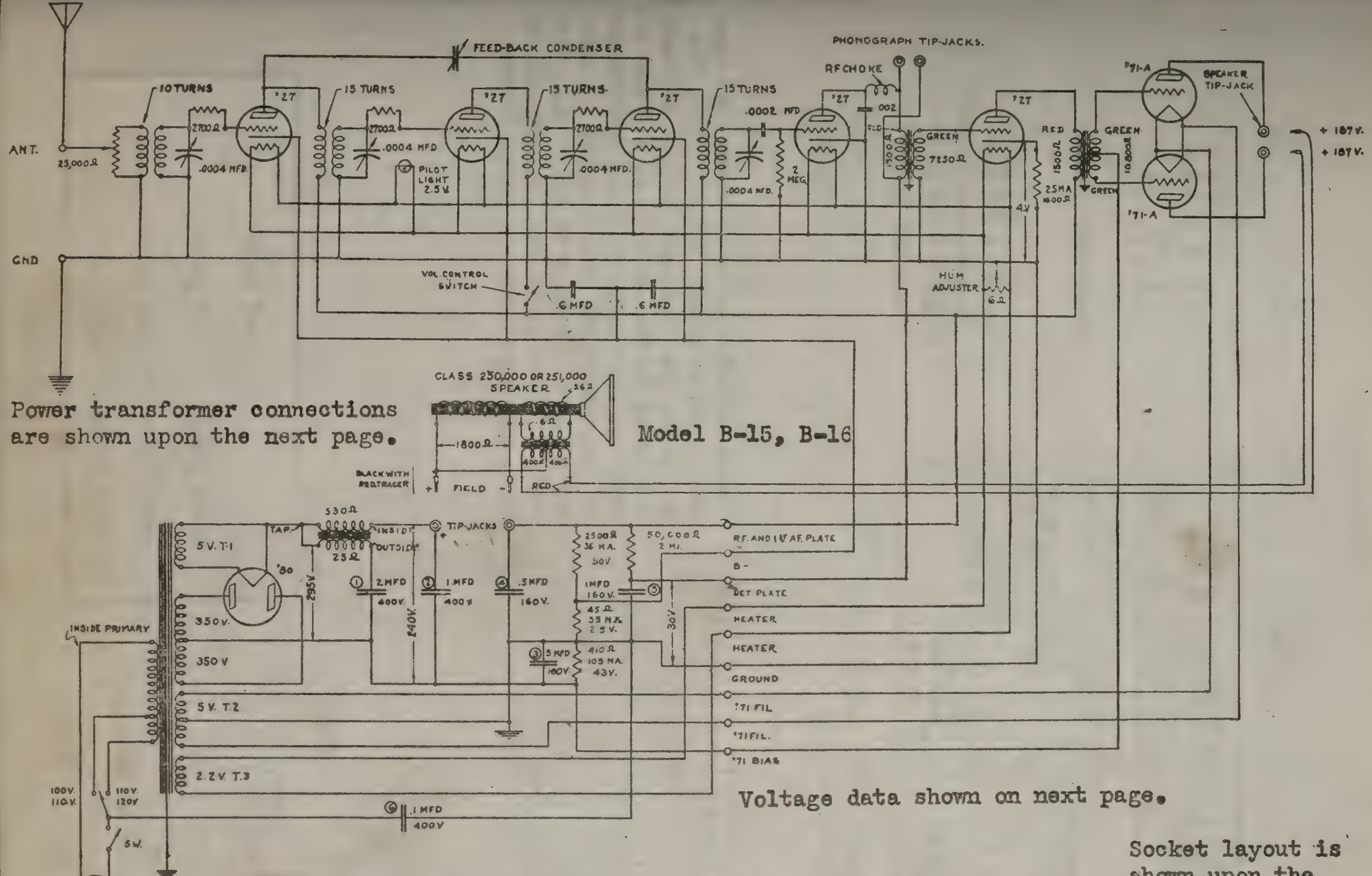
Models B10, B11, B12


1 RF
'27
2 RF
'27
RECT
'80
2 AF
'71A
3 RF
'27
PILOT 2.5 V
1 AF
'27
DET
'27
FRONT
TO·FIL.'80
TO·FIL.'71-A
MATCHES SPOT ON BASE
T·1 (5V.)
T·2 (5V.)
T·1 (5V.)
SEC.(TAP) T-4
TO·FIL.'80
T·3 (2½V. IN)
T·2 (TAP)
HIGH·VOLT. CTR.TAP
TO·FIL.'27
TO·CTR.TAP '71-A
TO·PLATE '80
T-4 HIGH·VOLTAGE · SEC.(OUT)
SEC(IN) T-4 HIGH VOLTAGE
T·3 (2½ V. OUT)
T·2 (TO·FIL.'71-A) 5 V.
TO FIL.'27
TO 120V. LUG
PRI.(OUT)
TERM. LUG - NO TRANSF. CONN.
PRI.(IN)
PRI.(TAP)
TO·SW. & A.C.
TO·TAP·LUG

POWER·TRANSFORMER·ASSEMBLY

MODEL B-15, B-16

BRANDES PRODUCTS CORP.


ANT.
25,000Ω
GND
10 TURNS
2700Ω
.0004 MFD.
'27
15 TURNS
2700Ω
.0004 MFD
PILOT LIGHT 2.5 V.
'27
FEED-BACK CONDENSER
15 TURNS
2700Ω
.0004 MFD.
'27
15 TURNS
.0002 MFD
.0004 MFD.
2 MEG
'27
RF CHOKE
.002
PHONOGRAPH TIP-JACKS.
GREEN
7250Ω
1300Ω
'27
RED
1500Ω
2.5 MA
1600Ω
4V
GREEN
10,800Ω
GREEN
'71-A
'71-A
SPEAKER TIP-JACK
+ 187 V.
+ 187 V.
VOL. CONTROL SWITCH
.6 MFD
.6 MFD
HUM ADJUSTER
6Ω
CLASS 250,000 OR 251,000 SPEAKER
362
.6Ω
1800Ω
400Ω
400Ω
BLACK WITH RED TRACER
+
FIELD
-
RED
530Ω
INSIDE
OUTSIDE
25Ω
TAP
TIP-JACKS
+
5 V. T-1
'80
295V
350 V.
350 V
INSIDE PRIMARY
5 V. T.2
2.2 V. T.3
① 2 MFD 400V.
② 1 MFD 400V
240V.
④ .5 MFD 160V.
2500Ω 36 MA. 90V
50,000Ω 2 MA.
1 MFD 160 V.
⑤
45Ω 55 MA. 2.5 V.
③ .5 MFD 160V.
410Ω 105 MA. 43V.
30V
RF. AND 1ST AF. PLATE
B -
DET PLATE
HEATER
HEATER
GROUND
'71 FIL
'71 FIL.
'71 BIAS
⑥ .1 MFD 400V
100V. 110V.
110V. 120V
SW.
100-120V. 60~ A.C.

Power transformer connections are shown upon the next page.

Model B-15, B-16

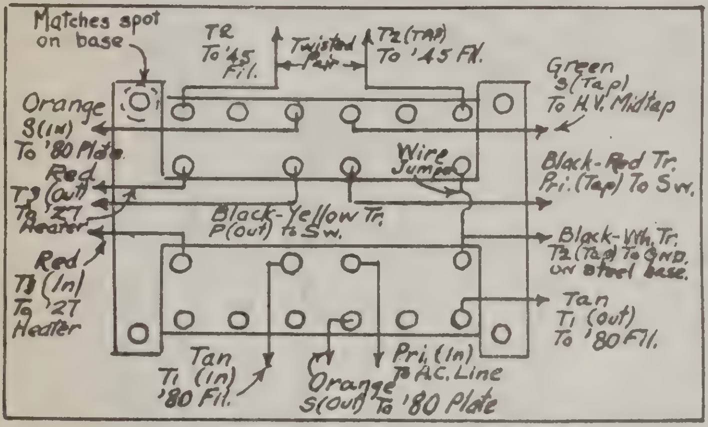
Voltage data shown on next page.

Socket layout is shown upon the reverse side of this sheet.

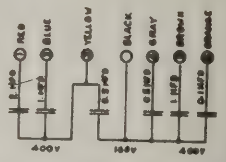
The early production of this receiver made use of type '71 tubes in the output stage. The use of type '45 tubes stated during the later production. In order to enable the use of these 2.5 volt tubes, series resistors were employed in the '71 filament circuit. A resistor was inserted into each filament lead. The "B" and grid bias voltages remained the same for '71s and '45s.

BRANDES PRODUCTS CORP.

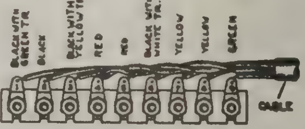
MODEL B-15, B-16
Voltage and Data


Matches spot on base
T2 To '45 Fil.
Twisted Pair
T2 (TAP) To '45 Fil.
Green S (Tap) To H.V. Midtap
Orange S (In) To '80 Plate
Red T3 (Out) To '27 Heater
Wire Jumper
Black-Red Tr. Pri. (Tap) To Sw.
Black-Yellow Tr. P (Out) to Sw.
Black-Wh. Tr. T2 (Tap) To GND. on steel base.
Red T3 (In) To '27 Heater
Tan T1 (Out) To '80 Fil.
Tan T1 (In) '80 Fil.
Orange S (Out) To '80 Plate
Pri. (In) To A.C. Line

POWER TRANSFORMER CONNECTIONS
FOR LATE MODELS


RED
BLUE
YELLOW
BLACK
GRAY
BROWN
ORANGE
400V
400V

Condenser Block

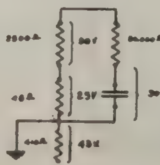

BLACK WITH GREEN TR.
BLACK
BLACK WITH YELLOW TR.
RED
RED
BLACK WITH WHITE TR.
YELLOW
YELLOW
GREEN
CABLE

Terminal Strip

BRANDES—Models 15 and 16
Line Voltage 112—Volume Control Position Max
*Grid leak not shorted.

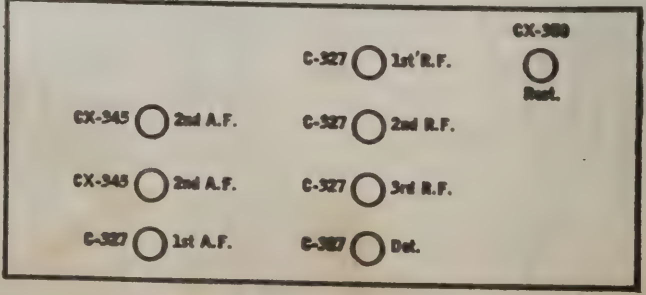
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	227	1st RF	2.3	94	2.2	90	2.5	-	5.6	10.0	4.4	-
2	227	2nd RF	2.3	94	2.2	90	2.5	-	5.6	10.0	4.4	-
3	227	3rd RF	2.3	94	2.2	90	2.5	-	5.6	10.0	4.4	-
4	227	Det.	2.3	80	2.2	24	0	-	1.3	1.3	*-	-
5	227	1st A	2.3	95	2.2	85	5	-	3	4.2	1.2	-
6	245	2nd A	2.4	210	2.3	190	36	-	18	21	3	-
7	245	2nd A	2.4	210	2.3	190	36	-	18	21	3	-
8	280	-	5	-	4.8	-	-	-	100	-	-	-
9												
10												

The above voltage table shows '45 type tubes in the output stage. When '71s are used, the filament voltage without the tubes in the sockets is 4.5 and the plate voltage under similar conditions is 200. With the tubes in the sockets the filament voltage is about 4.5, the plate voltage about 187, grid bias, 36 volts and plate current about 20 ma.



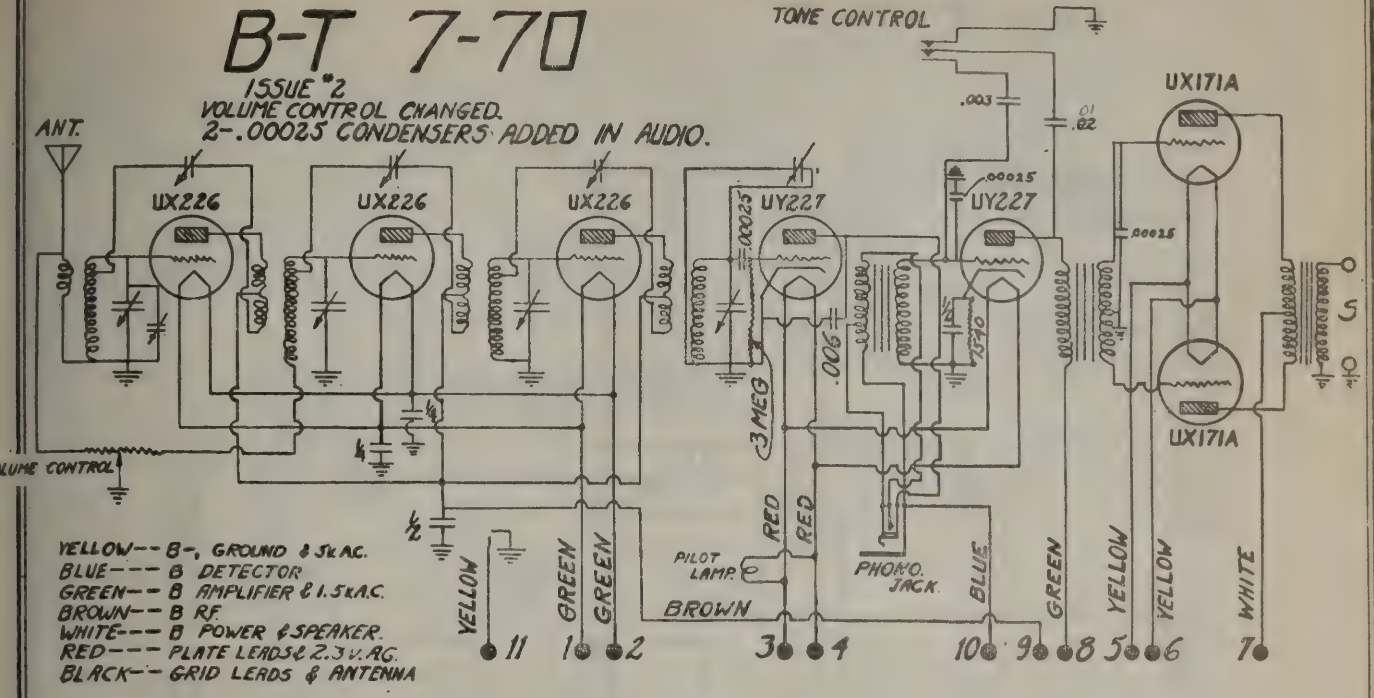
Resistor Diagram

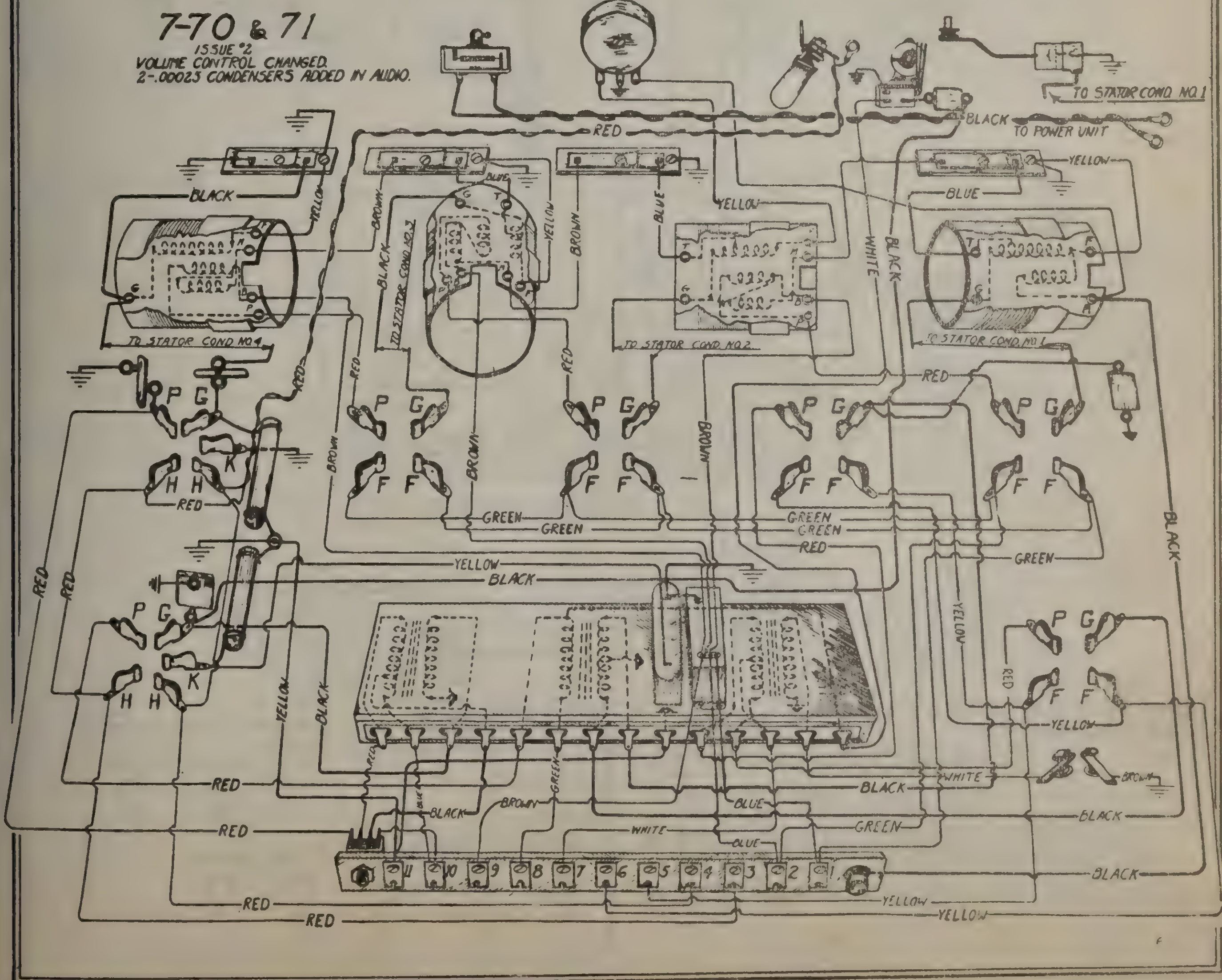
B-15, B-16


CX-380
Rect.
C-327
1st R.F.
CX-345
2nd A.F.
C-327
2nd R.F.
CX-345
2nd A.F.
C-327
3rd R.F.
C-327
1st A.F.
C-327
Det.

BREMER-TULLY MFG. CO

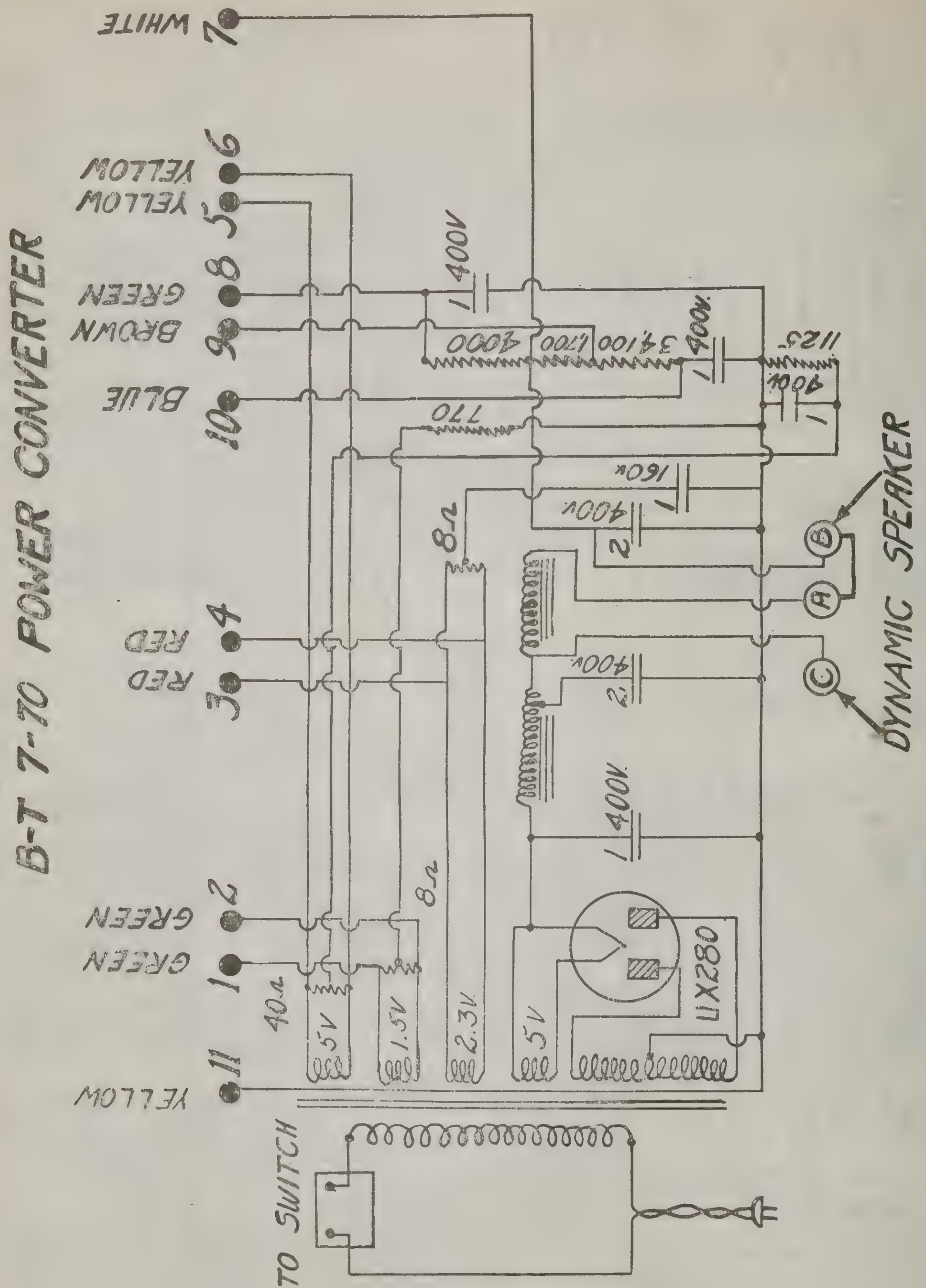
MODEL 7-70
Receiver


TONE CONTROL
B-T 7-70
ISSUE #2
VOLUME CONTROL CHANGED.
2-.00025 CONDENSERS ADDED IN AUDIO.
ANT.
UX226
UX226
UX226
UY227
UY227
UX171A
UX171A
.003
.01
.02
.00025
.00025
.00025
.006
3 MEG
1570
UME CONTROL
1/2
YELLOW--- B-, GROUND & 5v.AC.
BLUE--- B DETECTOR
GREEN--- B AMPLIFIER & 1.5v.A.C.
BROWN--- B RF.
WHITE--- B POWER & SPEAKER.
RED--- PLATE LEADS & 2.3 v. AC.
BLACK--- GRID LEADS & ANTENNA
YELLOW
GREEN
GREEN
PILOT LAMP
RED
RED
BROWN
PHONO. JACK.
BLUE
GREEN
YELLOW
YELLOW
WHITE
11
1
2
3
4
10
9
8
5
6
7
S


7-70 & 71
ISSUE #2
VOLUME CONTROL CHANGED.
2-.00025 CONDENSERS ADDED IN AUDIO.
RED
BLACK
TO POWER UNIT
TO STATOR COND NO.1
YELLOW
BLUE
BLACK
YELLOW
BROWN
BLACK
TO STATOR COND NO.3
BLUE
YELLOW
BROWN
BLUE
YELLOW
WHITE
BLACK
TO STATOR COND NO.4
TO STATOR COND NO.2
TO STATOR COND NO.1
RED
RED
RED
P
G
K
H
H
F
F
BROWN
BROWN
BROWN
GREEN
GREEN
GREEN
GREEN
RED
GREEN
YELLOW
BLACK
BLACK
RED
RED
YELLOW
BLACK
YELLOW
RED
YELLOW
WHITE
BROWN
BLACK
RED
BLUE
GREEN
BLACK
BROWN
BLUE
WHITE
GREEN
BLUE
BLACK
BLACK
YELLOW
YELLOW
RED
RED
11
10
9
8
7
6
5
4
3
2
1

MODEL 7-70
Power Converter

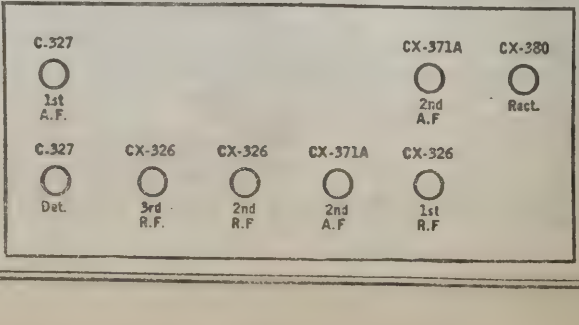
BREMER-TULLY MFG. CO


B-T 7-70 POWER CONVERTER
7 WHITE
6 YELLOW
5 YELLOW
8 GREEN
9 BROWN
10 BLUE
4 RED
3 RED
2 GREEN
1 GREEN
11 YELLOW
1 400V
4000
1700
34100
1 400V.
1125
400V 1
770
1 160V
400V 2
400V 2
1 400V
8Ω
8Ω
40Ω
5V
1.5V
2.3V
5V
UX280
B
A
C
DYNAMIC SPEAKER
TO SWITCH

BREMER-TULLY—Models 7-70 and 7-71
Line Voltage 115

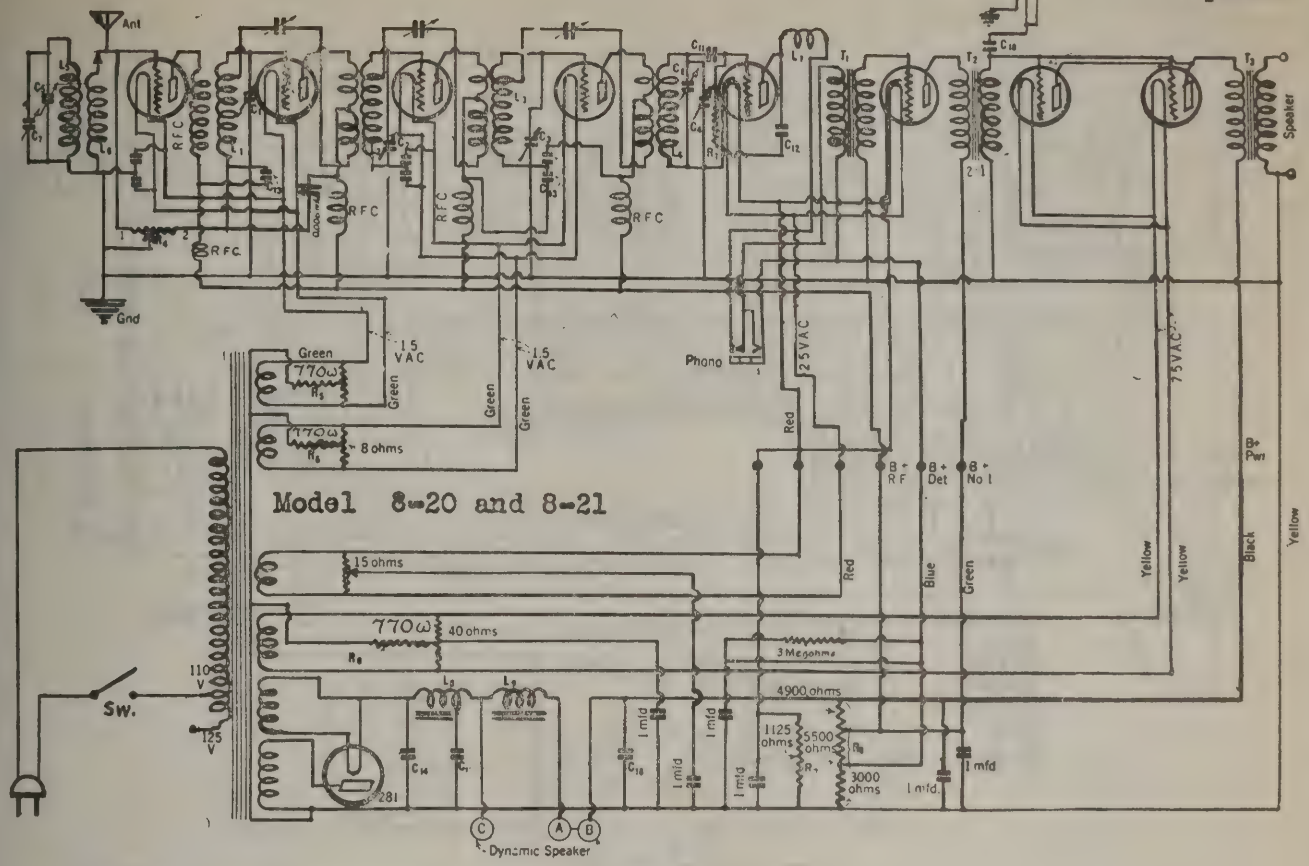
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE M A CHANGE
	226	1st.R.F.		.	1.3	150	9	—	5	12	7
	171A	Push-Pull			4.9	150	30	--	19	31	13
	226	2nd.R.F.		—	1.4	[illegible]	9	—	5	12	7
	226	3rd.R.F.		—	1.4	150	9		5	12	7
	227	Det.			[illegible]	[illegible]	0	-	2	-	-
	227	1st.A.F.			2.1	150	8	-	5	8	3
	171A	Push-Pull			4.9	150	18	—	18	31	13
10											

7-70, 7-71M, 7-71P (A.C.)

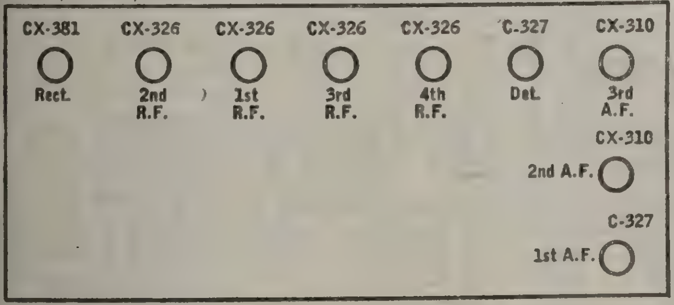

C-327
1st A.F.
CX-371A
2nd A.F
CX-380
Rect.
C-327
Det.
CX-326
3rd R.F.
CX-326
2nd R.F
CX-371A
2nd A.F
CX-326
1st R.F

BREMER-TULLY MFG. CO

MODEL 8-20, 8-21
MODEL 8
Counterphase

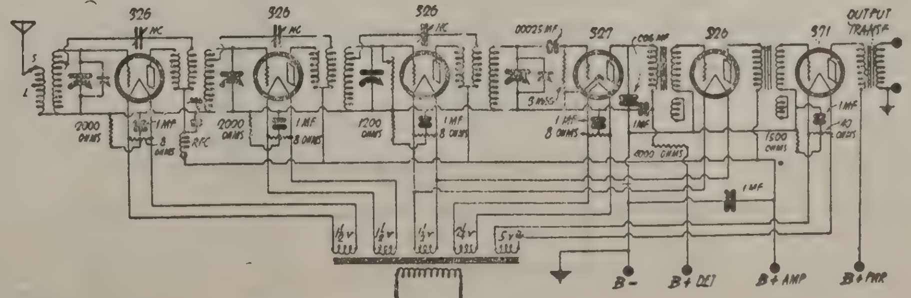

Ant
Gnd
RFC
RFC
RFC
RFC
RFC
1.5 VAC
1.5 VAC
Green
Green
Green
Green
770ω
R_5
770ω
R_6
8 ohms
Phono
2.5VAC
Red
Red
Blue
Green
B+ RF
B+ Det
B+ No 1
7.5VAC
B+ Pwr
Yellow
Yellow
Yellow
Black
Speaker
2-1
Model 8-20 and 8-21
15 ohms
770ω
40 ohms
R_8
3 Megohms
4900 ohms
1125 ohms
5500 ohms
3000 ohms
1 mfd
1 mfd
1 mfd
1 mfd
1 mfd
1 mfd
110 V
125 V
Sw.
281
L_2
L_3
C_{14}
C_{16}
Dynamic Speaker
C
A
B

8-20, 8-21, 8-22


CX-381
Rect.
CX-326
2nd R.F.
CX-326
1st R.F.
CX-326
3rd R.F.
CX-326
4th R.F.
C-327
Det.
CX-310
3rd A.F.
CX-310
2nd A.F.
C-327
1st A.F.

(A.C.) BREMER-TULLY—Models 8-20 and 8-21
Line Voltage 115

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A GRID TEST	PLATE M A CHANGE
1	226	1st. R.F.			1.4	150	10		5	10	5
2	226	Ant.			1.4	150	10		5	10	5
3	226	2nd. R.F.			1.4	150	10		5	10	5
4	226	3rd. R.F.			1.4	150	10		5	10	5
5	227	Detector			2.2	60	0		2	-	-
6	227	1st. A.F.			2.2	130	7		5	10	5
7	310	2nd. A.F.			7.5	350	18		20	50	30
8	310	2nd. A.F.			7.5	350	18		20	50	30
9											
10											

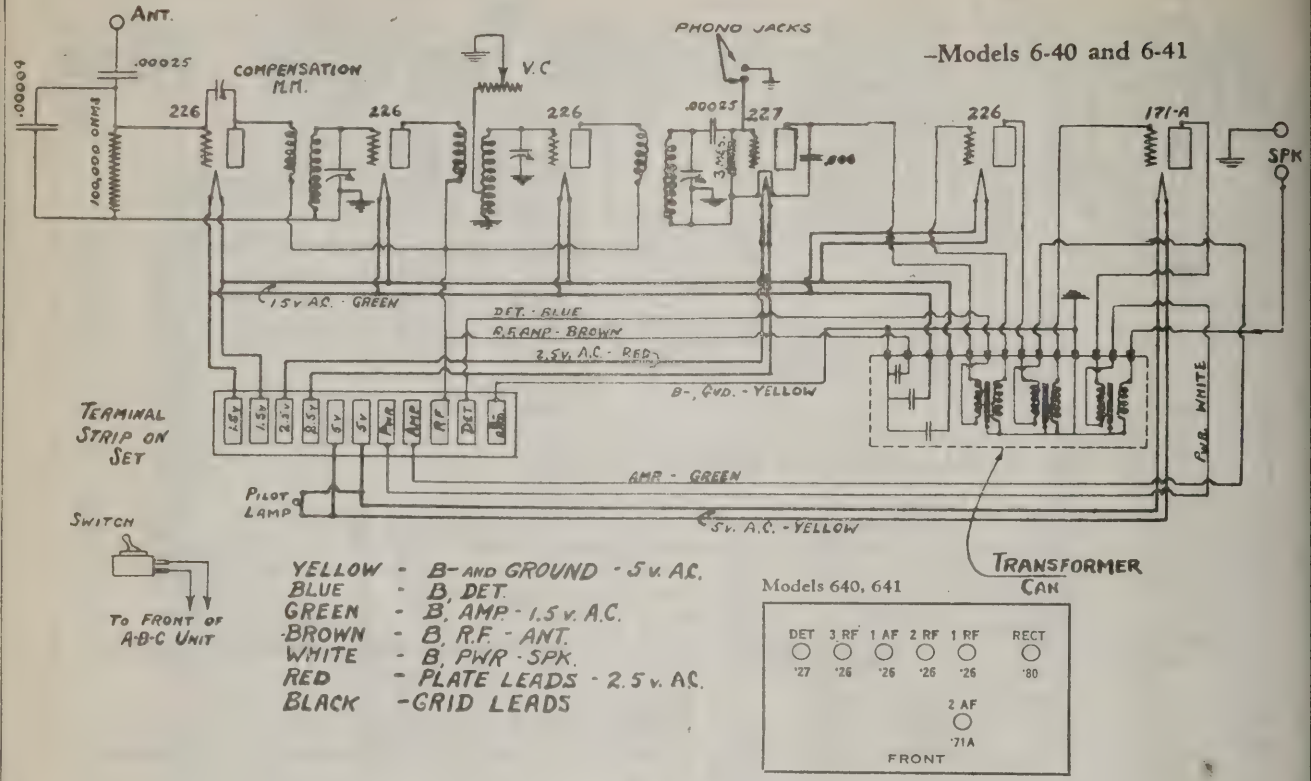

326
326
326
327
326
371
OUTPUT TRANSF.
MC
MC
MC
.00025 MF
.006 MF
3 MEG
2000 OHMS
2000 OHMS
1200 OHMS
1 MF
1 MF
1 MF
1 MF
1 MF
1 MF
1 MF
8 OHMS
8 OHMS
8 OHMS
8 OHMS
RFC
4000 OHMS
1500 OHMS
40 OHMS
1½ V
1½ V
1½ V
1½ V
5 V
B-
B+ DET
B+ AMP
B+ PWR

Model Counterphase "8"

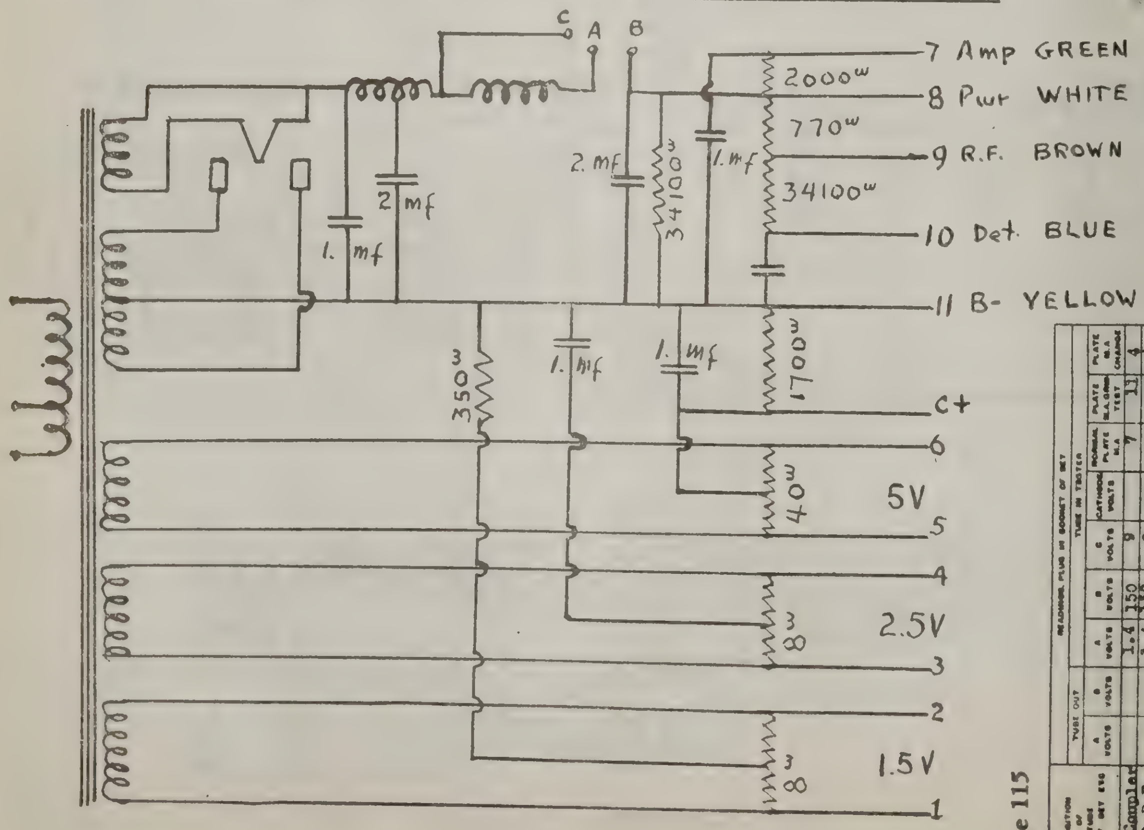
MODEL 6-40,6-41

BREMER-TULLY MFG. CO

–Models 6-40 and 6-41


ANT.
.00025
.00009
100,000 OHMS
COMPENSATION M.M.
226
226
V.C
226
PHONO JACKS
.00025
227
3 MEG.
.006
226
171-A
SPK
1.5 v A.C. - GREEN
DET. - BLUE
R.F. AMP - BROWN
2.5 v. A.C. - RED
B-, GND. - YELLOW
TERMINAL STRIP ON SET
1.5v
1.5v
2.5v
2.5v
5v
5v
Pwr
Amp
R.F
Det
Gnd.
PWR. WHITE
AMP - GREEN
PILOT LAMP
5v. A.C. - YELLOW
SWITCH
TO FRONT OF A-B-C UNIT
TRANSFORMER CAN
Models 640, 641
DET '27
3 RF '26
1 AF '26
2 RF '26
1 RF '26
RECT '80
2 AF '71A
FRONT

YELLOW - B- AND GROUND - 5 v. A.C.
BLUE - B, DET.
GREEN - B, AMP. - 1.5 v. A.C.
BROWN - B, R.F. - ANT.
WHITE - B, PWR. - SPK.
RED - PLATE LEADS - 2.5 v. A.C.
BLACK - GRID LEADS


C
A
B
2. mf
34100ω
1. mf
2000ω
770ω
34100ω
2 mf
1. mf
7 Amp GREEN
8 Pwr WHITE
9 R.F. BROWN
10 Det. BLUE
11 B- YELLOW
350ω
1. mf
1. mf
1700ω
C+
6
40ω
5V
5
4
8ω
2.5V
3
2
8ω
1.5V
1

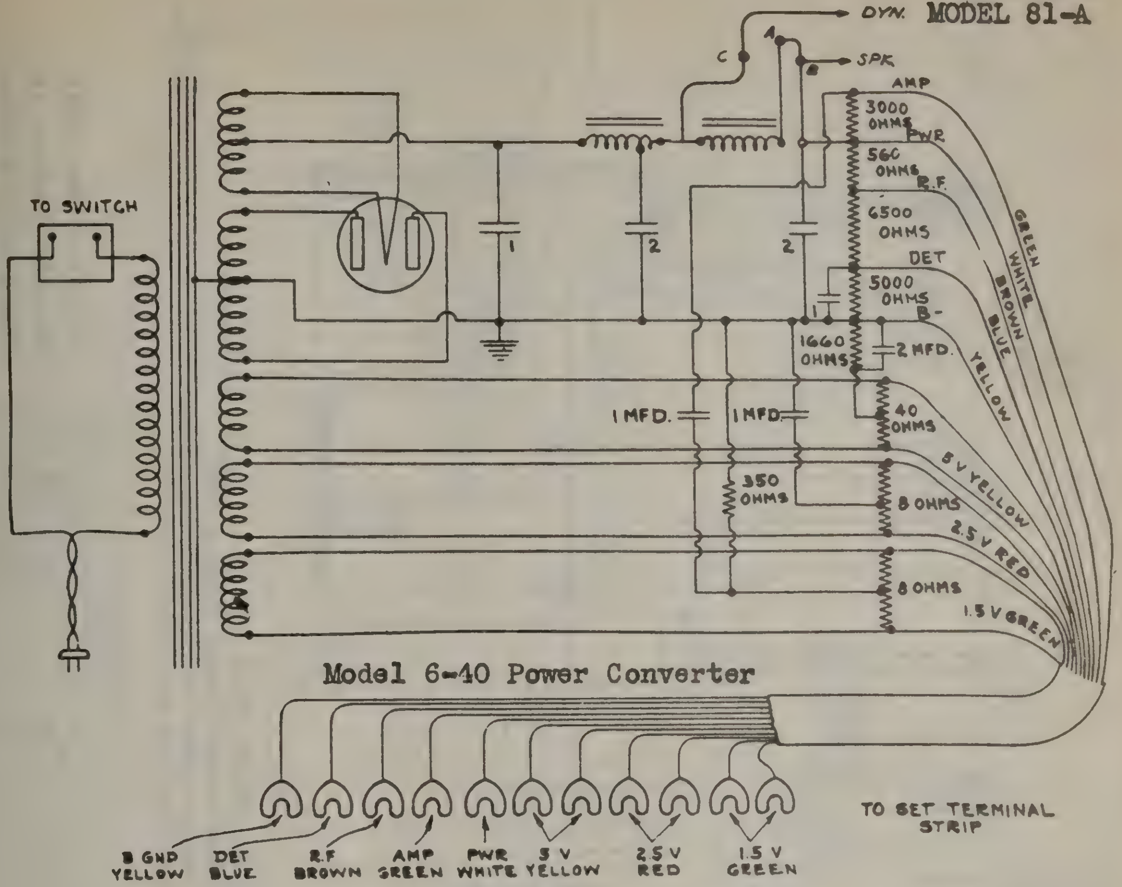
Model 6-40 ABC Power Pack

Line Voltage 115

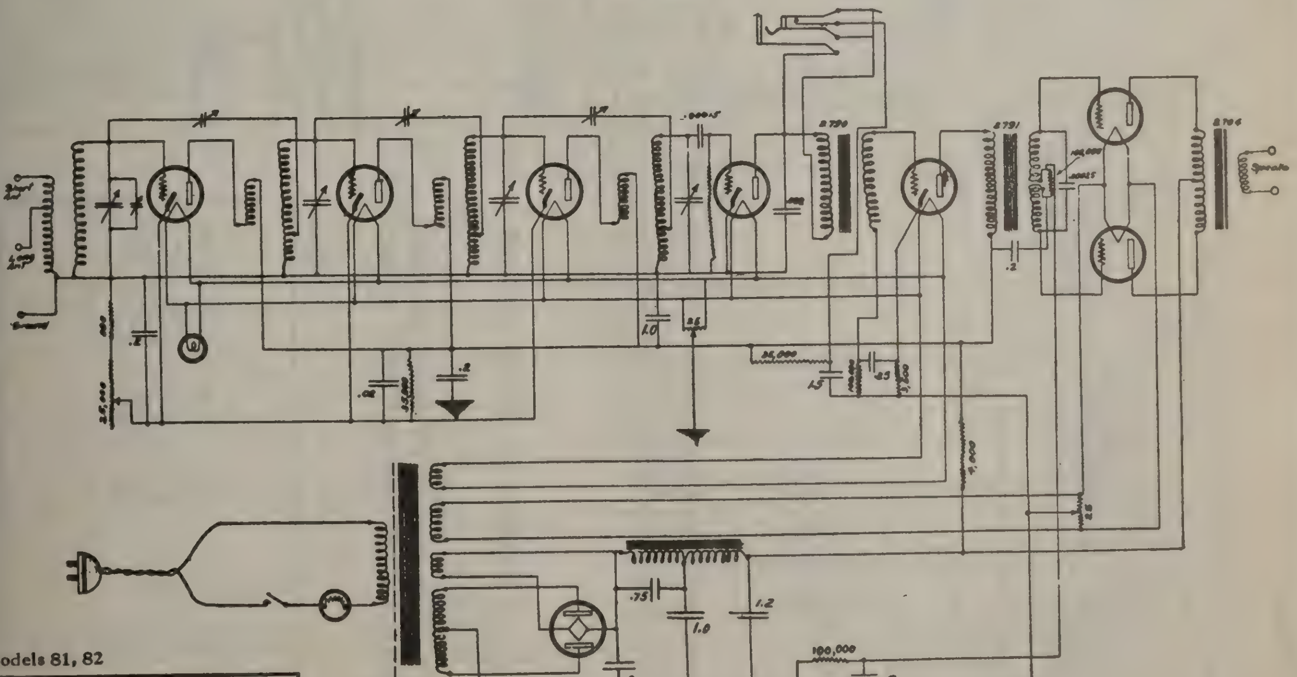
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	226	Ant.Coupler			1.4	150	9		7	11	4
2	226	1st.R.F.			1.4	150	9		8	12	4
3	226	1st.A.F.			1.4	140	9		7-8	11-12	4
4	226	2nd.R.F.			1.4	150	9		8	12	4
5	227	Detector			2.2	60	0		3	-	-
6	171A	PWR			4.9	150	30		18	26	8

BREMER-TULLY MFG. CO

MODEL 6-40
Converter
MODEL 81-A

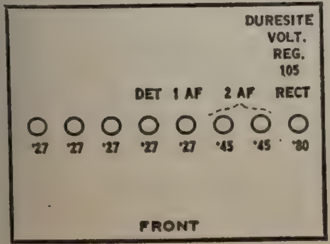

DYN.
C
A
B
SPK
AMP
3000 OHMS
PWR
560 OHMS
R.F.
6500 OHMS
DET
5000 OHMS
B-
1660 OHMS
2 MFD.
1
1
2
2
TO SWITCH
1 MFD.
1 MFD.
40 OHMS
350 OHMS
8 OHMS
8 OHMS
GREEN
WHITE
BROWN
BLUE
YELLOW
5 V YELLOW
2.5 V RED
1.5 V GREEN
TO SET TERMINAL STRIP
B GND YELLOW
DET BLUE
R.F BROWN
AMP GREEN
PWR WHITE
5 V YELLOW
2.5 V RED
1.5 V GREEN

Model 6-40 Power Converter


.00015
2790
2791
2706
Speaker
100,000
.00025
.2
1.0
25
25,000
1.5
.25
3,000
7,000
25
.2
.2
.2
25,000
.75
1.0
1.2
2.
100,000
.5
Speaker Field

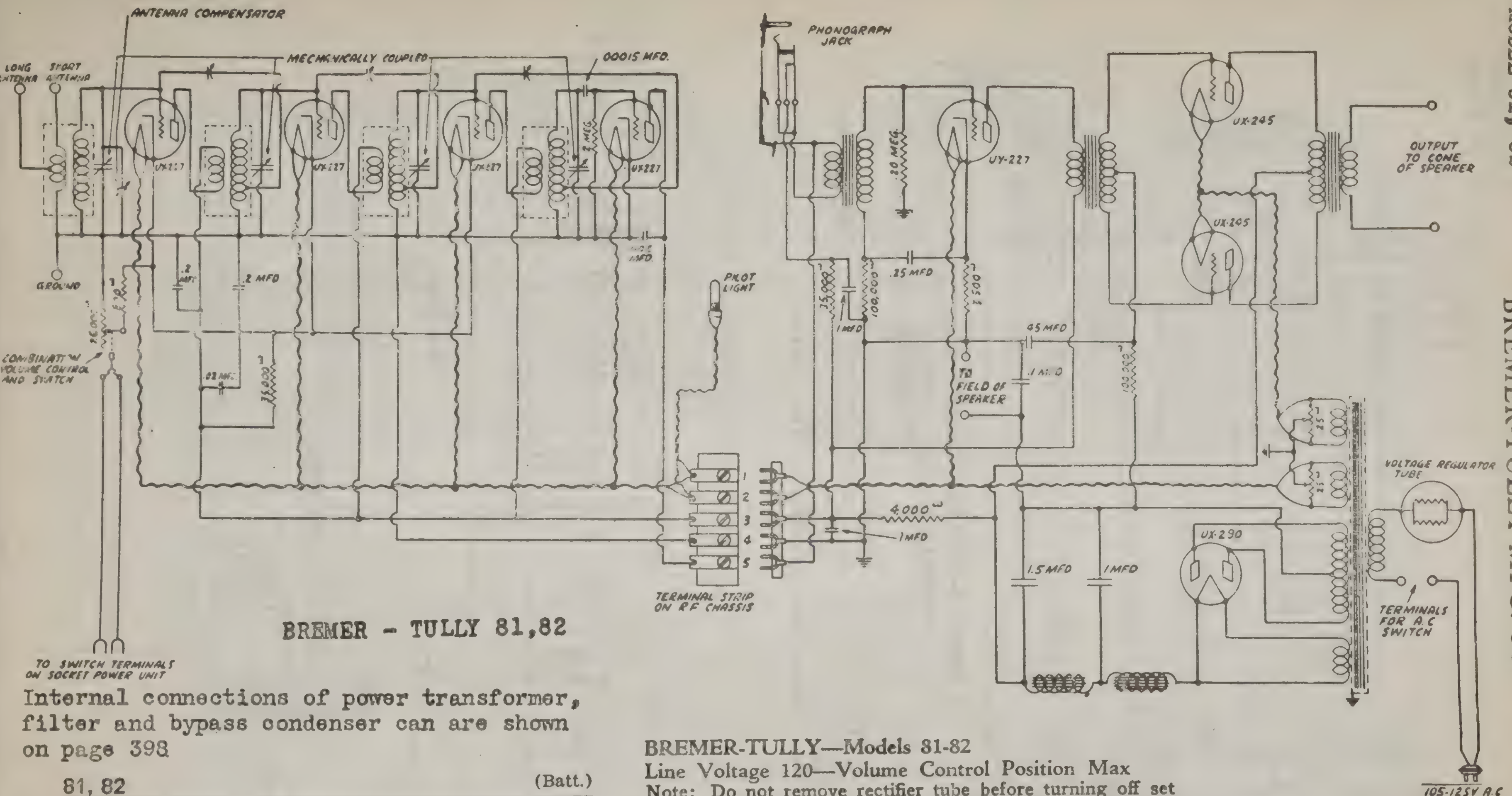
Model 81-A

Models 81, 82


DURESITE VOLT. REG. 105
DET
1 AF
2 AF
RECT
'27
'27
'27
'27
'27
'45
'45
'80
FRONT

MODEL 81, 82

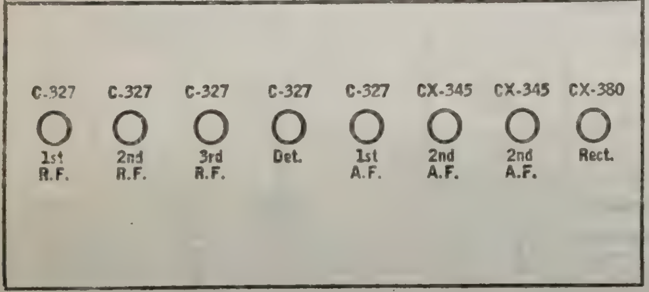
BREMER-TULLY MFG. CO


ANTENNA COMPENSATOR
LONG ANTENNA
SHORT ANTENNA
MECHANICALLY COUPLED
.00015 MFD.
UX-227
UX-227
UX-227
UX-227
2 MEG.
.2 MFD
.2 MFD
.02 MFD
.002 MFD
GROUND
COMBINATION VOLUME CONTROL AND SWITCH
TO SWITCH TERMINALS ON SOCKET POWER UNIT
PILOT LIGHT
TERMINAL STRIP ON R F CHASSIS
1
2
3
4
5
PHONOGRAPH JACK
.20 MEG.
UY-227
35,000
100,000
1 MFD
.25 MFD
.005 1
.45 MFD
.1 MFD
TO FIELD OF SPEAKER
100,000
4,000
1 MFD
UX-245
UX-245
OUTPUT TO CONE OF SPEAKER
VOLTAGE REGULATOR TUBE
UX-290
1.5 MFD
1 MFD
TERMINALS FOR A.C SWITCH
105-125V A.C

BREMER - TULLY 81,82

Internal connections of power transformer, filter and bypass condenser can are shown on page 398

81, 82 (Batt.)


C-327
1st R.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
Det.
C-327
1st A.F.
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-380
Rect.

BREMER-TULLY—Models 81-82

Line Voltage 120—Volume Control Position Max

Note: Do not remove rectifier tube before turning off set as filament voltage is too high with rectifier tube out.

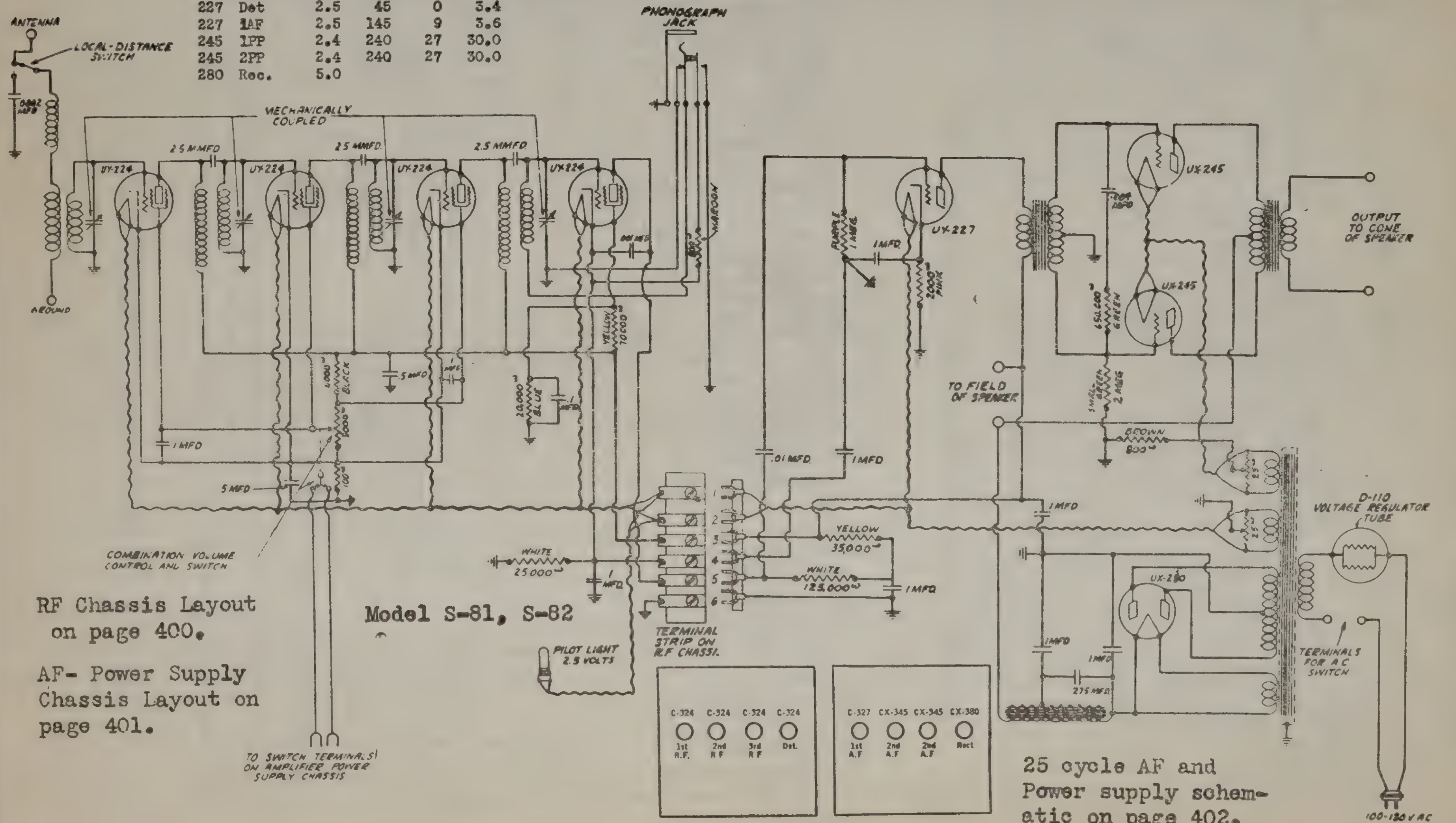
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET. ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE - HEATER VOLTS ⑨	NORMAL PLATE ⑩ M A	PLATE M A GRID ⑪ TEST	PLATE CHANGE ⑫ M A	SCREEN GRID ⑬ VOLTS
1	227	1st RF	2.75	160	2.5	152	13	13	3.0	6.1	3.1	-
2	227	2nd RF	2.75	160	2.5	152	13	13	3.0	11.8	8.8	-
3	227	3rd RF	2.75	160	2.5	152	13	13	3.0	11.8	8.8	-
4	227	Det.	2.75	160	2.5	152	-	-	3.2	3.2	0	-
5	227	1st AF	2.75	180	2.6	44	13	13	3.7	4.3	.6	-
6	245	2nd AF	2.65	208	2.45	148	-	-	26	30	4	-
7	245	2nd AF	2.65	208	2.45	256	-	-	25	30	4	-
8	280		4.85	-	4.75	256	-	-	80	-	-	-
9	Ballast		77 V-A.C.									
10												

AF and Power Unit Chassis layout is shown on the reverse side of this page.

BREMER-TULLY MFG. CO

MODEL S-81, S-82

		A	B	C	Plate Current
227	1RF	2.5	150	12	5.5 ma
227	2RF	2.5	150	12	5.5
227	3RF	2.5	150	12	5.5
227	Det	2.5	45	0	3.4
227	1AF	2.5	145	9	3.6
245	1PP	2.4	240	27	30.0
245	2PP	2.4	240	27	30.0
280	Rec.	5.0			


ANTENNA
LOCAL-DISTANCE SWITCH
.0002 MFD
GROUND
MECHANICALLY COUPLED
2.5 MMFD
2.5 MMFD
2.5 MMFD
UY-224
UX-224
UY-224
UX-224
.001 MFD
PHONOGRAPH JACK
MAROON
YELLOW 10000
4000 BLACK
.5 MFD
.1 MFD
20,000 BLUE
.1 MFD
1 MFD
5000
100
5 MFD
COMBINATION VOLUME CONTROL AND SWITCH
WHITE 25000
1 MFD
TERMINAL STRIP ON R.F. CHASSI.
1
2
3
4
5
6
PILOT LIGHT 2.5 VOLTS
TO SWITCH TERMINALS ON AMPLIFIER POWER SUPPLY CHASSIS
.01 MFD
1 MFD
PURPLE 1 MEG.
1 MFD
UX-227
2000 PINK
YELLOW 35,000
WHITE 125,000
1 MFD
TO FIELD OF SPEAKER
UX-245
UX-245
.004 MFD
650,000 GREEN
SMALL GREEN 2 MEG
BROWN 800
OUTPUT TO CONE OF SPEAKER
1 MFD
25
25
D-110 VOLTAGE REGULATOR TUBE
UX-280
1 MFD
1 MFD
2.75 MFD
TERMINALS FOR A C SWITCH
100-120 V AC
C-324
C-324
C-324
C-324
1st R.F.
2nd R F
3rd R F
Det.
C-327
CX-345
CX-345
CX-380
1st A.F
2nd A.F
2nd A.F
Rect

Model S-81, S-82

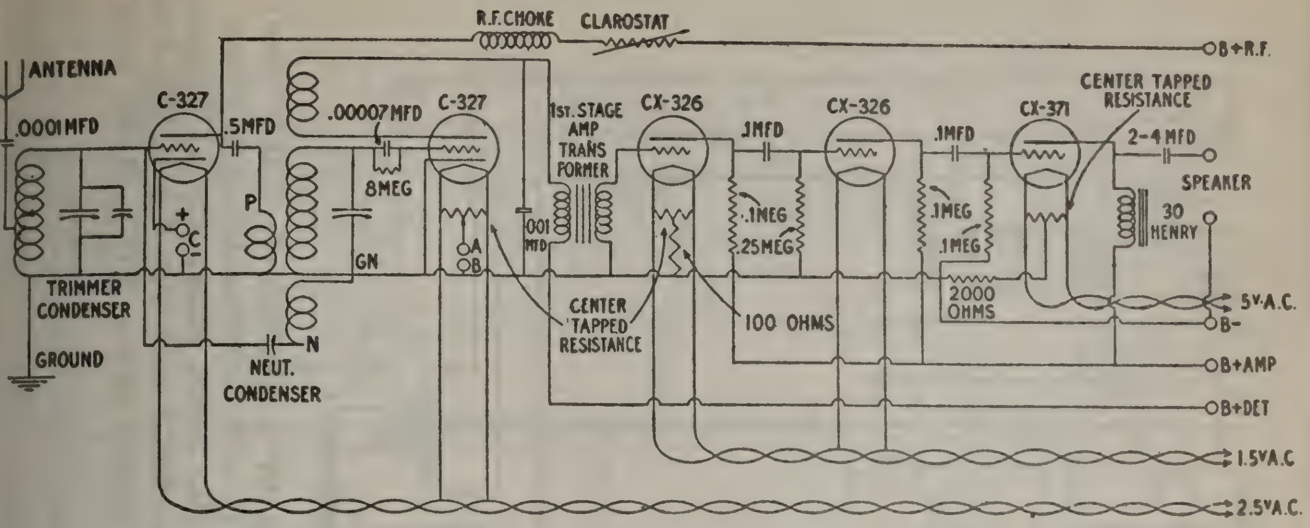
RF Chassis Layout on page 400.

AF- Power Supply Chassis Layout on page 401.

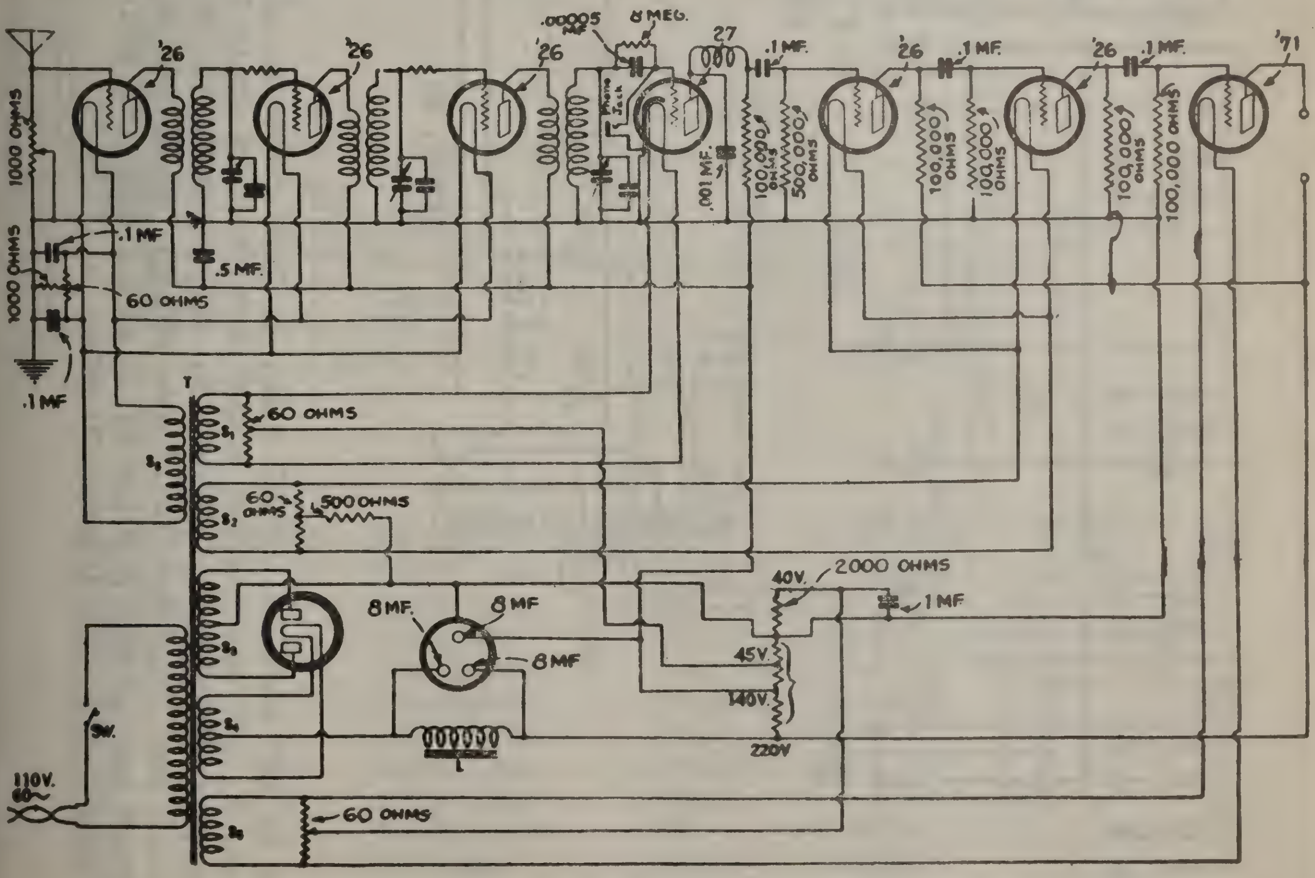
25 cycle AF and Power supply schematic on page 402.

BROWNING - DRAKE CORP.

MODEL 5 Tube AC Kit
MODEL 34,36,38


R.F. CHOKE
CLAROSTAT
B+R.F.
ANTENNA
.0001 MFD
C-327
.5MFD
.00007 MFD
C-327
8MEG
P
+
C
-
GN
A
B
1st. STAGE AMP TRANS FORMER
.001 MFD
CX-326
.1MFD
.1MEG
.25MEG
CX-326
.1MFD
.1MEG
.1MEG
2000 OHMS
CX-371
CENTER TAPPED RESISTANCE
2-4 MFD
SPEAKER
30 HENRY
5V A.C.
B-
TRIMMER CONDENSER
GROUND
N
NEUT. CONDENSER
CENTER TAPPED RESISTANCE
100 OHMS
B+AMP
B+DET
1.5V A.C
2.5V A.C.

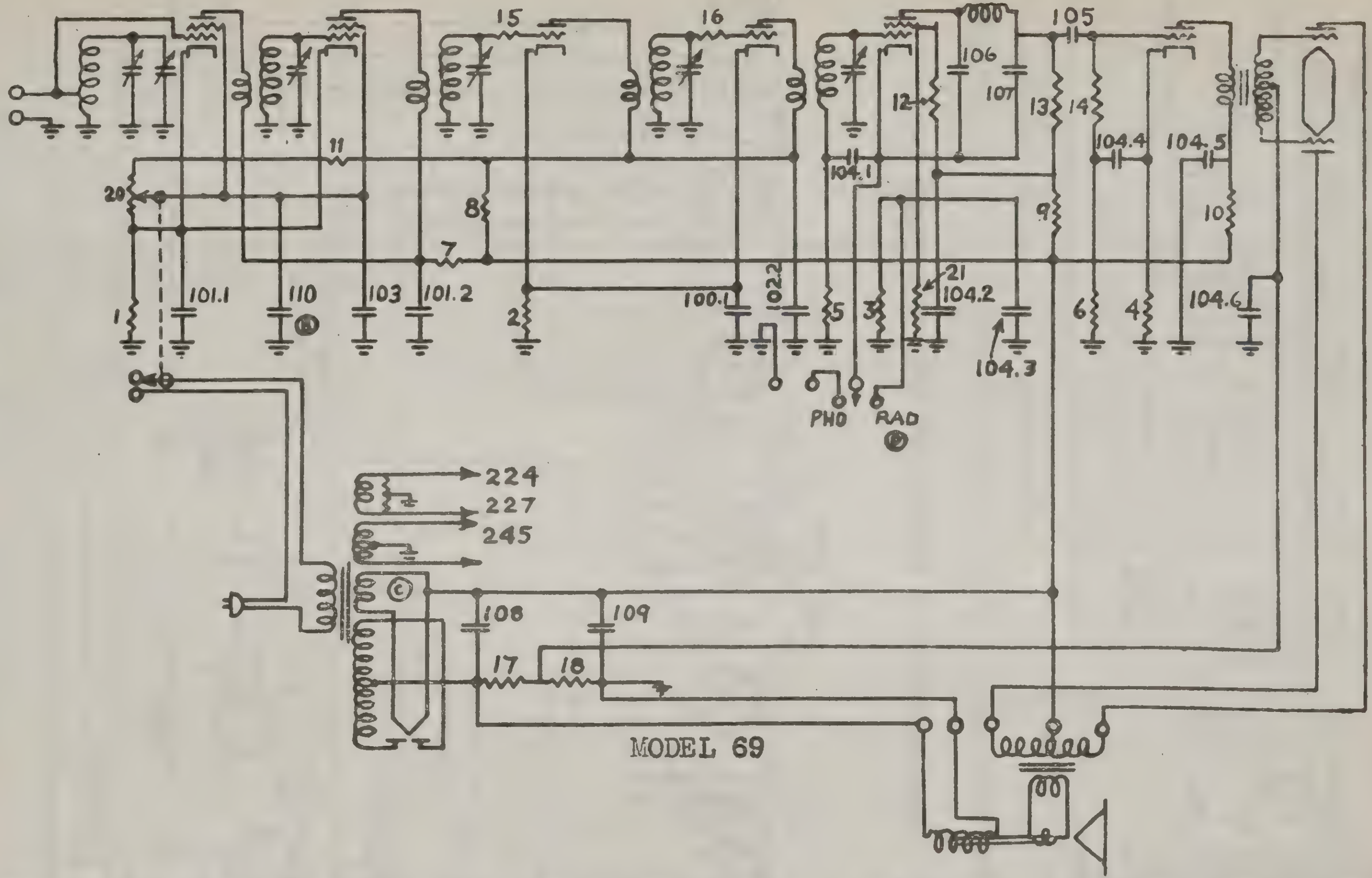
THE SCHEMATIC WIRING OF THE FIVE TUBE A-C


'26
'26
'26
.00025 MF
8 MEG.
27
.1 MF.
'26
.1 MF.
'26
.1 MF.
'71
1000 OHMS
1000 OHMS
.1 MF
.5 MF.
60 OHMS
.1 MF
.001 MF.
100,000 OHMS
500,000 OHMS
100,000 OHMS
100,000 OHMS
100,000 OHMS
100,000 OHMS
T
S1
60 OHMS
S6
60 OHMS
500 OHMS
S2
2000 OHMS
40V.
1 MF
8 MF.
8 MF
8 MF
45V.
140V.
220V
S3
S4
SW.
L
110V. 60~
60 OHMS
S5

BROWNING DRAKE 34, 36 and 38

MODEL 69

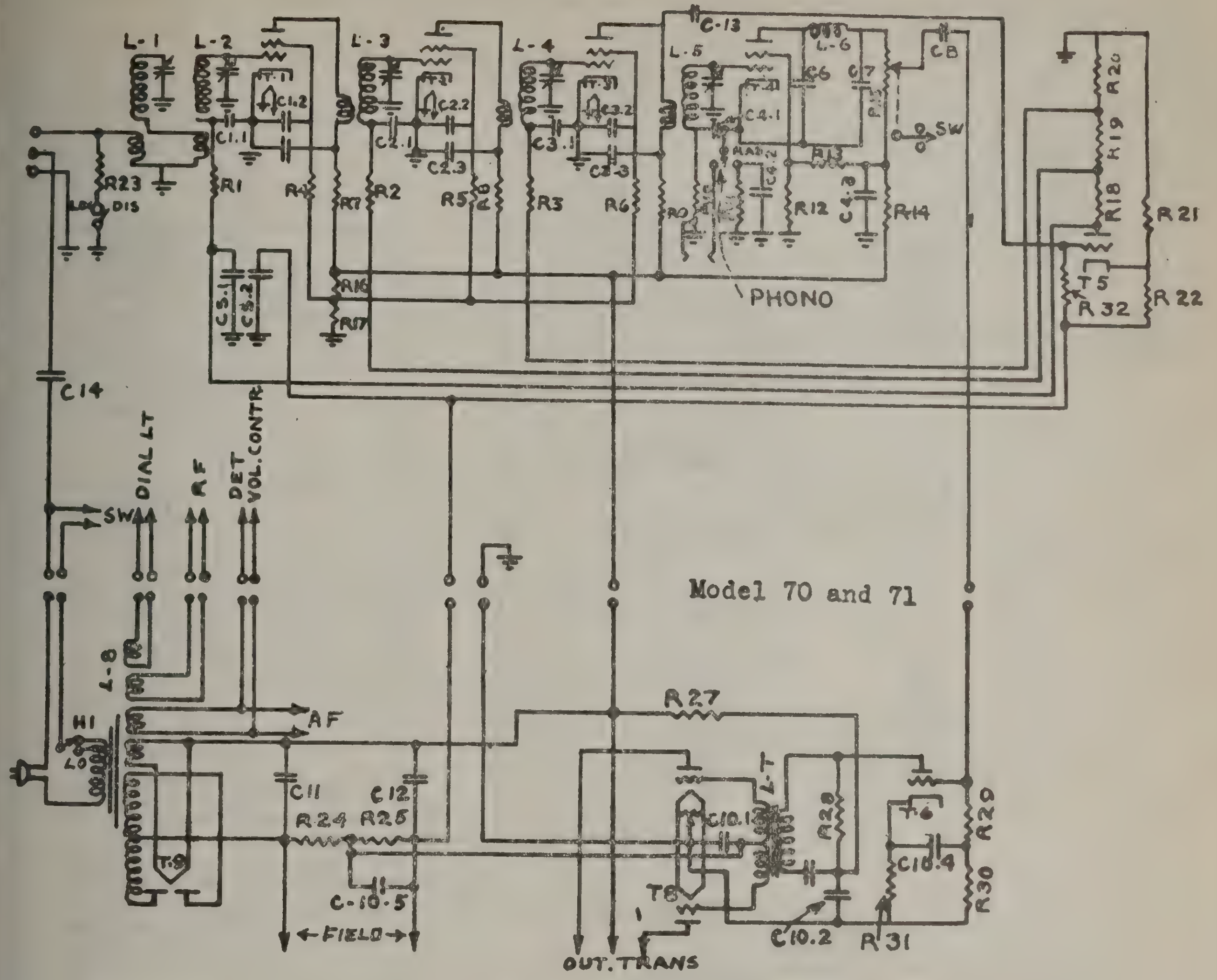
BROWNING - DRAKE CORP.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
20
21
100.1
101.1
101.2
102.2
103
104.1
104.2
104.3
104.4
104.5
104.6
105
106
107
108
109
110
PHO
RAD
224
227
245
C
MODEL 69

1. 400 ohms; 2. 600 ohms; 3. 50000 ohms; 4. 3000 ohms; 5. .5 megohm; 6. 1 megohm; 7. 45000 ohms; 8. 20000 ohms; 9. .25 megohm; 10. 60000 ohms; 11. 90 ohms; 12 and 13. .25 megohm; 14. 2 mogohms 15. 2000 ohms; 16. 2000 ohms; 17 and 18. .25 megohms; 19. 30 ohms. 20. 10000 ohms; 21. .1 megohm 101.1 and 101.2 and 102.1 and 102.2 are .5 mfd. each. 103 is .1 mfd. 104.1 and 104.2 and 104.3 and 104.4 and 104.5 are .2 mfd.; 104.6 is .5 mfd.; 105. .01 mfd.; 106. .00025 mfd.; 107. .00025 mfd.; 108 and 109 are 8 mfd. and 110 is .01 mfd.

BROWNING - DRAKE CORP.

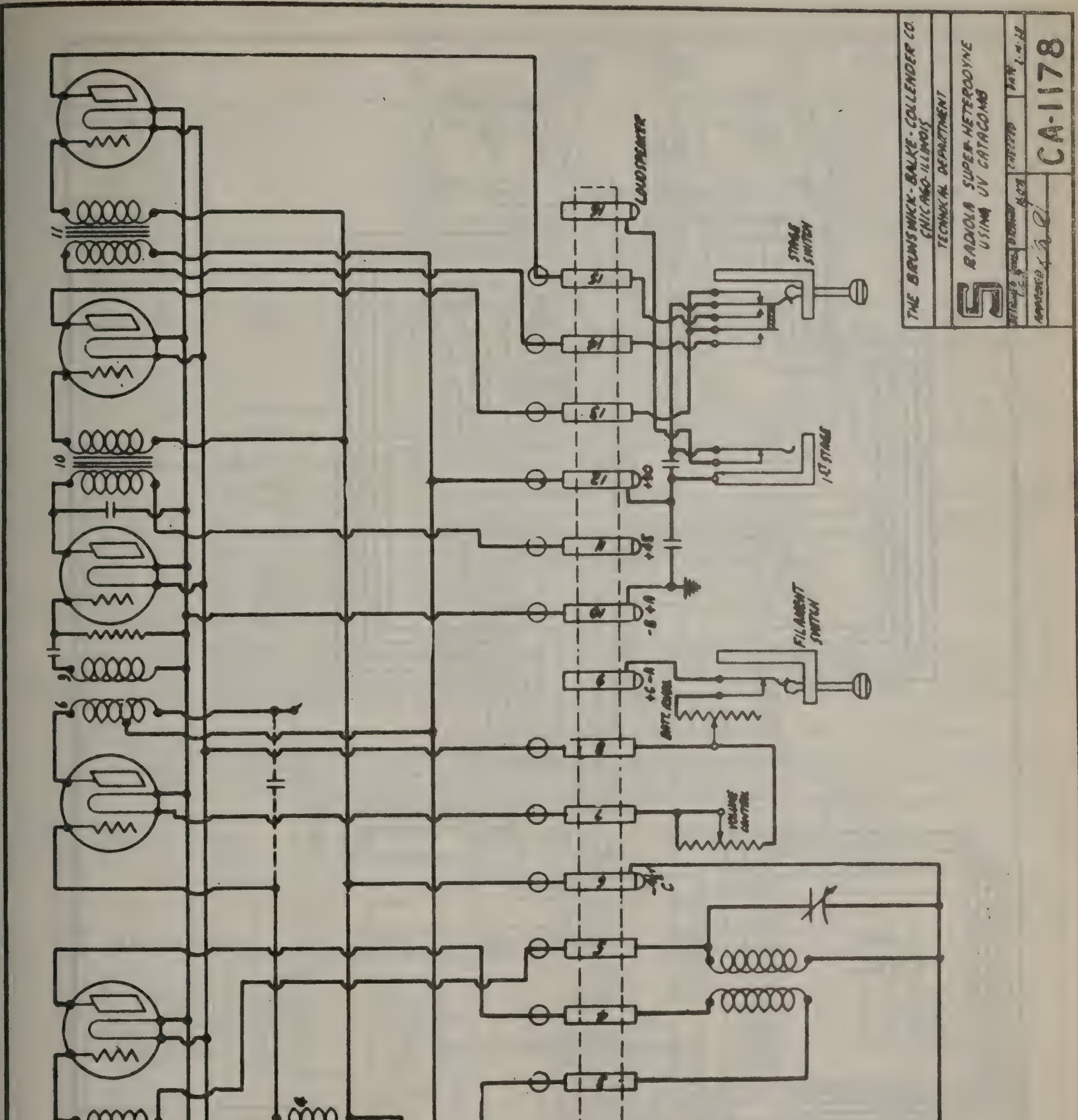
MODEL 70, 71


L-1
L-2
L-3
L-4
L-5
L-6
C-13
C8
C1.1
C1.2
C2.1
C2.2
C2.3
C3.1
C3.2
C3.3
C4.1
C4.2
C4.3
C6
C7
R1
R2
R3
R4
R5
R6
R7
R10
R12
R13
R14
R16
R17
R18
R19
R20
R21
R22
R23
R32
T5
SW
LOC
DIS
PHONO
C14
C5.1
C5.2
DIAL LT
SW
RF
DET
VOL. CONTR.
Model 70 and 71
L-8
H1
LO
AF
T-9
C11
C12
R24
R25
C-10-5
FIELD
R27
L-T
C10.1
R28
T-6
C10.4
R29
R30
T8
C10.2
R31
OUT. TRANS

R1,R2,R3,R14,R15	.25 megohm
R4,R5,R6	10000 ohms
R7,R8,R9	20000 ohms
R10,R29	1 megohm
R11,R18,R19	40000 ohms
R12	.1 megohm
R13	.25 megohm
R16	40000 ohms
R17	90000 ohms
R20	200000 ohms
R21	300 ohms
R22	45 ohms
R23,R26	20 ohms
R24	.5 megohm
R25	.15 megohm
R27	10000 ohms
R28	20000 ohms
R30,R32	2 megohms
R31	2000 ohms
C1.1;C2.1;C3.1;C1.2;C2.2;C3.2	.1 mfd
C1.3;C2.3;C3.3	.1 mfd
C4.1;C4.2	.1 mfd.
C4.3	.25 mfd
C5.1; C5.2	1. mfd
C6,C7, C13	.00025 mfd
C8	.01 mfd.
C10.1	.25 mfd
C10.2	.5 mfd
C10.3	.1 mfd
C10.4	.2 mfd
C10.5	2. mfd
C14	.00025 mfd

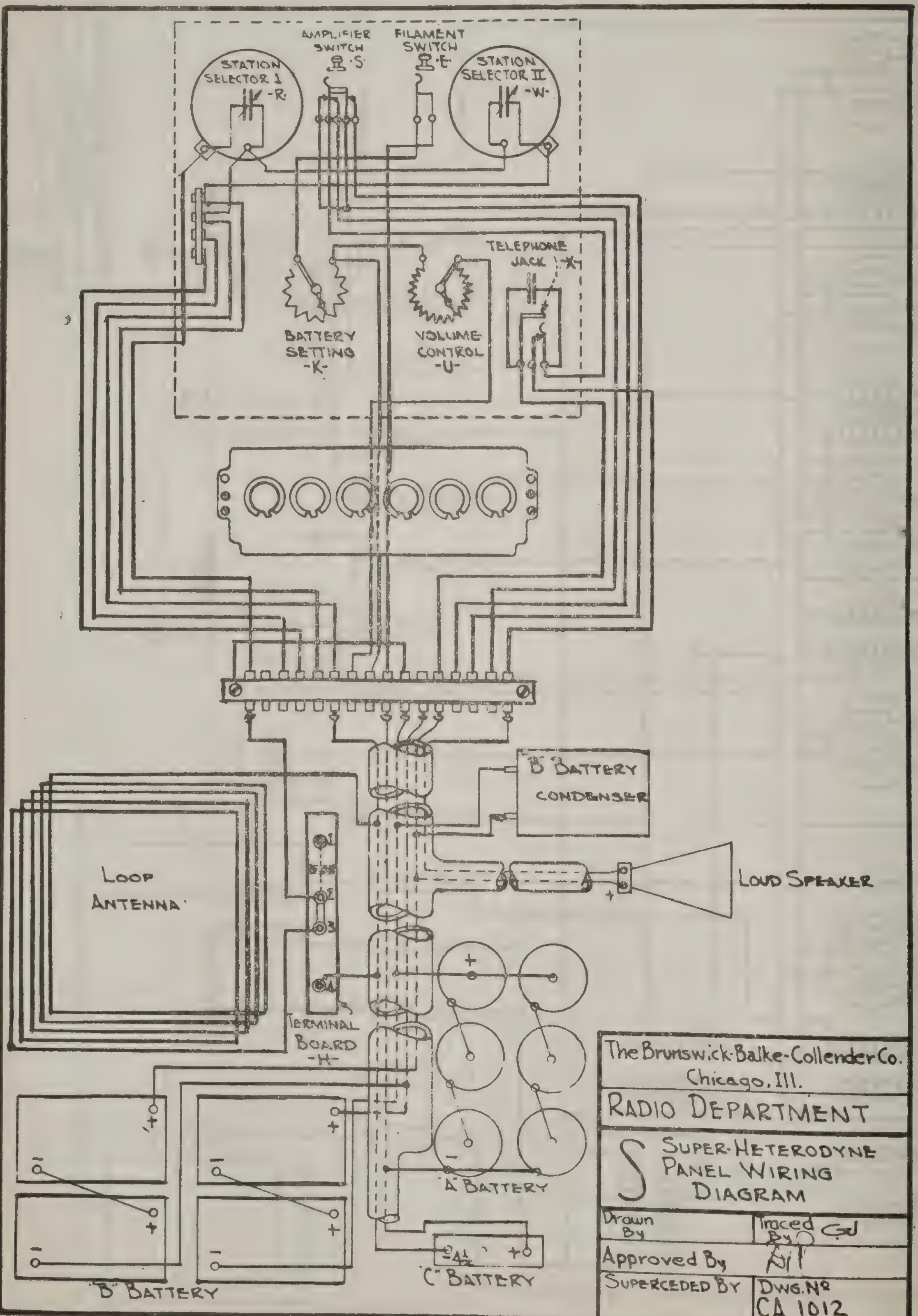
BRUNSWICK RADIO CORPORATION

MODEL Radiola
Superhet erodyne
with UV Catacomb


THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO ILLINOIS
TECHNICAL DEPARTMENT
RADIOLA SUPER-HETERODYNE USING UV CATACOMB
CA-1178
LOUDSPEAKER
STAGE SWITCH
1ST STAGE
+90
+45
-B+A
+C-A
FILAMENT SWITCH
VOLUME CONTROL
LOOP
11
10
9
7

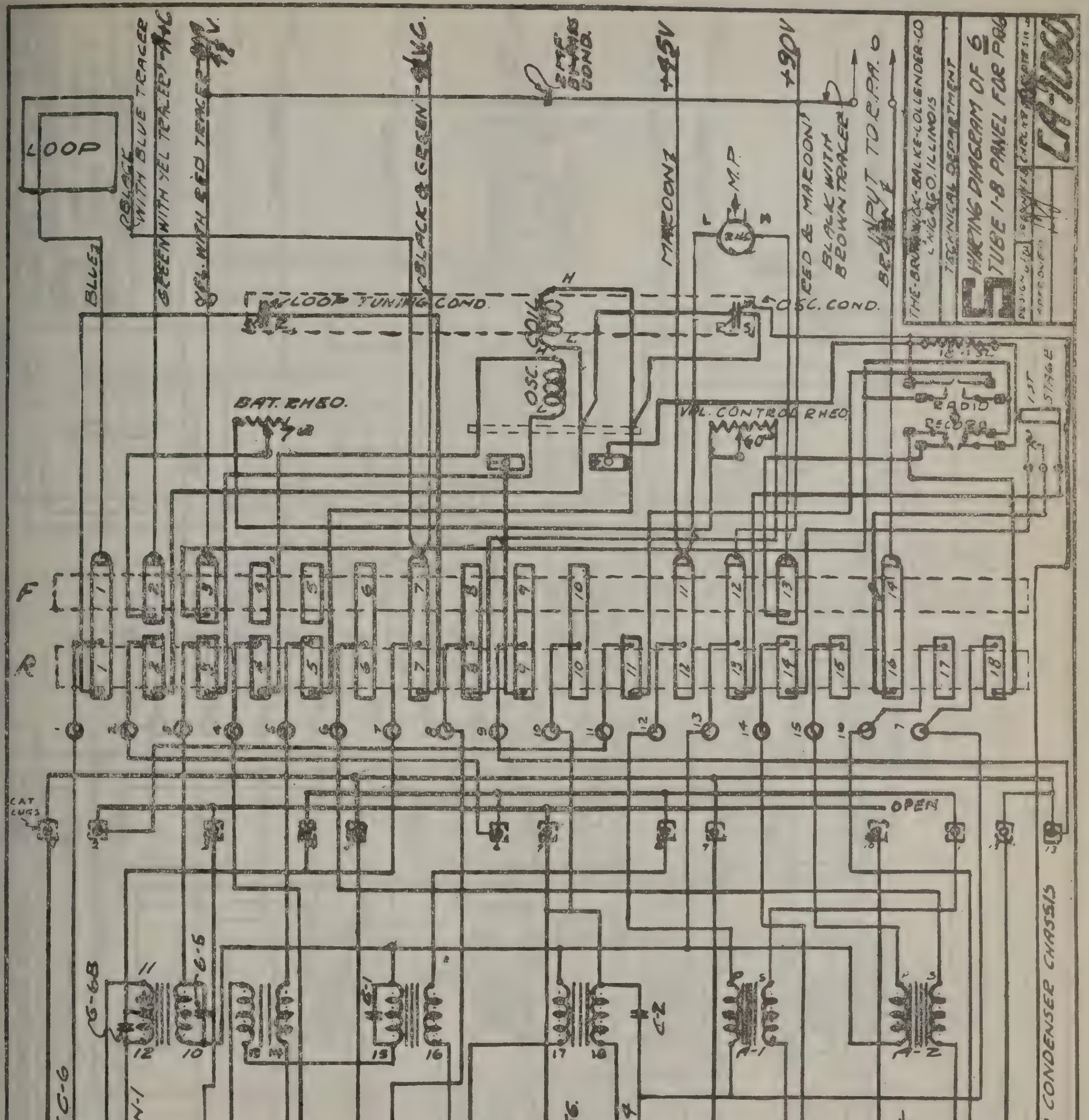
MODEL Superheterodyne
Panel Wiring

BRUNSWICK RADIO CORPORATION


AMPLIFIER SWITCH -S-
FILAMENT SWITCH -E-
STATION SELECTOR I -R-
STATION SELECTOR II -W-
TELEPHONE JACK -X-
BATTERY SETTING -K-
VOLUME CONTROL -U-
"B" BATTERY CONDENSER
LOUD SPEAKER
+
LOOP ANTENNA
1
2
3
4
TERMINAL BOARD -H-
+
-
"A" BATTERY
+
-
+
-
+
-
+
-
"B" BATTERY
-4½ +
"C" BATTERY
The Brunswick-Balke-Collender Co.
Chicago, Ill.
RADIO DEPARTMENT
S
SUPER-HETERODYNE
PANEL WIRING
DIAGRAM
Drawn By
Traced By
Approved By
SUPERCEDED BY
DWG. Nº
CA 1012

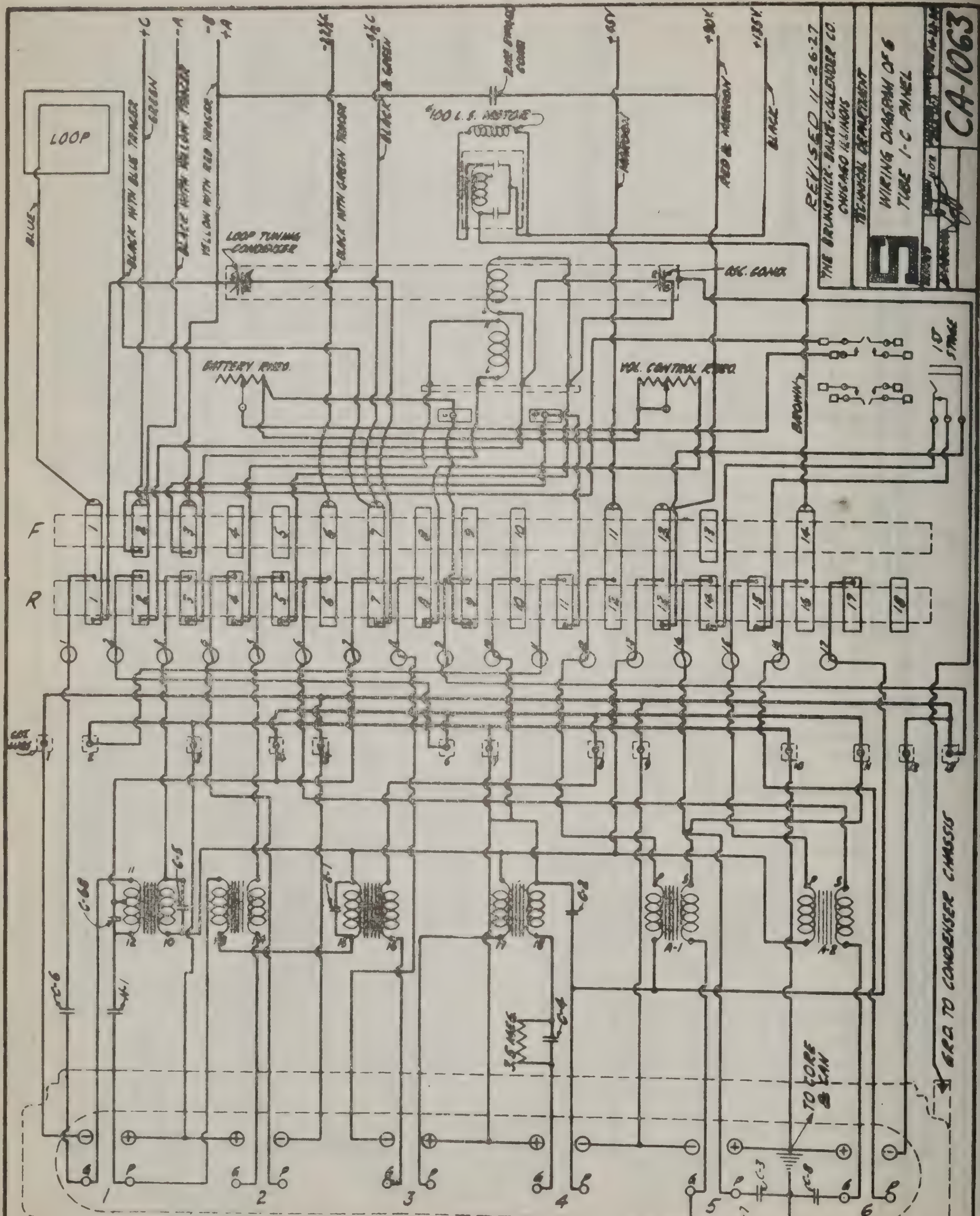
BRUNSWICK RADIO CORPORATION

MODEL PR-6
6 Tube 1-B Panel


LOOP
BLUE
BLACK WITH BLUE TRACER
GREEN WITH YEL TRACER
YEL. WITH RED TRACER
BLACK & GREEN
MAROON
RED & MAROON
BLACK WITH BROWN TRACER
INPUT TO P.A.
+45V
+90V
M.P.
LOOP TUNING COND.
OSC. COIL
OSC. COND.
BAT. RHEO.
VOL. CONTROL RHEO.
60Ω
RADIO
RECORD
1ST STAGE
F
R
CAT LUGS
OPEN
C-6B
C-5
C-1
C-2
C-4
C-6
CN-1
A-1
A-2
3.5 MEG.
TO CORE & CAN
TO CONDENSER CHASSIS GRD.
C-3
C-7
C-8
G
P
1
2
3
4
5
6
THE BRUNSWICK-BALKE-COLLENDER CO
CHICAGO, ILLINOIS
TECHNICAL DEPARTMENT
WIRING DIAGRAM OF 6 TUBE 1-B PANEL FOR PR6
DESIGNED
APPROVED
CHECKED
CA-1050

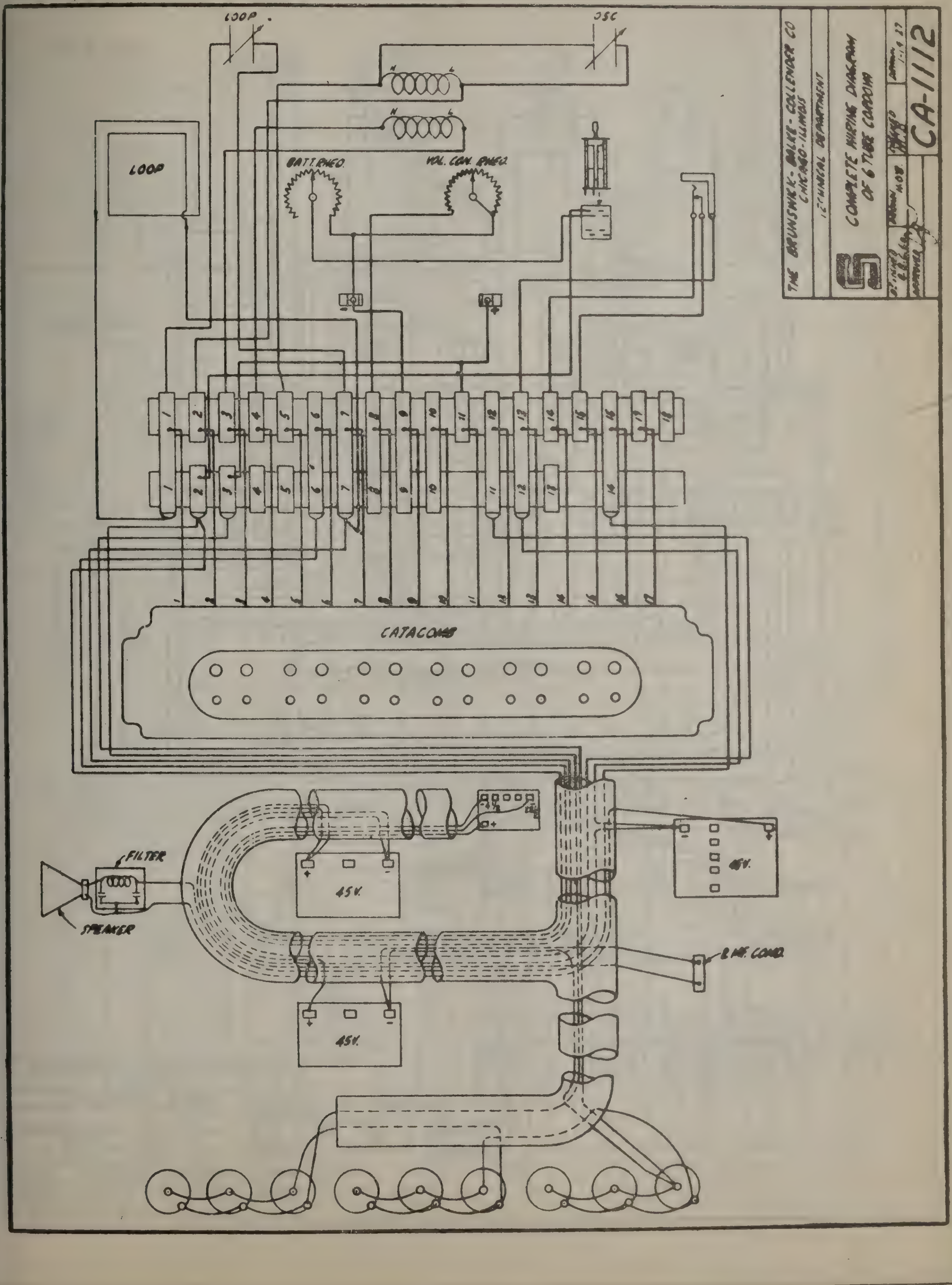
MODEL PR-6
6 Tube 1-C
Panel

BRUNSWICK RADIO CORPORATION


+C
-A
-B
+A
-22½C
-4½C
+67V
+90V
+135V
LOOP
BLUE
BLACK WITH BLUE TRACER
GREEN
BLACK WITH YELLOW TRACER
YELLOW WITH RED TRACER
BLACK WITH GREEN TRACER
BLACK & GREEN
MAROON
RED & MAROON
BLACK
#100 L.S. MOTOR
LOOP TUNING CONDENSER
OSC. COND.
BATTERY RHEO.
VOL. CONTROL RHEO.
BROWN
1ST STAGE
F
R
C-6B
C-5
C-1
C-2
C-6
C-4
C-3
C-7
C-8
3.5 MEG
A-1
A-2
TO CORE & CAN
GRD TO CONDENSER CHASSIS
1
2
3
4
5
6
REVISED 11-26-27
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO ILLINOIS
TECHNICAL DEPARTMENT
WIRING DIAGRAM OF 6 TUBE 1-C PANEL
CA-1063

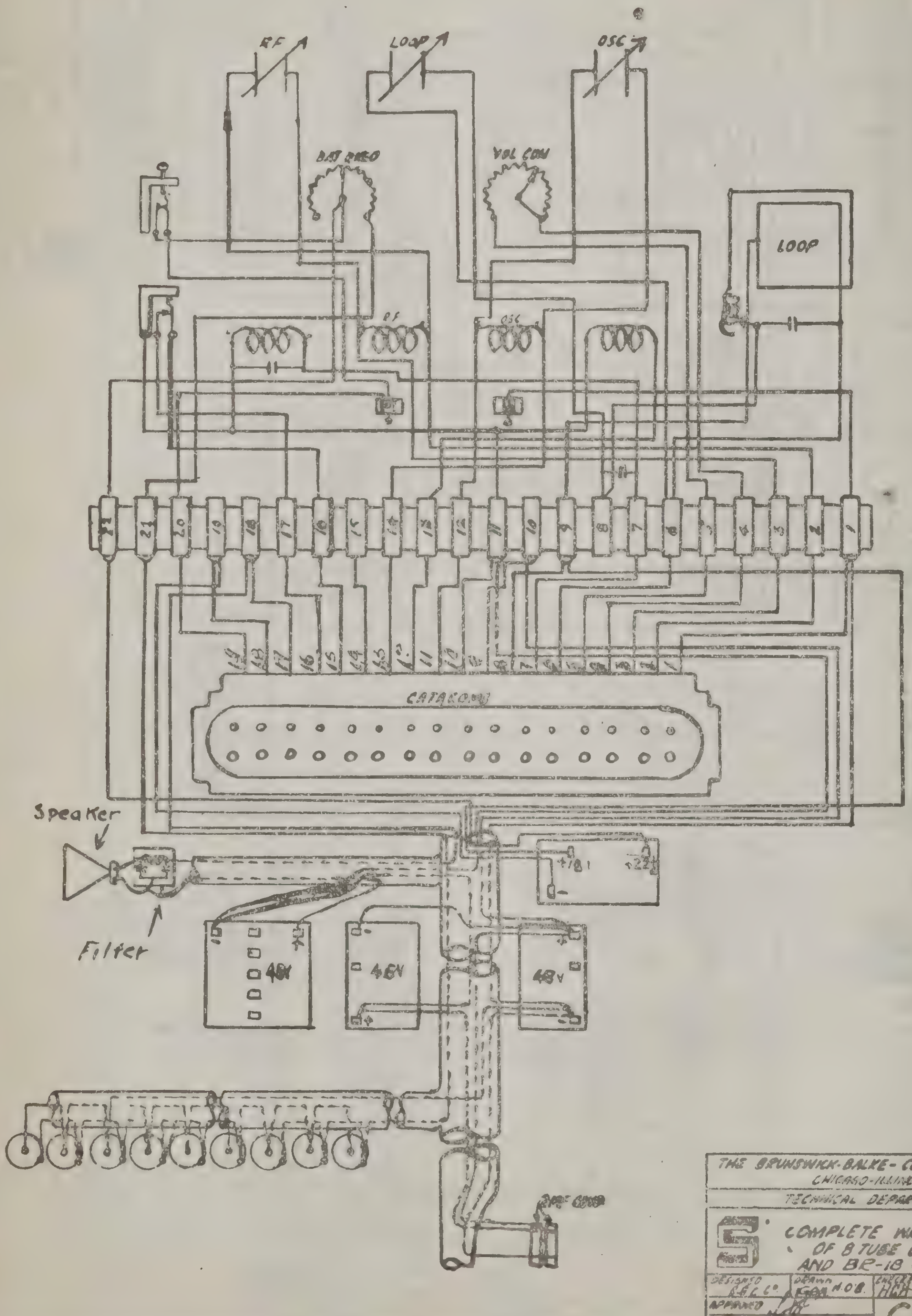
BRUNSWICK RADIO CORPORATION

MODEL 6 Tube
Cordova


LOOP
OSC
LOOP
BATT. RHEO.
VOL. CON. RHEO.
CATACOMB
FILTER
SPEAKER
45V.
45V.
45V.
2 MF. COND.
THE BRUNSWICK-BALKE-COLLENDER CO
CHICAGO-ILLINOIS
TECHNICAL DEPARTMENT
COMPLETE WIRING DIAGRAM
OF 6 TUBE CORDOVA
DRAWN
CHECKED
APPROVED
CA-1112

MODEL 8 Tube
Cordova

BRUNSWICK RADIO CORPORATION


RF
LOOP
OSC
BAT RHEO
VOL CON
RF
OSC
LOOP
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
CATACOMB
Speaker
Filter
+/B 1
+22
48V
48V
48V

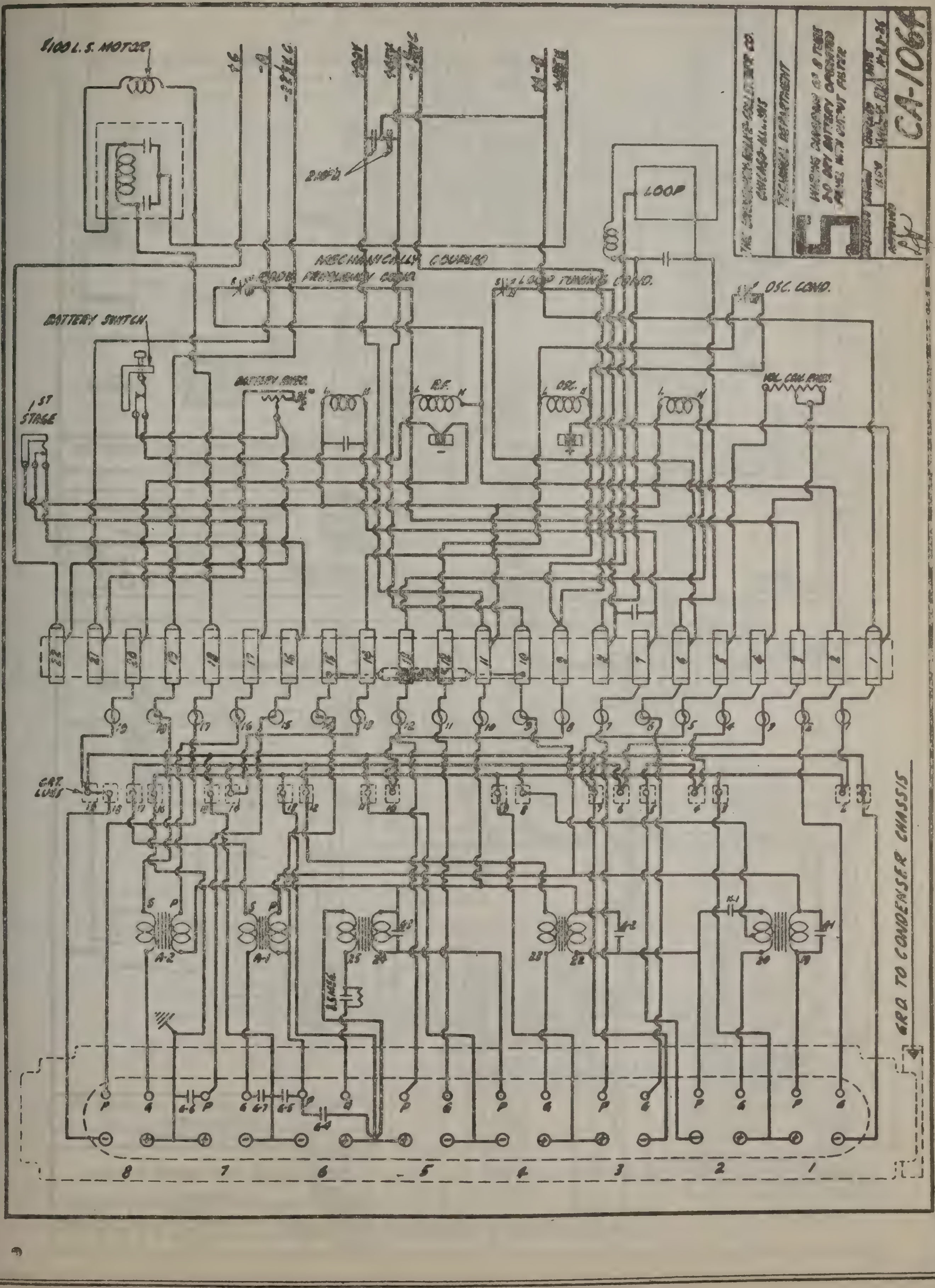
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO-ILLINOIS
TECHNICAL DEPARTMENT

COMPLETE WIRING DIAGRAM
OF 8 TUBE CORDOVA
AND BR-18 CABINETS.

DESIGNED B.B.C. Co. | DRAWN H.O.B. | CHECKED HCH | DATE 1-19-27
APPROVED
CA-1111

BRUNSWICK RADIO CORPORATION

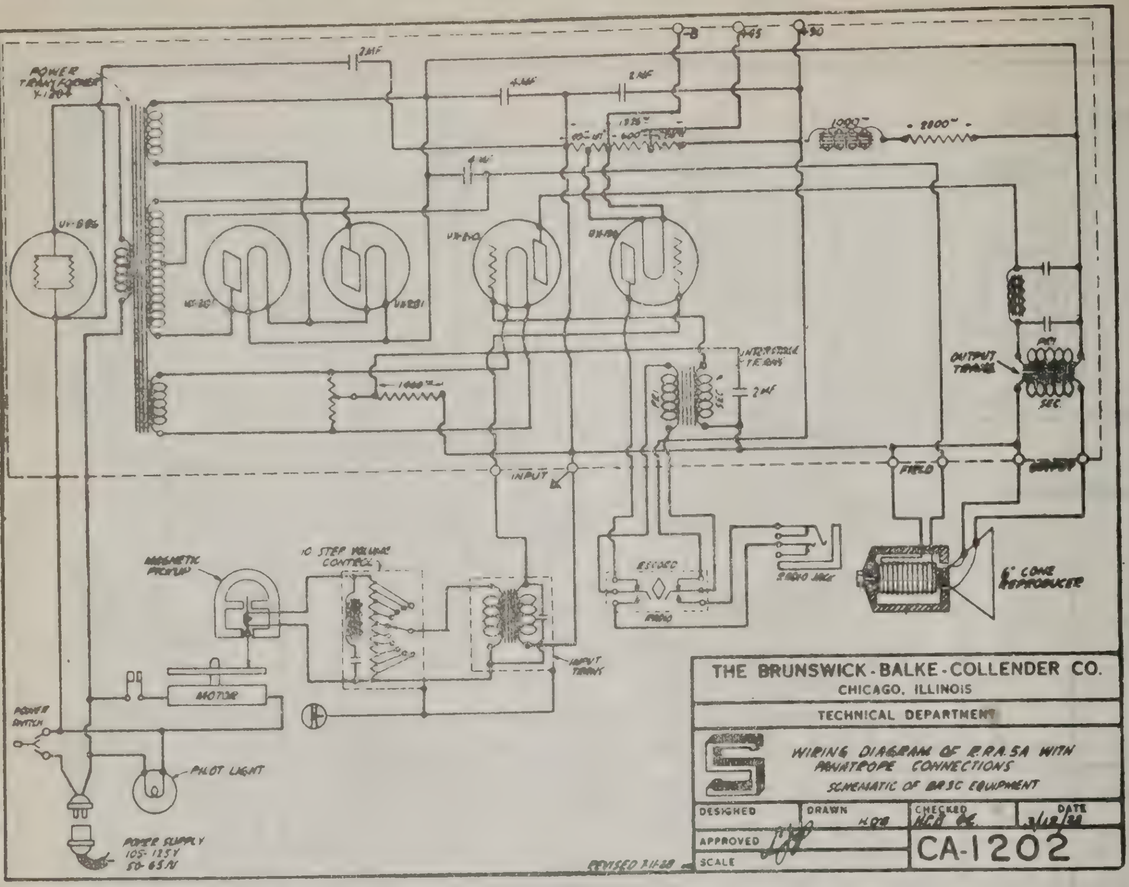
MODEL 8 Tube
2-D Battery



#100 L.S. MOTOR
+C
-A
2 MFD.
MECHANICALLY COUPLED
RADIO FREQUENCY COND.
LOOP TUNING COND.
LOOP
OSC. COND.
BATTERY SWITCH
1ST STAGE
BATTERY RHEO.
R.F.
OSC.
VOL. CON. RHEO.
CAT. LUGS
S
P
A-2
A-1
GRD TO CONDENSER CHASSIS
8
7
6
5
4
3
2
1
P
G
THE BRUNSWICK-BALKE-COLLENDER CO. CHICAGO-ILL. U.S.
ENGINEERING DEPARTMENT
WIRING DIAGRAM OF 8 TUBE 2-D DRY BATTERY OPERATED MODEL WITH OUTPUT FILTER
CA-1064

MODEL RPA-5A

BRUNSWICK RADIO CORPORATION


POWER TRANSFORMER Y-1204
-B
+45
+90
2 MF
4 MF
1000~
2800~
UX-886
UX-281
UX-281
UX-210
UX-199
INTERSTAGE TRANS
PRI
SEC
OUTPUT TRANS
FIELD
INPUT
OUTPUT
MAGNETIC PICKUP
10 STEP VOLUME CONTROL
INPUT TRANS
RECORD
RADIO
RADIO JACK
6" CONE REPRODUCER
MOTOR
POWER SWITCH
PILOT LIGHT
POWER SUPPLY 105-125V 50-65N
REVISED 3-11-28

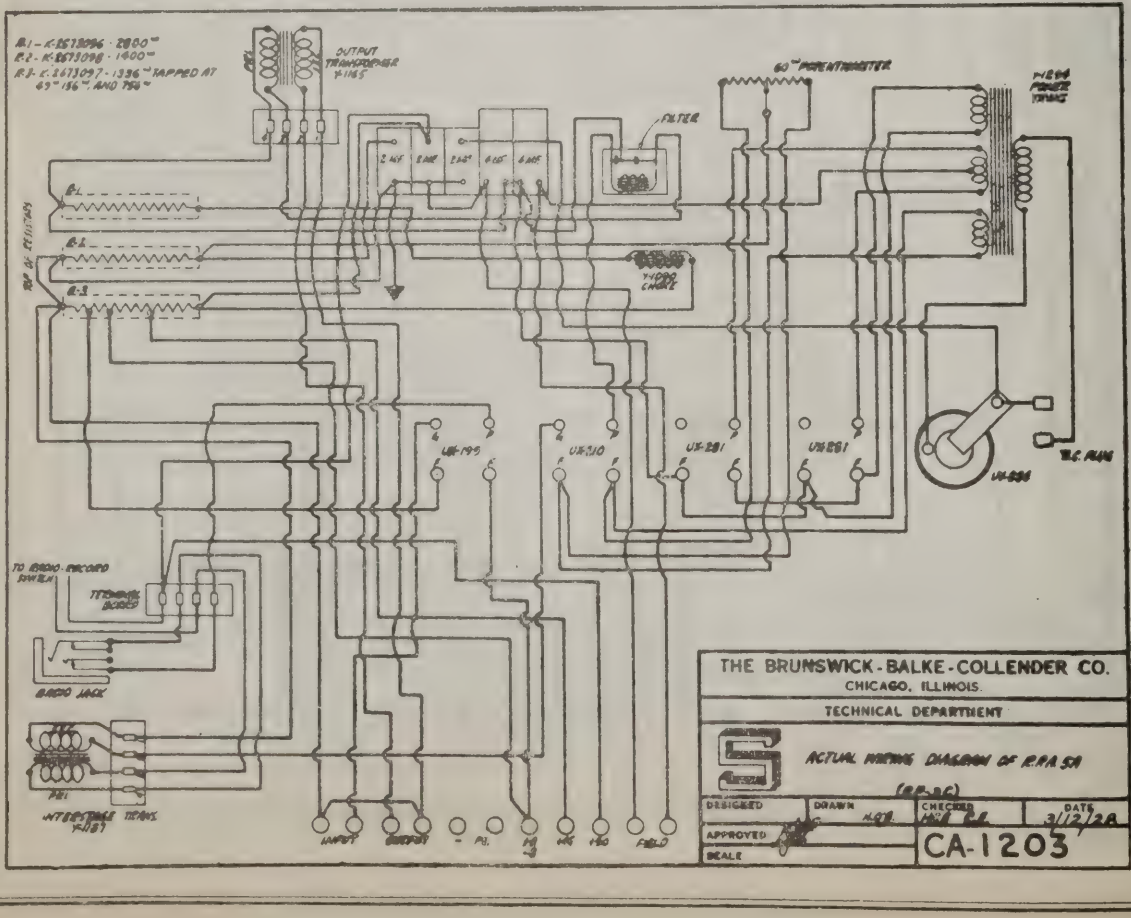
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS

TECHNICAL DEPARTMENT

WIRING DIAGRAM OF R.P.A.5A WITH
PANATROPE CONNECTIONS
SCHEMATIC OF BRSC EQUIPMENT

DESIGNED
DRAWN H.O.B.
CHECKED H.C.B. O.K.
DATE 3/12/28
APPROVED
SCALE

CA-1202


R-1 - K-2573096 - 2800~
R-2 - K-2573098 - 1400~
R-3 - K-2573097 - 1336~ TAPPED AT 65~ 156~ AND 756~
OUTPUT TRANSFORMER Y-1165
60~ POTENTIOMETER
FILTER
POWER TRANS
2 MF
2 MF
4 MF
R-1
R-2
R-3
TOP OF RESISTORS
CHOKE
UX-199
UX-210
UX-281
UX-281
UX-886
T.C. PLUG
TO RADIO-RECORD SWITCH
TERMINAL BOARD
RADIO JACK
PRI
INTERSTAGE TRANS Y-1187
INPUT
OUTPUT
- PU
+45
+90
FIELD

THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.

TECHNICAL DEPARTMENT

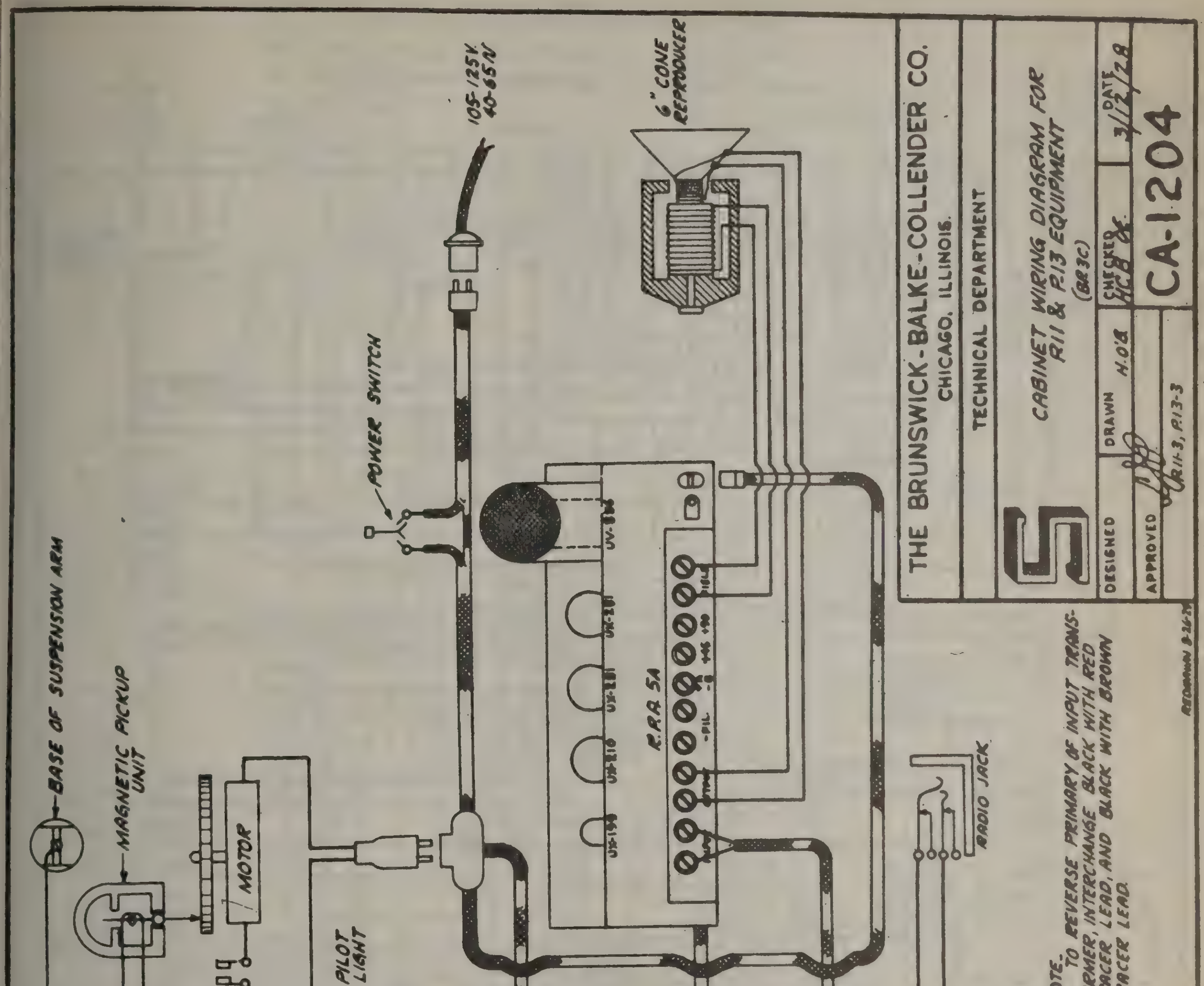
ACTUAL WIRING DIAGRAM OF R.P.A.5A
(RP-BC)

DESIGNED
DRAWN H.O.B.
CHECKED H.C.B. O.K.
DATE 3/12/28
APPROVED
SCALE

CA-1203

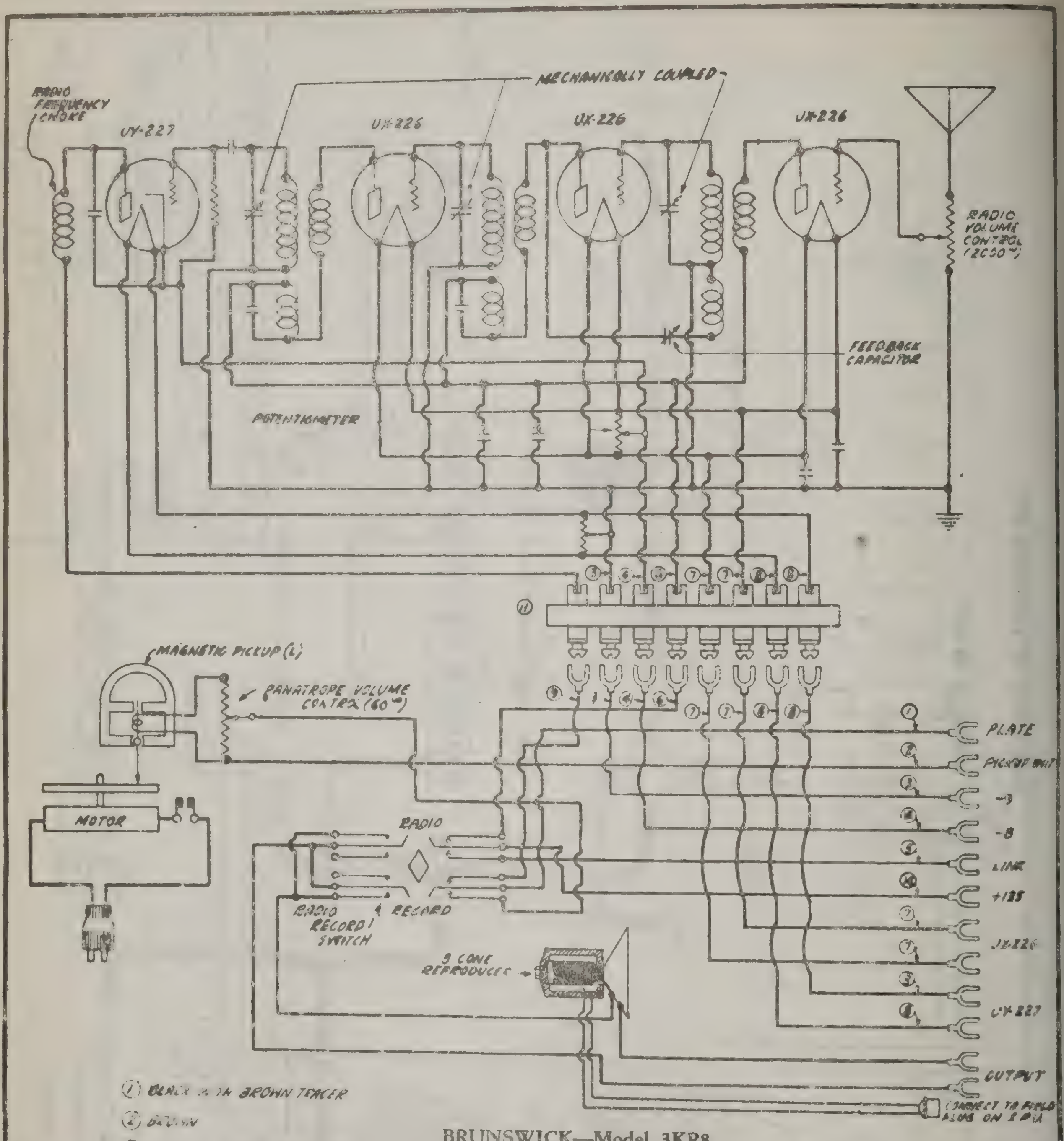
BRUNSWICK RADIO CORPORATION

MODEL P-11, P-13
Cabinet Wiring


THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
CABINET WIRING DIAGRAM FOR R11 & R13 EQUIPMENT
(BR3C)
5
DESIGNED
DRAWN H.O.B.
CHECKED H.C.B.
DATE 3/12/28
APPROVED
R11-3, R13-3
CA-1204
REDRAWN 8-26-29
BASE OF SUSPENSION ARM
MAGNETIC PICKUP UNIT
MOTOR
PILOT LIGHT
POWER SWITCH
105-125V. 40-65N
6" CONE REPRODUCER
R.R.A. 5A
UX-226
UX-226
UX-226
UX-171
UX-281
UY-227
RADIO JACK
10 STEP VOLUME CONTROL
INPUT TRANSFORMER
RECORD
RADIO
NOTE- TO REVERSE PRIMARY OF INPUT TRANSFORMER, INTERCHANGE BLACK WITH RED TRACER LEAD, AND BLACK WITH BROWN TRACER LEAD.
① BROWN
② BLACK WITH BROWN TRACER
③ BLACK WITH RED TRACER
④ RED AND MAROON

MODEL 3 KR8
RF Schematic

BRUNSWICK RADIO CORPORATION


MECHANICALLY COUPLED
RADIO FREQUENCY CHOKE
UY-227
UX-226
UX-226
UX-226
RADIO VOLUME CONTROL (2050 ~)
FEEDBACK CAPACITOR
POTENTIOMETER
MAGNETIC PICKUP (L)
PANATROPE VOLUME CONTROL (60 ~)
MOTOR
RADIO
RADIO RECORD SWITCH
RECORD
3 CONE REPRODUCER
PLATE
PICKUP UNIT
-9
-8
LINK
+135
UX-226
UY-227
OUTPUT
CONNECT TO FIELD PLUG ON 3 PIA

① BLACK WITH BROWN TRACER
② BROWN
③ BLACK WITH GREEN TRACER
④ BLACK WITH RED TRACER
⑤ MAROON
⑥ RED AND MAROON
⑦ BLACK WITH YELLOW TRACER
⑧ BLUE
⑨ RED
⑩ BLACK
⑪ BROWN WITH WHITE TRACER

BRUNSWICK—Model 3KR8
Line Voltage 115—Volume Control Minimum

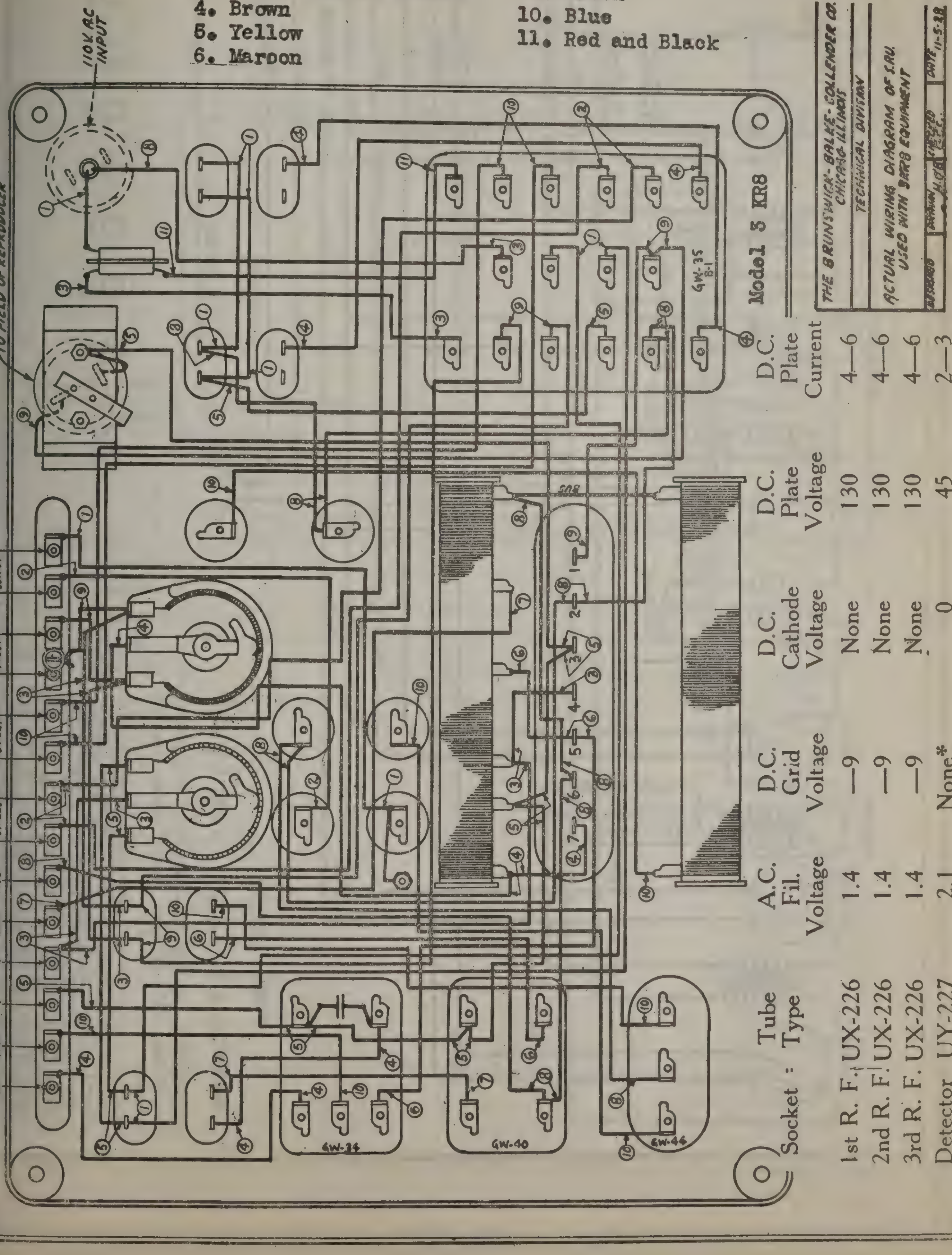
Tube No. in Order	Type of Tube	Position of Tube 1st RF Det. etc.	Readings, Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.5	138	1.4	130	9	-	5	9.5	4.5
2	226	2nd.R.F.	1.5	138	1.4	130	9	-	5	9.5	4.5
3	226	3rd.R.F.	1.5	138	1.4	130	9	-	5	9.5	4.5
4	227	Detector	2.4	138	2.1	45	0	-	2.2	2.2	0
5	226	1st.A.F.	1.5	138	1.4	130	9	-	5	10.0	5.0
6	250	2nd.A.F.	7.0	500	6.6	450	70	-	50	55.0	5.0

BRUNSWICK 3 KR8 Radio Chassis

MODEL 3 KR8
SPU Chassis

BRUNSWICK RADIO CORP.

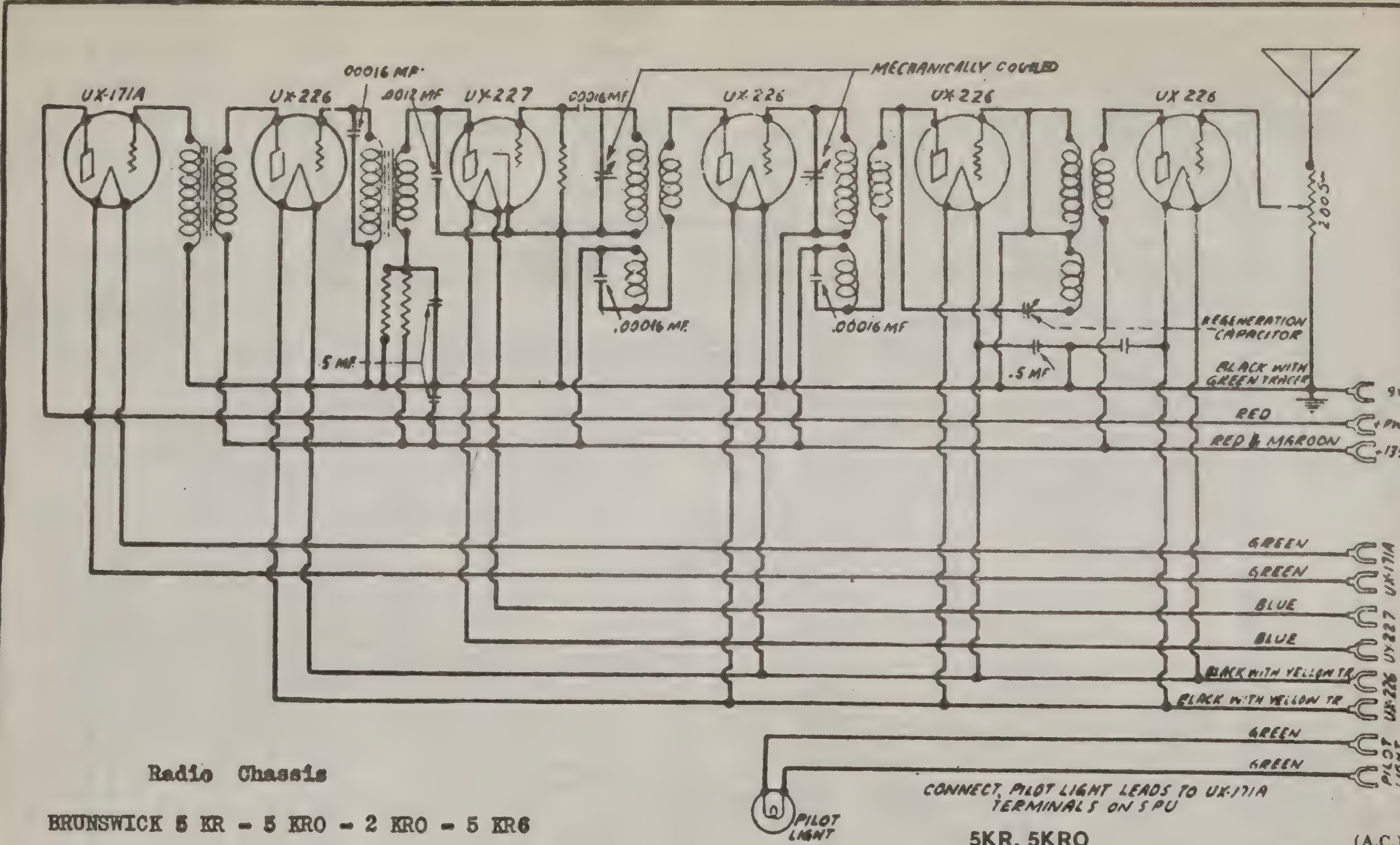
1. Black
2. Black with Yellow Tracer
3. Black with Red Tracer
4. Brown
5. Yellow
6. Maroon
7. Maroon and Red
8. Red
9. Green
10. Blue
11. Red and Black


110V AC INPUT
TO "FIELD" OF REPRODUCER
OUTPUT
PILOT
UY-227
UX-226
+135
LINK
-B
-9
P.U.
PLATE
GW-35 B-1
GW-34
GW-40
GW-44
Model 3 KR8
THE BRUNSWICK-BALKE-COLLENDER CO. CHICAGO-ILLINOIS
TECHNICAL DIVISION
ACTUAL WIRING DIAGRAM OF S.P.U. USED WITH 3KR8 EQUIPMENT
DATE 11-5-28

Tube Socket : Type	A.C. Fil. Voltage	D.C. Grid Voltage	D.C. Cathode Voltage	D.C. Plate Voltage	D.C. Plate Current
1st R. F. UX-226	1.4	—9	None	130	4—6
2nd R. F. UX-226	1.4	—9	None	130	4—6
3rd R. F. UX-226	1.4	—9	None	130	4—6
Detector UY-227	2.1	None*	0	45	2—3

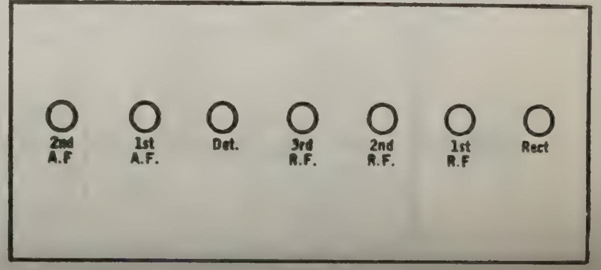
MODEL 5 KR,
5 KRO,5 KR6
2 KRO RF Schematic

BRUNSWICK RADIO CORP.


UX-171A
UX-226
UX-227
UX-226
UX-226
UX 226
.00016 MF
.0012 MF
.00016 MF
MECHANICALLY COUPLED
.00016 MF
.00016 MF
.5 MF
.5 MF
2005
REGENERATION CAPACITOR
BLACK WITH GREEN TRACER
RED
RED & MAROON
9V
+PWR
+135
GREEN
GREEN
BLUE
BLUE
BLACK WITH YELLOW TR.
BLACK WITH YELLOW TR.
GREEN
GREEN
UX171A
UX227
UX226
PILOT LIGHT
PILOT LIGHT

CONNECT PILOT LIGHT LEADS TO UX-171A TERMINALS ON SPU

5KR, 5KRO (A.C.)


2nd A.F
1st A.F.
Det.
3rd R.F.
2nd R.F.
1st R.F
Rect

Radio Chassis

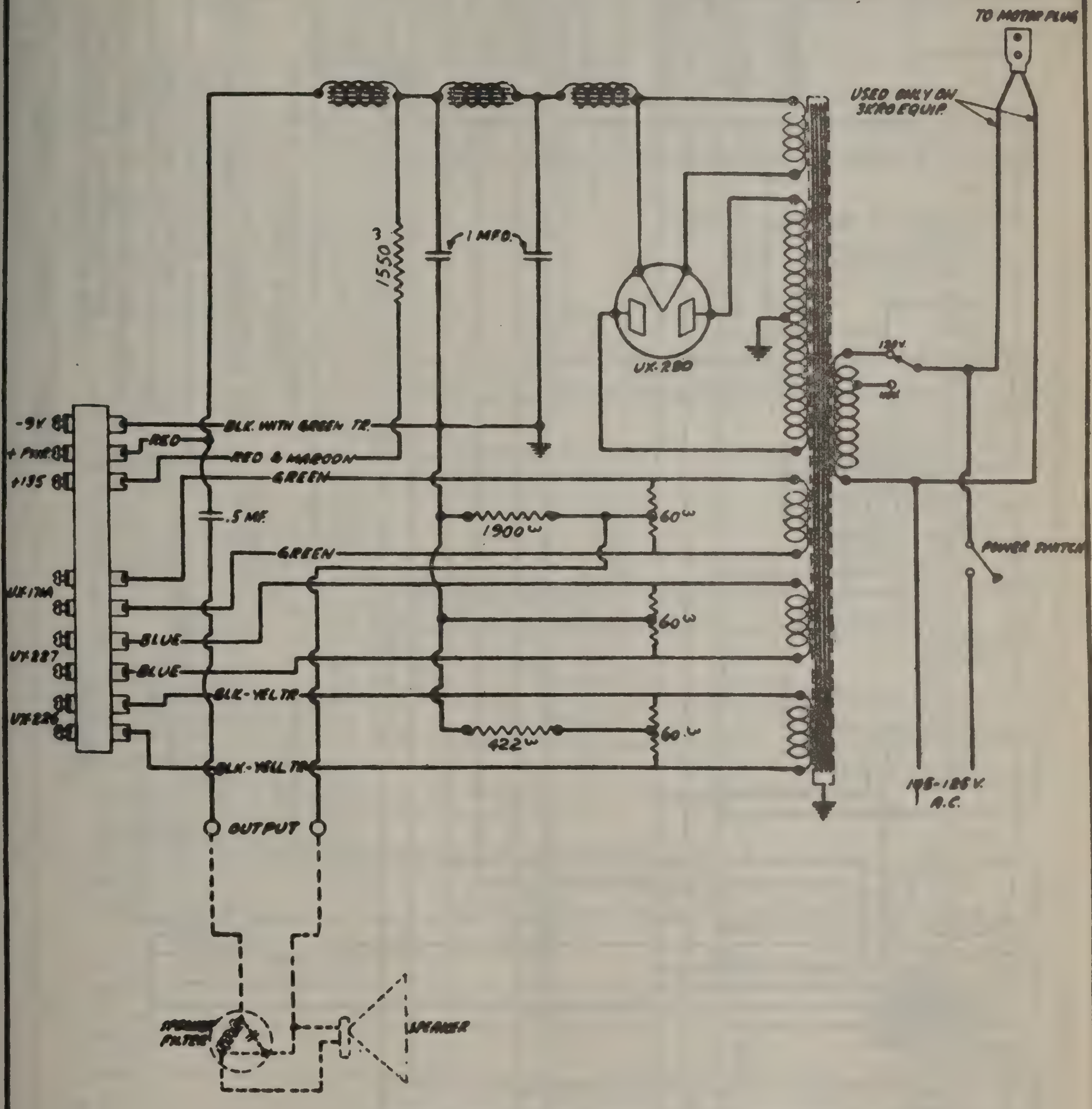
BRUNSWICK 5 KR - 5 KRO - 2 KRO - 5 KR6

BRUNSWICK—Models 5KR—5KRO— —2KRO
Line Voltage 110—110 Volt Tap—Volume Control Minimum

Tube No. in Order	Type of Tube	Position of Tube 1st RF Det Etc	Readings, Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.5	140	1.4	135	10	-	5	9	4
2	226	2nd.R.F.	1.5	140	1.4	135	10	-	5	9	4
3	226	3rd.R.F.	1.5	140	1.4	135	10	-	5	9	4
4	227	Detector	2.5	140	2.35	50	0	-	3	3.1	.1
5	226	1st.A.F.	1.5	140	1.4	135	10	-	5	9	4
6	171A	PowerA.F.	5.5	200	5.0	150	30	-	16.0	18.0	2.0
7	280	Rectifier	-	-	5.0	-	-	-	20.0	-	-

BRUNSWICK RADIO CORP.

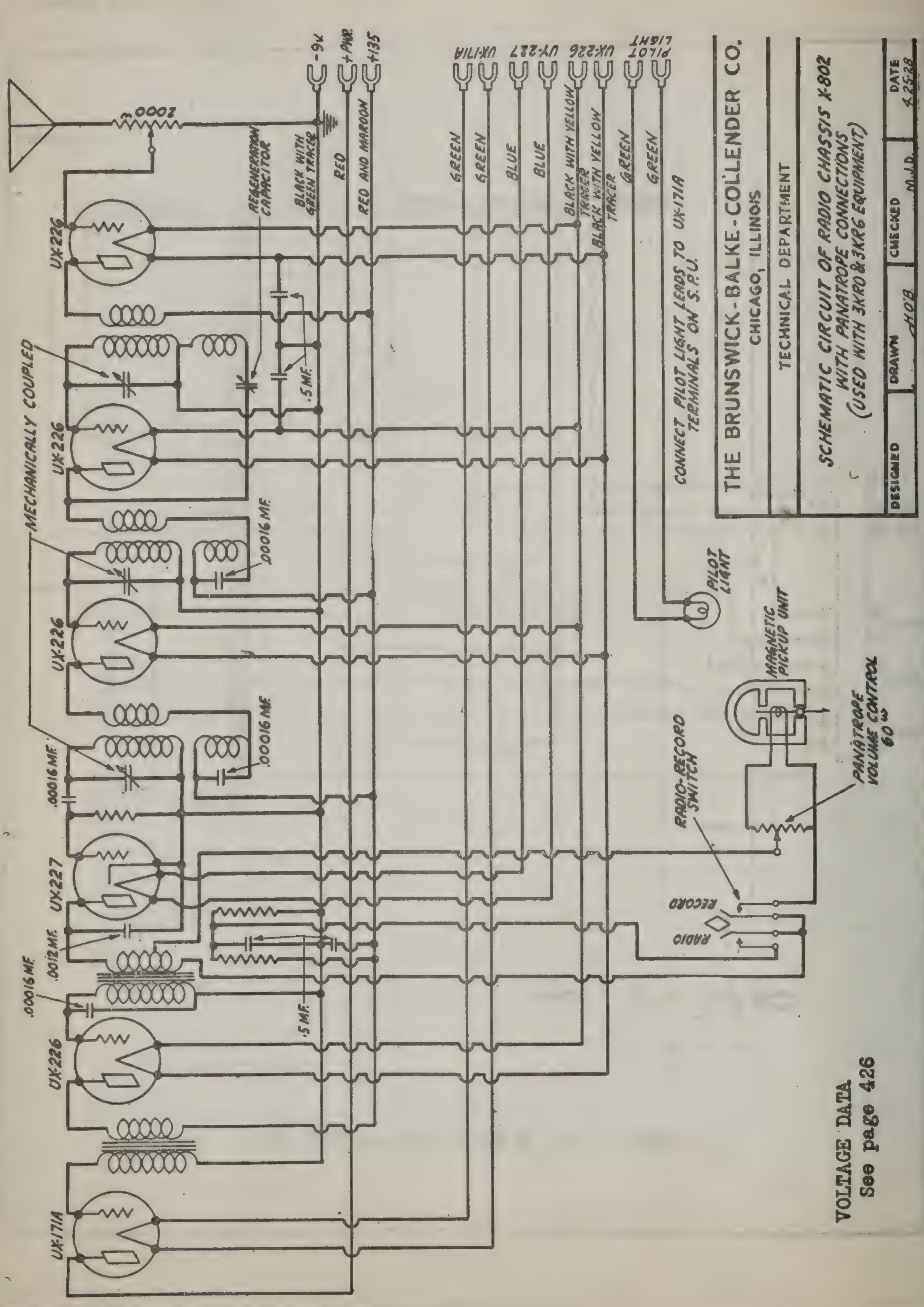
MODEL 5 KR, 5 KRO
2 KRO, 3 KRO
SPU Schematic


TO MOTOR PLUG
USED ONLY ON 3KRO EQUIP.
1550 ω
1 MFD.
UX-280
130V.
-9V
+ PWR.
+135
UX-171A
UX-227
UX-226
BLK. WITH GREEN TR.
RED
RED & MAROON
GREEN
.5 MF.
1900 ω
60 ω
GREEN
BLUE
BLUE
60 ω
BLK.-YEL TR.
422 ω
60 ω
BLK.-YELL TR.
POWER SWITCH
105-125 V. A.C.
OUTPUT
SPEAKER FILTER
SPEAKER

Model 5 KR, 5 KRO, 2 KRO, 3 KRO SPU.

MODEL 3 KRO, 3 KR6
RF Schematic

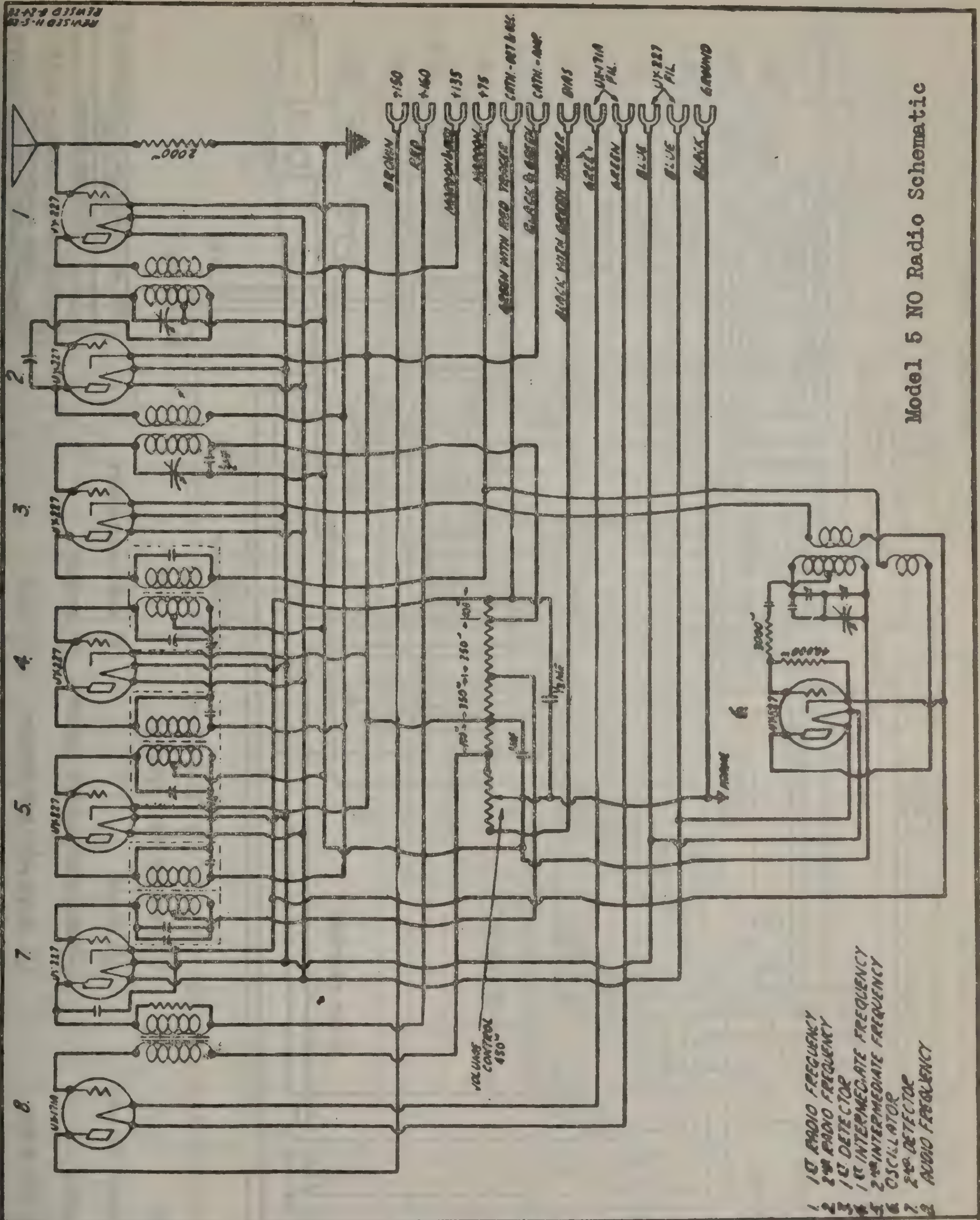
BRUNSWICK RADIO CORP.


THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS
TECHNICAL DEPARTMENT
SCHEMATIC CIRCUIT OF RADIO CHASSIS X-802 WITH PANATROPE CONNECTIONS (USED WITH 3KRO & 3KR6 EQUIPMENT)
DESIGNED
DRAWN H.O.B.
CHECKED M.J.D.
DATE 4.25.28
-9V
+PWR
+135
UX-171A
UY-227
UX-226
PILOT LIGHT
.0002
REGENERATION CAPACITOR
BLACK WITH GREEN TRACER
RED
RED AND MAROON
GREEN
GREEN
BLUE
BLUE
BLACK WITH YELLOW TRACER
BLACK WITH YELLOW TRACER
GREEN
GREEN
CONNECT PILOT LIGHT LEADS TO UX-171A TERMINALS ON S.P.U.
UX226
MECHANICALLY COUPLED
.5 MF.
UX-226
.00016 MF.
UX-226
.00016 MF.
.00016 MF.
UX227
.0012 MF.
.00016 MF.
.5 MF.
UX-226
UX-171A
PILOT LIGHT
MAGNETIC PICKUP UNIT
PANATROPE VOLUME CONTROL 60 W
RADIO-RECORD SWITCH
RECORD
RADIO

VOLTAGE DATA
See page 426

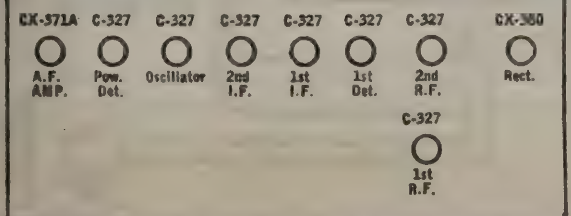
BRUNSWICK RADIO CORP.

MODEL 5 NO
RF Schematic


Model 5 NO Radio Schematic

+180
+160
+135
+75
CATH.-DET & R.F.
CATH.-AMP.
BIAS
UX171A FIL.
UX227 FIL.
GROUND
BROWN
RED
MAROON
MAROON
GREEN WITH RED TRACER
BLACK & GREEN
BLACK WITH GREEN TRACER
GREEN
GREEN
BLUE
BLUE
BLACK
.0002
1
2
3
4
5
6
7
8
UX227
UX171A
VOLUME CONTROL 450
3000
1 1ST RADIO FREQUENCY
2 2ND RADIO FREQUENCY
3 1ST DETECTOR
4 1ST INTERMEDIATE FREQUENCY
5 2ND INTERMEDIATE FREQUENCY
6 OSCILLATOR
7 2ND DETECTOR
8 AUDIO FREQUENCY

5NO (A.C.)

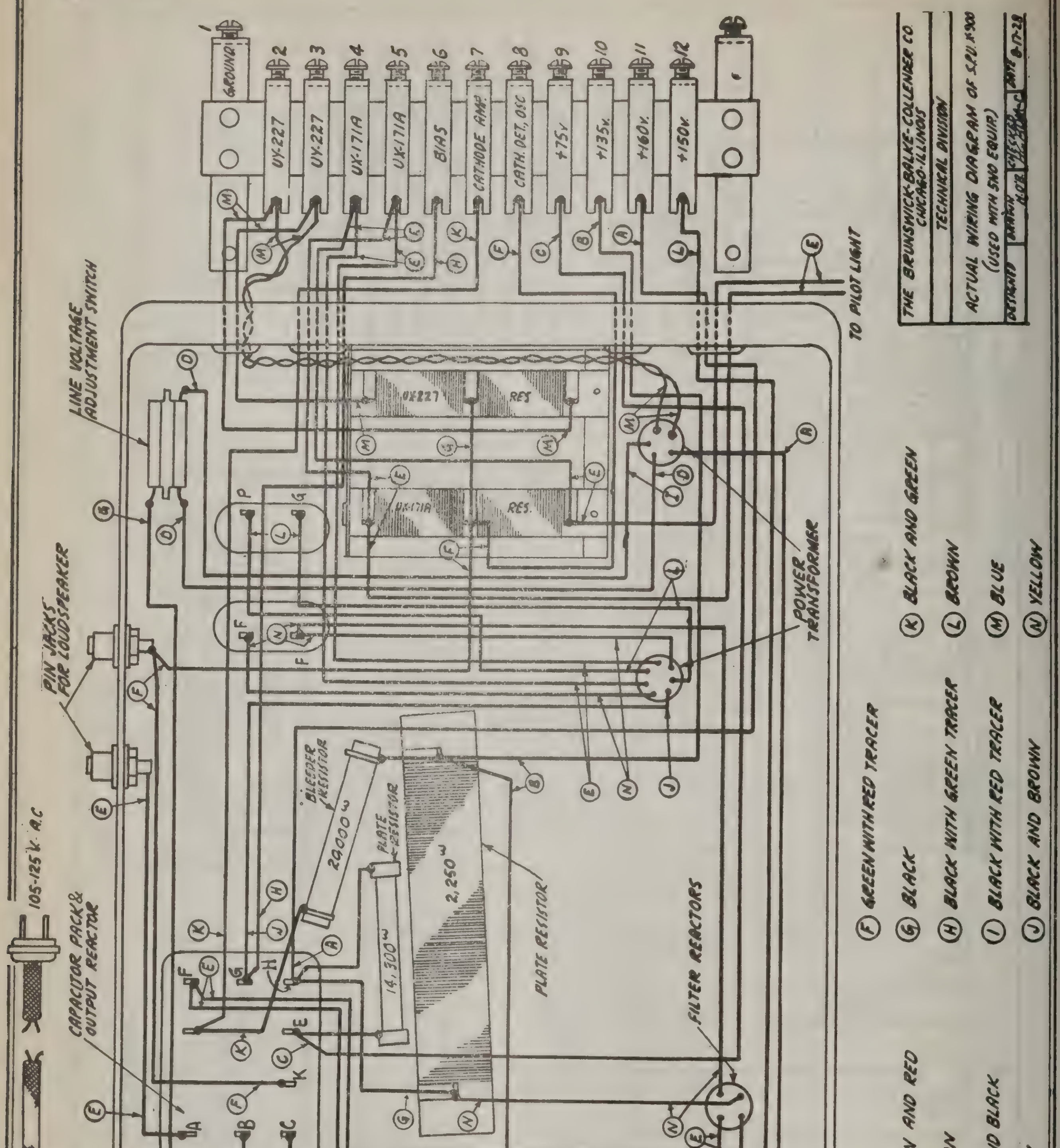

CX-371A
A.F. AMP.
C-327
Pow. Det.
C-327
Oscillator
C-327
2nd I.F.
C-327
1st I.F.
C-327
1st Det.
C-327
2nd R.F.
C-327
1st R.F.
CX-380
Rect.

BRUNSWICK—Model 5NO—
Line Voltage 110—Volume Control Minimum

Tube No. in Order	Type of Tube	Position of Tube 1st AF Det etc	Readings Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A volts	B volts	A volts	B volts	C volts	Cathode volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	227	Ant.Coupler	2.35	170	2.25	160	24	27	1.0	2.0	1.0
2	227	1st.R.F.	2.35	170	2.25	160	24	27	1.0	2.0	1.0
3	227	1st.Det.	2.35	94	2.25	80	10	0	1.0	2.0	1.0
4	227	1st.I.F.	2.35	170	2.25	160	24	27	1.0	3.0	2.0
5	227	2nd.I.F.	2.35	170	2.25	160	24	27	1.0	3.0	2.0
6	227	Oscillator	2.35	120	2.25	75	-	-	7.0	0	0.0
7	227	2nd.Det.	2.35	170	2.25	160	19	-	1.0	2.0	1.0
8	171A	Power	5.5	160	5.0	150	30	-	20.0	22.0	2.0
9	280	Rectifier	-	-	5.0	-	-	-	20.0	-	

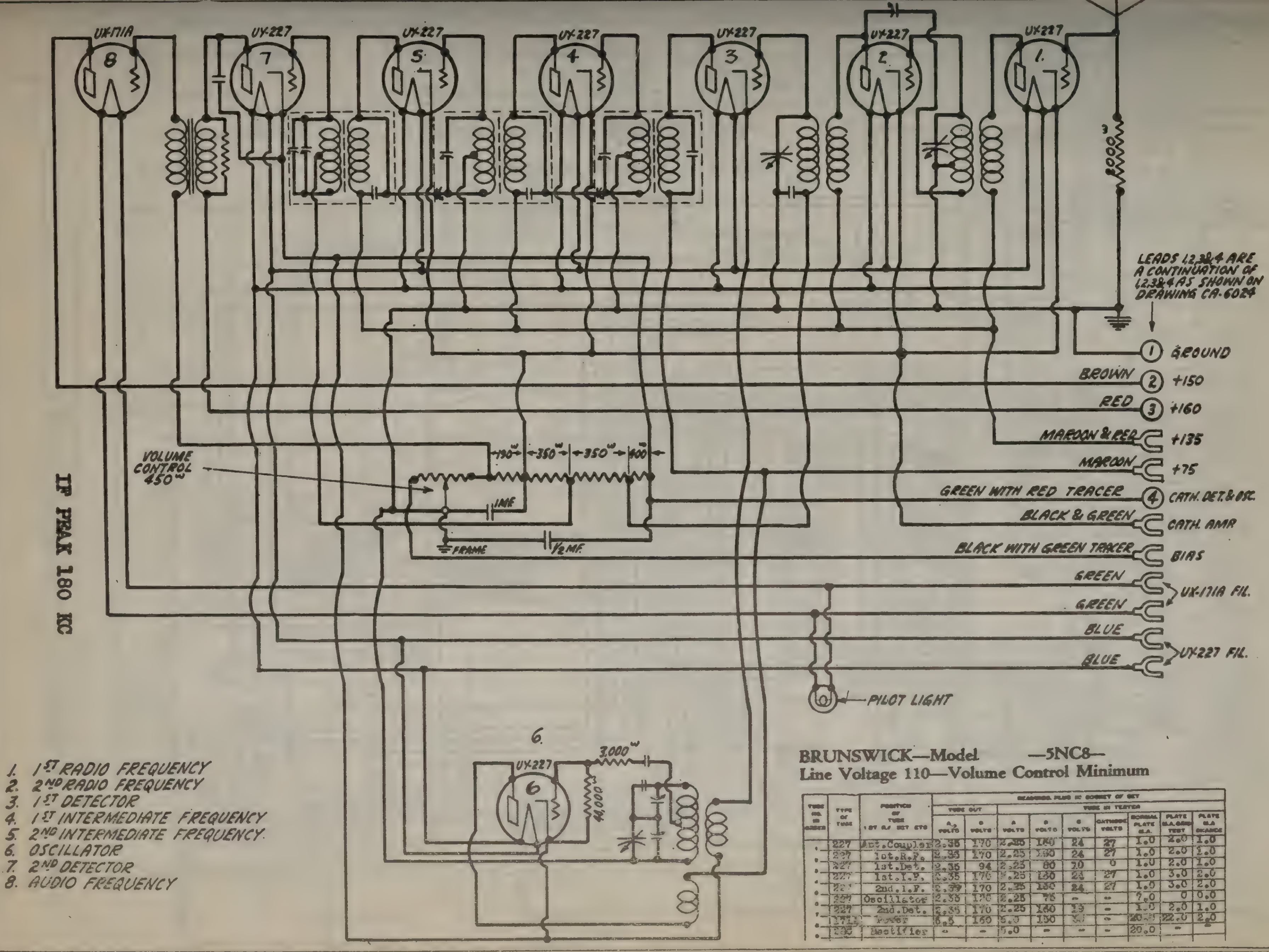
MODEL 5 NO
SPU Chassis

BRUNSWICK RADIO CORP.


1 GROUND
2 UY-227
3 UY-227
4 UX-171A
5 UX-171A
6 BIAS
7 CATHODE AMP.
8 CATH. DET, OSC
9 +75v
10 +135v.
11 +160v.
12 +150v.
TO PILOT LIGHT
LINE VOLTAGE ADJUSTMENT SWITCH
PIN JACKS FOR LOUDSPEAKER
105-125 V. A.C
CAPACITOR PACK & OUTPUT REACTOR
UX227
RES
UX-171A
RES.
POWER TRANSFORMER
BLEEDER RESISTOR
20000 ω
PLATE RESISTOR
14,300 ω
2,250 ω
PLATE RESISTOR
FILTER REACTORS
SOLDER AND TAPE
OPERATING SWITCH
THE BRUNSWICK-BALKE-COLLENDER CO
CHICAGO-ILLINOIS
TECHNICAL DIVISION
ACTUAL WIRING DIAGRAM OF S.P.U. #900
(USED WITH 5NO EQUIP.)
DATE 8-17-28
Ⓐ RED
Ⓑ MAROON AND RED
Ⓒ MAROON
Ⓓ RED AND BLACK
Ⓔ GREEN
Ⓕ GREEN WITH RED TRACER
Ⓖ BLACK
Ⓗ BLACK WITH GREEN TRACER
Ⓘ BLACK WITH RED TRACER
Ⓙ BLACK AND BROWN
Ⓚ BLACK AND GREEN
Ⓛ BROWN
Ⓜ BLUE
Ⓝ YELLOW

BRUNSWICK RADIO CORP.

MODEL 5 NC8
Radio Schematic


UX-171A
8
UX-227
7
UX-227
5
UX-227
4
UX-227
3
UX-227
2
UX-227
1.
3000Ω
LEADS 1,2,3&4 ARE A CONTINUATION OF 1,2,3&4 AS SHOWN ON DRAWING CA-6024
① GROUND
BROWN ② +150
RED ③ +160
MAROON & RED +135
MAROON +75
GREEN WITH RED TRACER ④ CATH. DET. & OSC.
BLACK & GREEN CATH. AMP.
BLACK WITH GREEN TRACER BIAS
GREEN
GREEN
UX-171A FIL.
BLUE
BLUE
UX-227 FIL.
PILOT LIGHT
VOLUME CONTROL 450Ω
130Ω
350Ω
350Ω
400Ω
1MF
1/2 MF.
FRAME
6.
UX-227
6
3,000Ω
40,000Ω
1. 1ST RADIO FREQUENCY
2. 2ND RADIO FREQUENCY
3. 1ST DETECTOR
4. 1ST INTERMEDIATE FREQUENCY
5. 2ND INTERMEDIATE FREQUENCY
6. OSCILLATOR
7. 2ND DETECTOR
8. AUDIO FREQUENCY

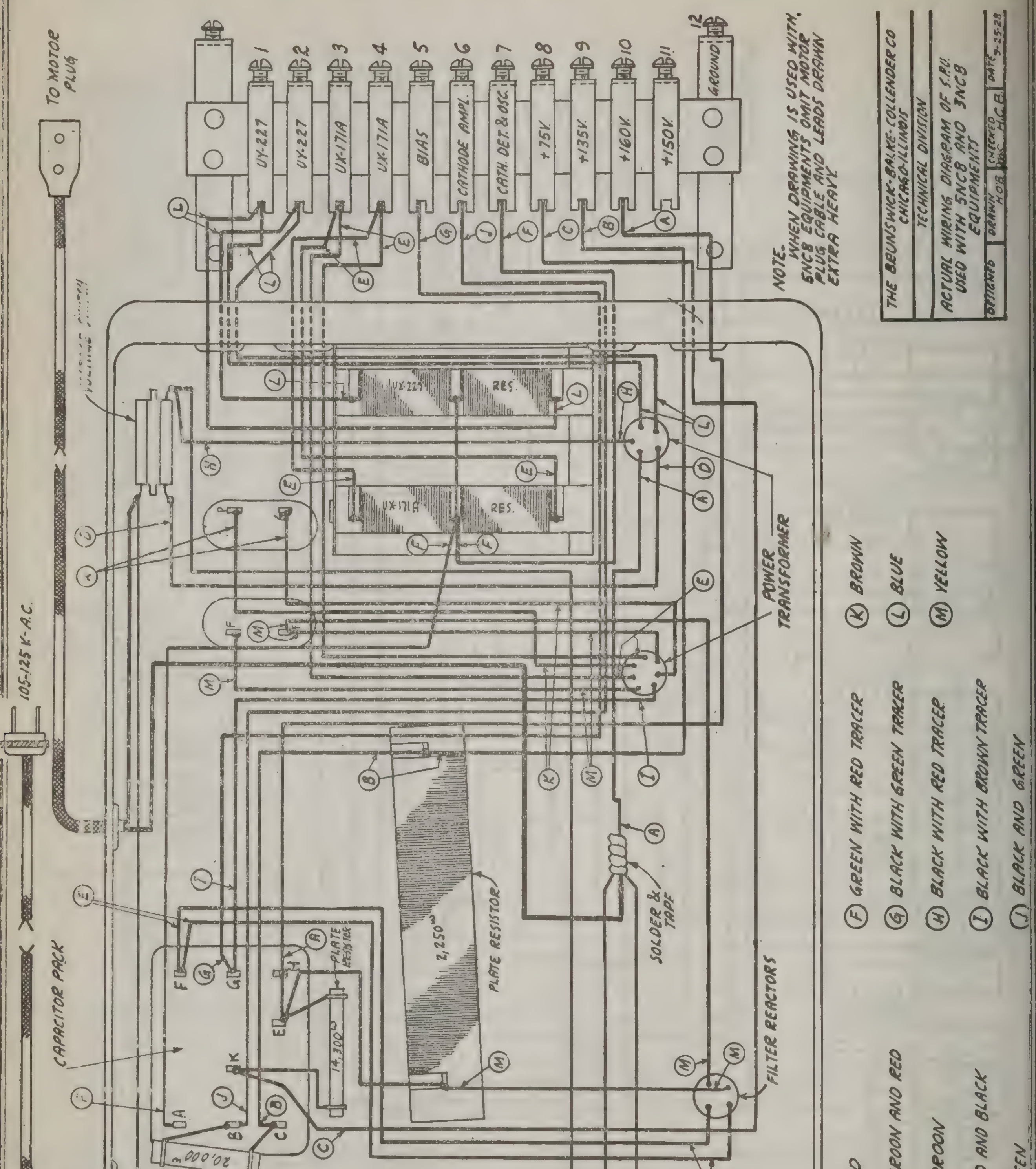
IF PEAK 180 KC

BRUNSWICK—Model —5NC8—
Line Voltage 110—Volume Control Minimum

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	227	Ant.Coupler	2.35	170	2.25	160	24	27	1.0	2.0	1.0
2	227	1st.R.F.	2.35	170	2.25	150	24	27	1.0	2.0	1.0
3	227	1st.Det.	2.35	94	2.25	80	10	0	1.0	2.0	1.0
4	227	1st.I.F.	2.35	170	2.25	150	24	27	1.0	3.0	2.0
5	227	2nd.I.F.	2.35	170	2.25	150	24	27	1.0	3.0	2.0
6	227	Oscillator	2.35	170	2.25	75	-	-	7.0	0	0.0
7	227	2nd.Det.	2.35	170	2.25	160	13	-	1.0	2.0	1.0
8	171A	Power	6.5	160	5.0	150	[illegible]	-	20.0	22.0	2.0
9	280	Rectifier	-	-	5.0	-	-	-	20.0	-	

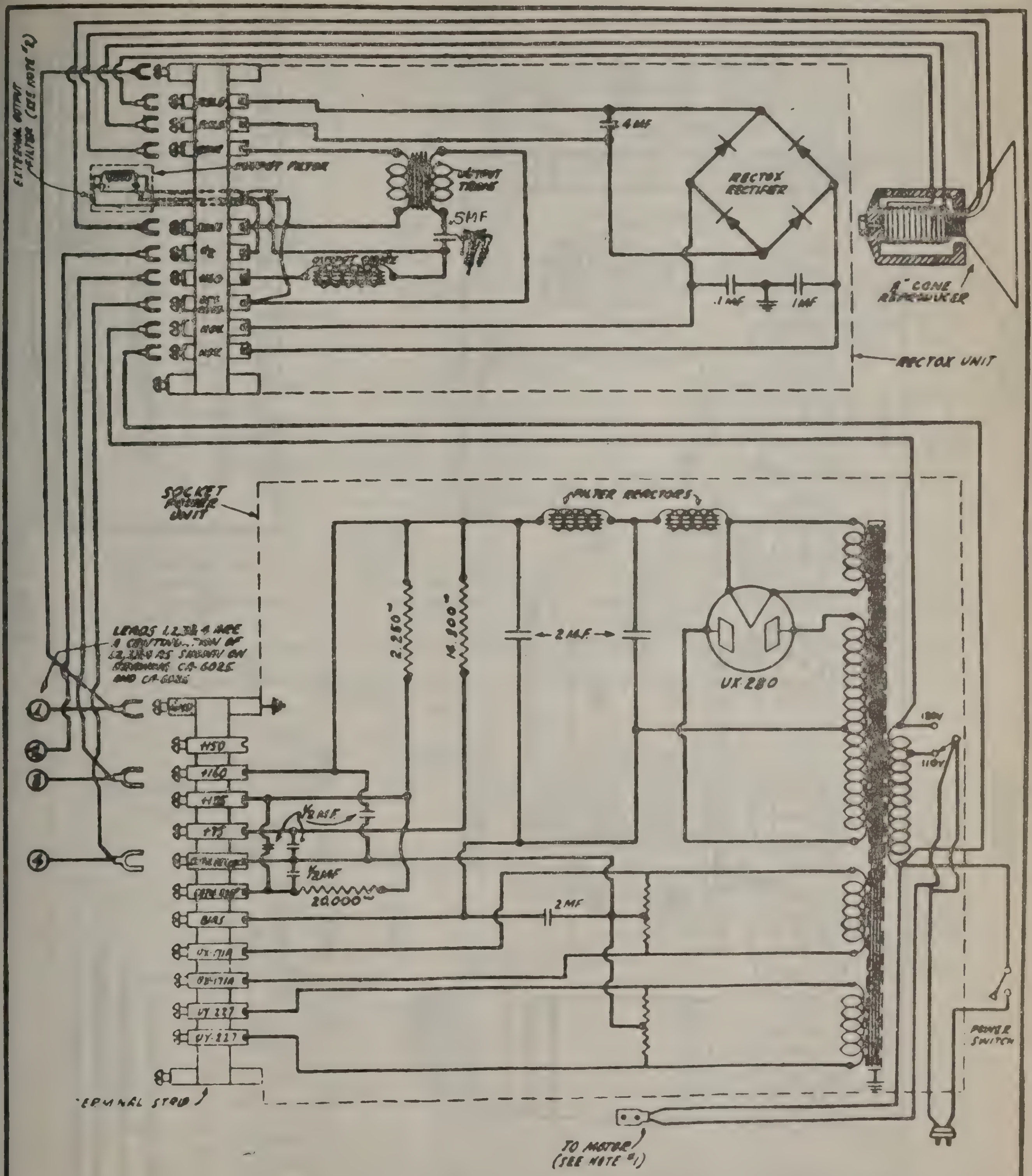
MODEL 3 NC8, 5 NC8
Audio Chassis

BRUNSWICK RADIO CORP.


TO MOTOR PLUG
1 UY-227
2 UY-227
3 UX-171A
4 UX-171A
5 BIAS
6 CATHODE AMPL.
7 CATH. DET. & OSC.
8 +75V.
9 +135V.
10 +160V.
11 +150V.
12 GROUND
NOTE. WHEN DRAWING IS USED WITH 5NC8 EQUIPMENTS OMIT MOTOR PLUG CABLE AND LEADS DRAWN EXTRA HEAVY.
THE BRUNSWICK-BALKE-COLLENDER CO CHICAGO-ILLINOIS
TECHNICAL DIVISION
ACTUAL WIRING DIAGRAM OF S.P.U. USED WITH 5NC8 AND 3NC8 EQUIPMENTS
DRAWN H.O.B.
CHECKED H.C.B.
DATE 5-25-28
UY-227
RES.
UX-171A
RES.
POWER TRANSFORMER
105-125 V. A.C.
2,250Ω
PLATE RESISTOR
SOLDER & TAPE
PLATE RESISTOR
14,300Ω
20,000Ω
CAPACITOR PACK
FILTER REACTORS
TO RECV. UNIT
OPERATING SWITCH
Ⓐ RED
Ⓑ MAROON AND RED
Ⓒ MAROON
Ⓓ RED AND BLACK
Ⓔ GREEN
Ⓕ GREEN WITH RED TRACER
Ⓖ BLACK WITH GREEN TRACER
Ⓗ BLACK WITH RED TRACER
Ⓘ BLACK WITH BROWN TRACER
Ⓙ BLACK AND GREEN
Ⓚ BROWN
Ⓛ BLUE
Ⓜ YELLOW

BRUNSWICK RADIO CORP.

MODEL 3 NC8, 5 NC8
Audio Schematic


EXTERNAL OUTPUT FILTER (SEE NOTE #2)
OUTPUT FILTER
OUTPUT TRANS
.5MF
OUTPUT CHOKE
.4 MF
RECTOX RECTIFIER
.1 MF
1 MF
8" CONE REPRODUCER
RECTOX UNIT
SOCKET POWER UNIT
FILTER REACTORS
2,250~
14,800~
← 2 MF →
UX 280
LEADS 1,2,3 & 4 ARE A CONTINUATION OF 1,2,3 & 4 AS SHOWN ON DRAWINGS CA-6025 AND CA-6026
①
②
③
④
H50
+160
H35
+75
½ MF
½ MF
20,000~
BIAS
UX-171A
UX-171A
UY 227
UY-227
2 MF
120V
110V
POWER SWITCH
TERMINAL STRIP
TO MOTOR (SEE NOTE #1)

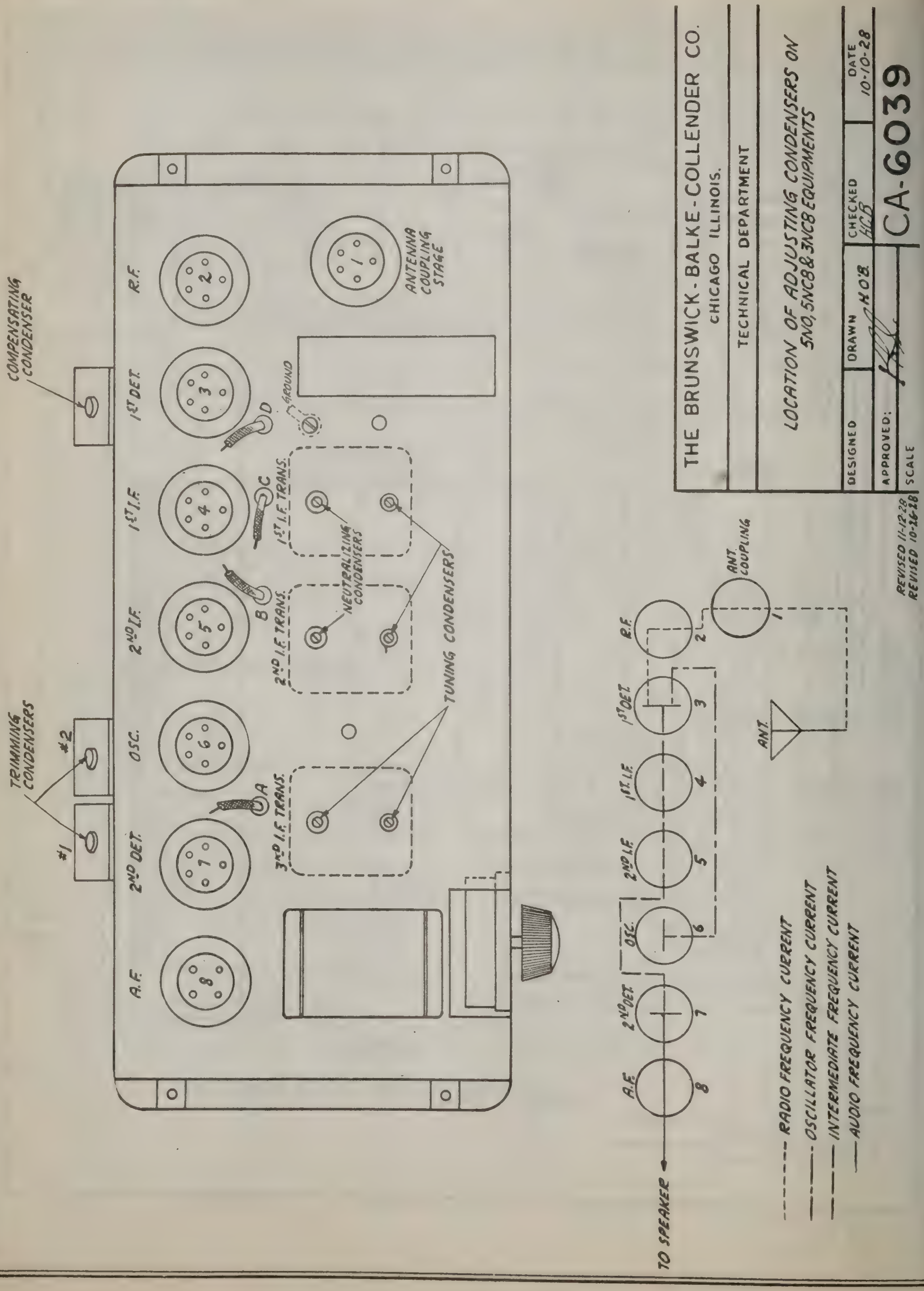
Model 3 NC8, 5 NC8 Audio Schematic

NOTE_

1. MOTOR PLUG AND LEADS NOT USED WITH S. P.U. FOR 3NC8 EQUIPMENT
2. EXTERNAL OUTPUT FILTER IS USED ONLY ON THE 3NC8 EQUIPMENTS

MODEL 5 NO, 5 NC8,
3 NC8
Trimmer Locations

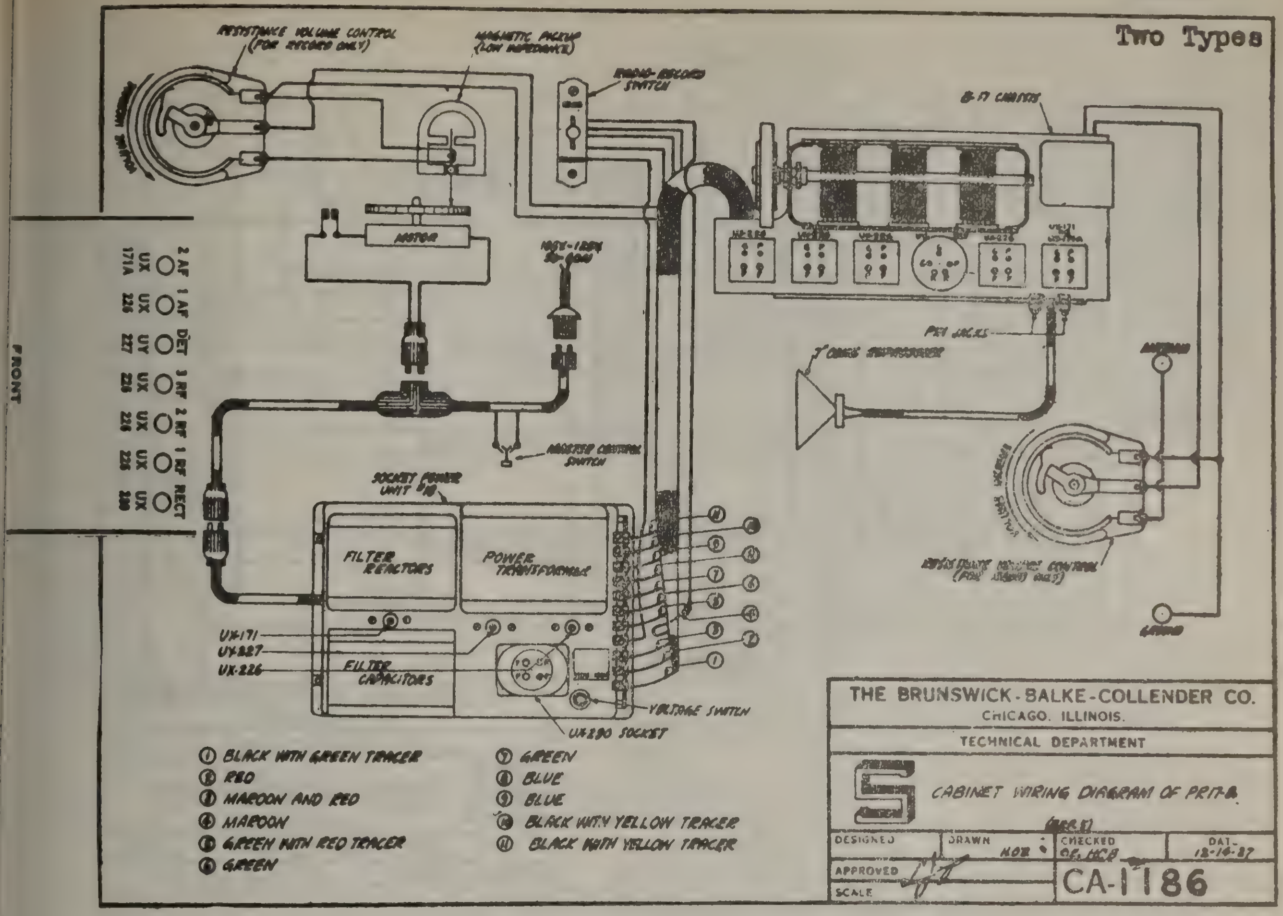
BRUNSWICK RADIO CORP.

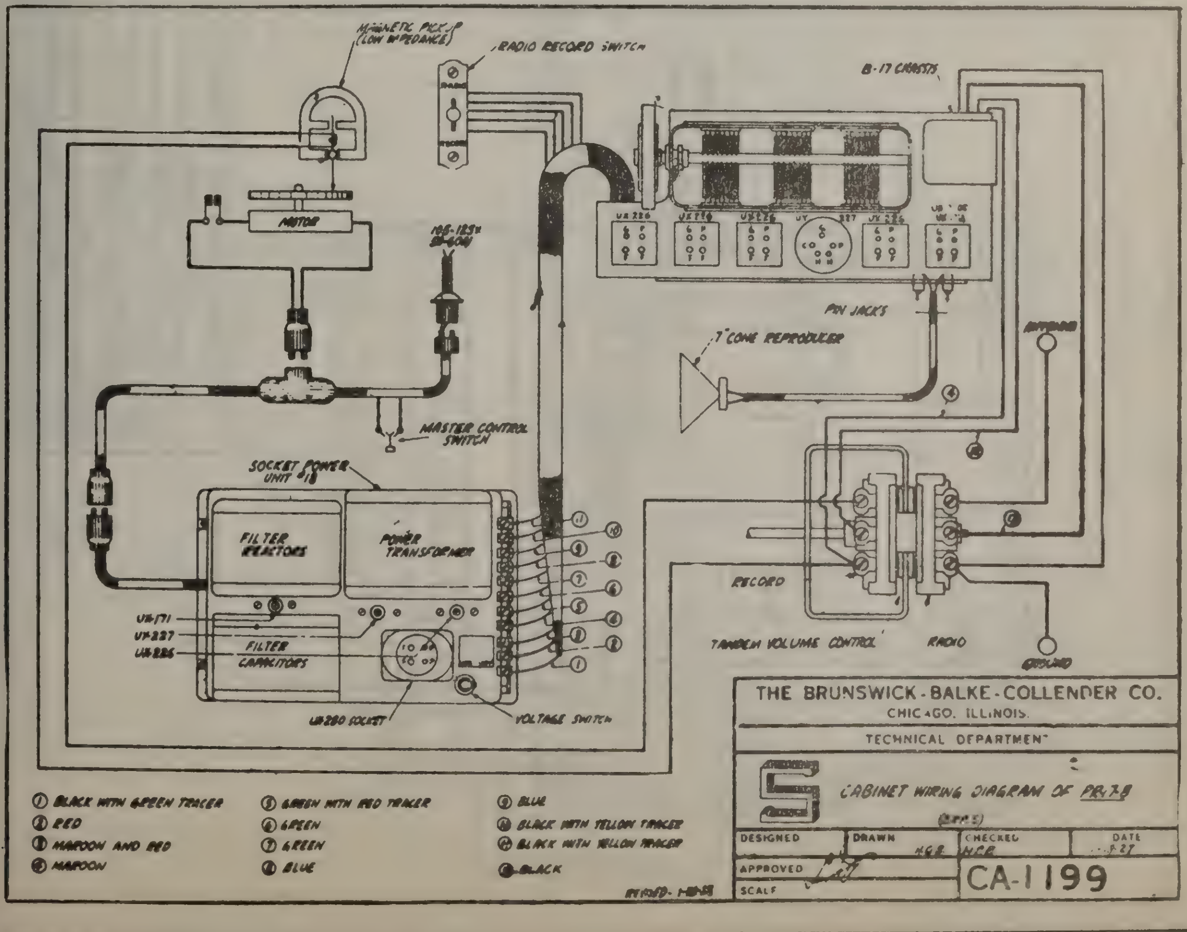

THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO ILLINOIS.
TECHNICAL DEPARTMENT
LOCATION OF ADJUSTING CONDENSERS ON 5NO, 5NC8 & 3NC8 EQUIPMENTS
DESIGNED
DRAWN H.O.B.
CHECKED H.C.B.
DATE 10-10-28
APPROVED:
SCALE
CA-6039
REVISED 11-12-28
REVISED 10-26-28
COMPENSATING CONDENSER
TRIMMING CONDENSERS
#1
#2
R.F.
1ST DET.
1ST I.F.
2ND I.F.
OSC.
2ND DET.
A.F.
1
2
3
4
5
6
7
8
ANTENNA COUPLING STAGE
GROUND
A
B
C
D
1ST I.F. TRANS.
2ND I.F. TRANS.
3RD I.F. TRANS.
NEUTRALIZING CONDENSERS
TUNING CONDENSERS
ANT. COUPLING
ANT.
TO SPEAKER
RADIO FREQUENCY CURRENT
OSCILLATOR FREQUENCY CURRENT
INTERMEDIATE FREQUENCY CURRENT
AUDIO FREQUENCY CURRENT

BRUNSWICK RADIO CORPORATION

MODEL PR-17-8, BRP-5

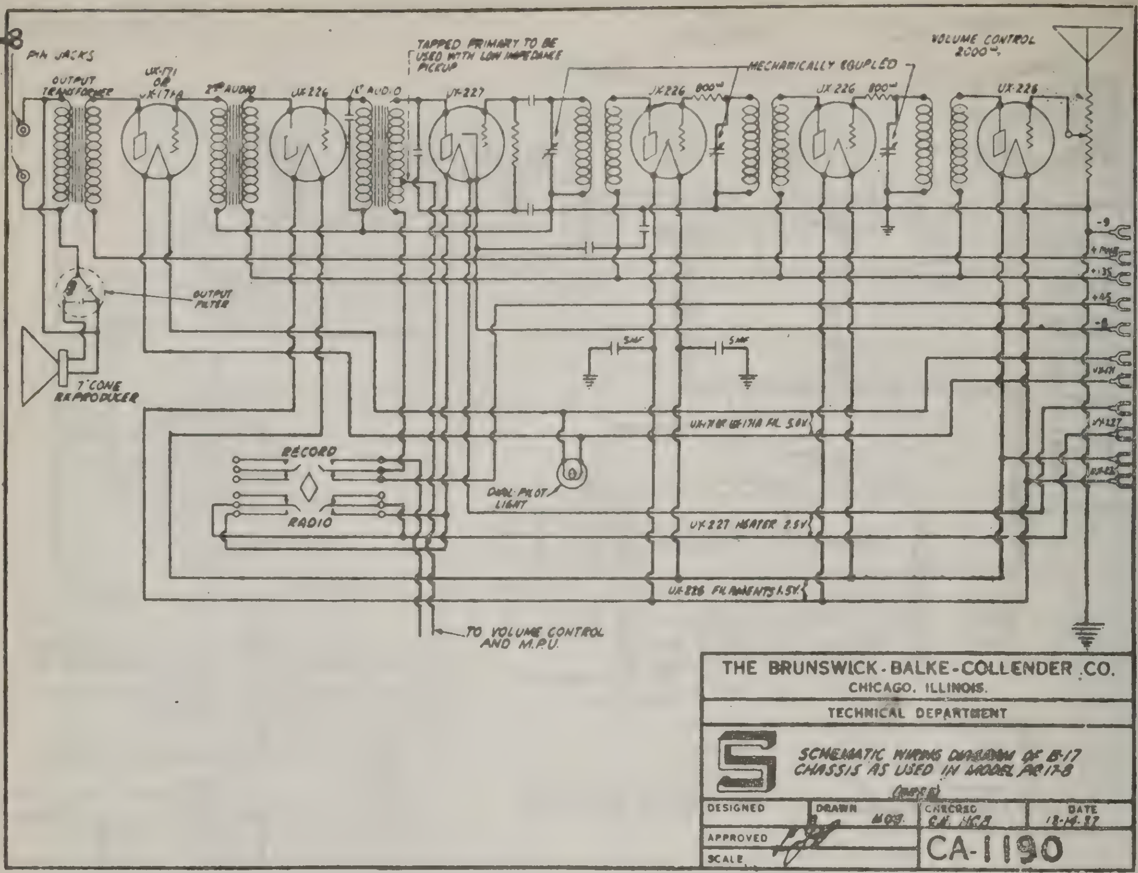
Two Types

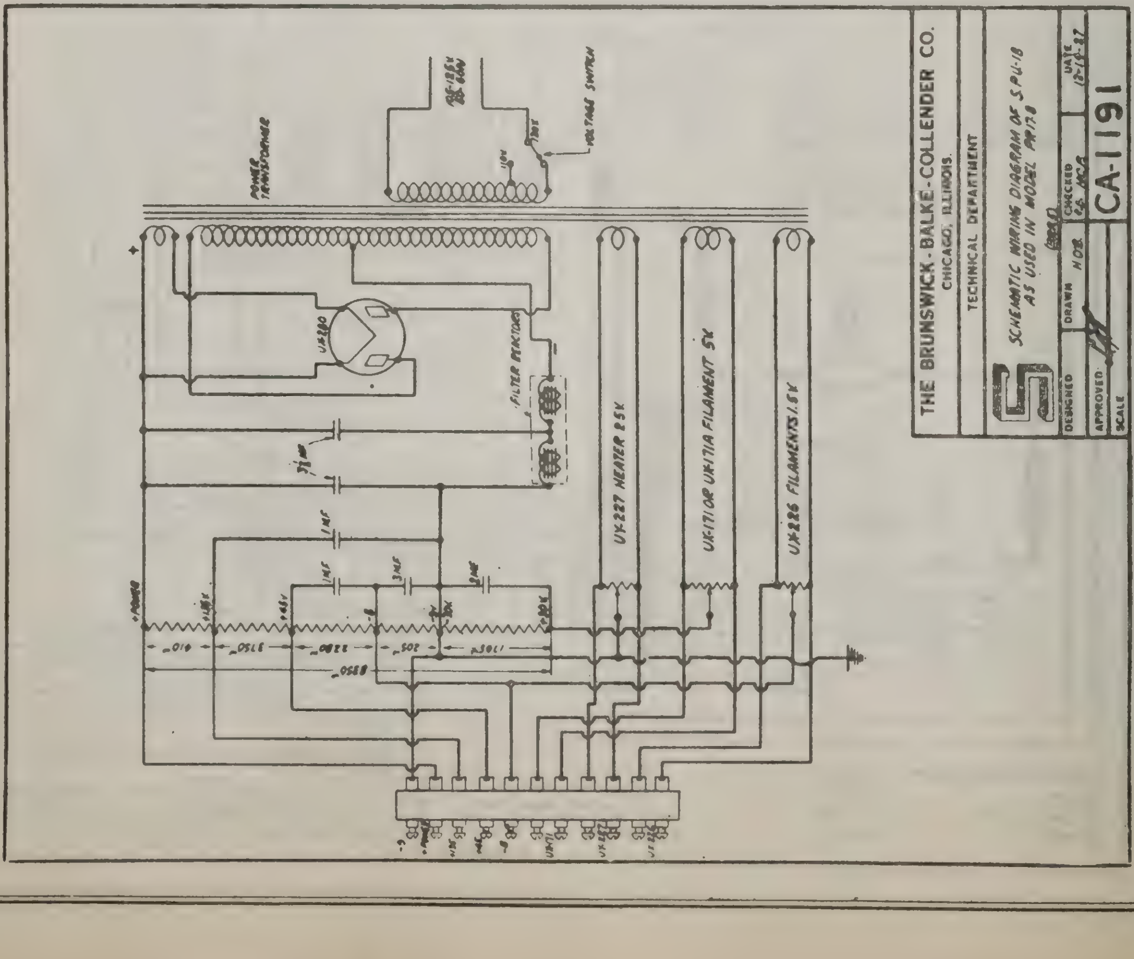

RESISTANCE VOLUME CONTROL (FOR RECORD ONLY)
MAGNETIC PICKUP (LOW IMPEDANCE)
RADIO-RECORD SWITCH
B-17 CHASSIS
MOTOR
105V-125V 50-60N
MASTER CONTROL SWITCH
SOCKET POWER UNIT #18
FILTER REACTORS
POWER TRANSFORMER
UX-171
UY-227
UX-226
FILTER CAPACITORS
VOLTAGE SWITCH
UX-280 SOCKET
PIN JACKS
7" CONE REPRODUCER
ANTENNA
GROUND
RESISTANCE VOLUME CONTROL (FOR RADIO ONLY)
FRONT
2 AF UX 171A
1 AF UX 226
DET UY 227
3 RF UX 226
2 RF UX 226
1 RF UX 226
RECT UX 280
① BLACK WITH GREEN TRACER
② RED
③ MAROON AND RED
④ MAROON
⑤ GREEN WITH RED TRACER
⑥ GREEN
⑦ GREEN
⑧ BLUE
⑨ BLUE
⑩ BLACK WITH YELLOW TRACER
⑪ BLACK WITH YELLOW TRACER
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
CABINET WIRING DIAGRAM OF PR17-8
(BRP5)
DESIGNED
DRAWN HOB
CHECKED CF, HCB
DATE 12-14-27
APPROVED
SCALE
CA-1186


MAGNETIC PICK-UP (LOW IMPEDANCE)
RADIO RECORD SWITCH
B-17 CHASSIS
MOTOR
105-125V 50-60N
MASTER CONTROL SWITCH
SOCKET POWER UNIT #18
FILTER REACTORS
POWER TRANSFORMER
UX-171
UY-227
UX-226
FILTER CAPACITORS
UX280 SOCKET
VOLTAGE SWITCH
PIN JACKS
7" CONE REPRODUCER
ANTENNA
GROUND
RECORD
TANDEM VOLUME CONTROL
RADIO
① BLACK WITH GREEN TRACER
② RED
③ MAROON AND RED
④ MAROON
⑤ GREEN WITH RED TRACER
⑥ GREEN
⑦ GREEN
⑧ BLUE
⑨ BLUE
⑩ BLACK WITH YELLOW TRACER
⑪ BLACK WITH YELLOW TRACER
⑫ BLACK
REVISED- 1-10-28
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
CABINET WIRING DIAGRAM OF PR17-8
(BRP5)
DESIGNED
DRAWN HCB
CHECKED HCB
DATE 1-5-27
APPROVED
SCALE
CA-1199

MODEL B-17
MODEL SPU 18
For
PR-17-8

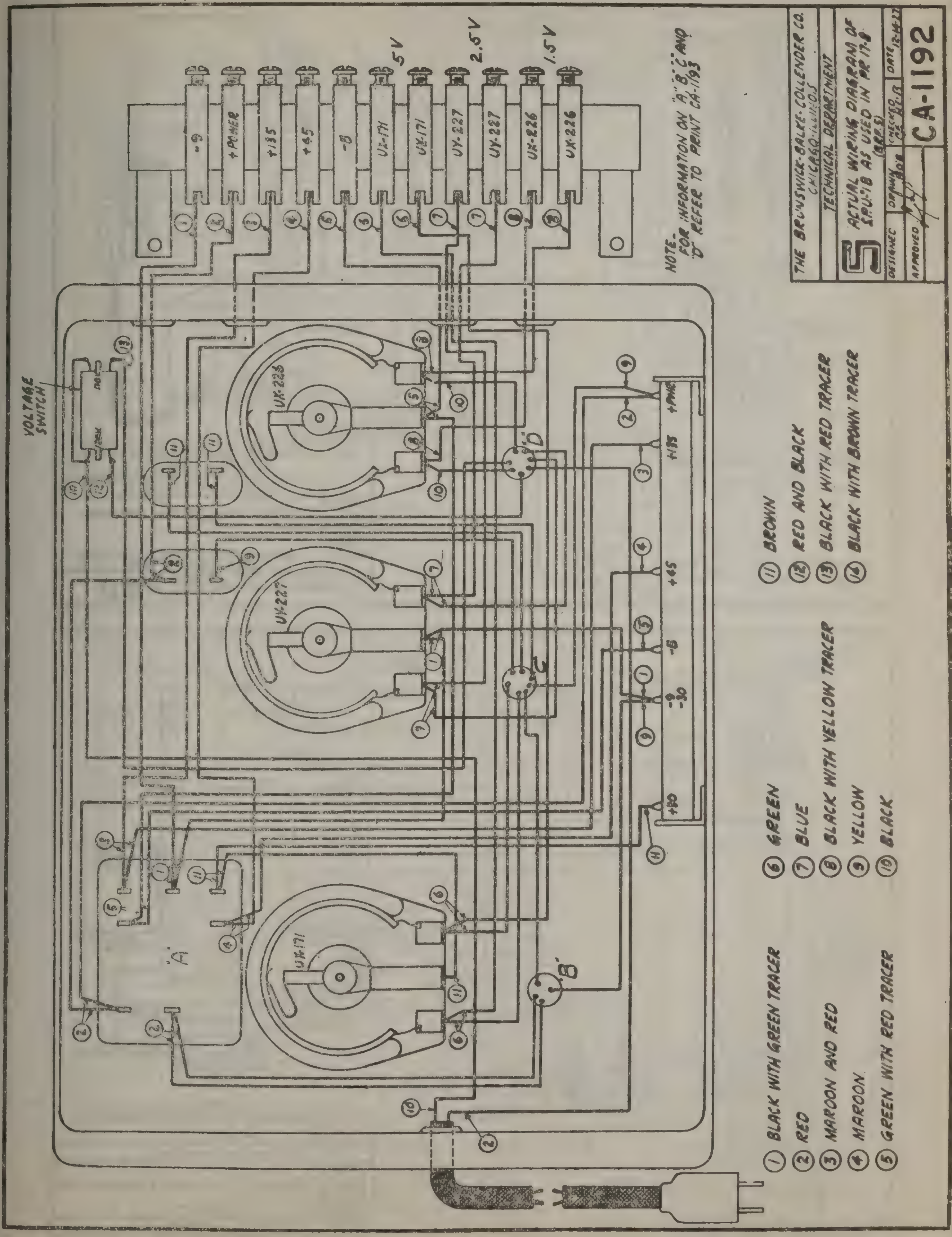
BRUNSWICK RADIO CORPORATION


PIN JACKS
OUTPUT TRANSFORMER
UX-171 OR UX-171A
2nd AUDIO
UX-226
1st AUDIO
UX-227
TAPPED PRIMARY TO BE USED WITH LOW IMPEDANCE PICKUP
MECHANICALLY COUPLED
UX226 800Ω
UX 226 800Ω
UX-226
VOLUME CONTROL 2000Ω
OUTPUT FILTER
7" CONE REPRODUCER
.5MF
.5MF
-9
+PWR
+135
+45
-B
UX171
UX227
UX226
UX171 OR UX171A FIL. 5.0V
RECORD
RADIO
DIAL PILOT LIGHT
UX227 HEATER 2.5V
UX226 FILAMENTS 1.5V
TO VOLUME CONTROL AND M.P.U.
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
SCHEMATIC WIRING DIAGRAM OF B-17 CHASSIS AS USED IN MODEL PR17-8
DESIGNED
DRAWN HOB.
CHECKED C.A. HCB
DATE 12-14-27
APPROVED
SCALE
CA-1190


105-125V 60~
VOLTAGE SWITCH
110V
130V
POWER TRANSFORMER
UX-280
FILTER REACTORS
UX-227 HEATER 2.5V
UX-171 OR UX-171A FILAMENT 5V
UX-226 FILAMENTS 1.5V
+POWER
+135
+45
-B
-9
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
SCHEMATIC WIRING DIAGRAM OF S.P.U.-18 AS USED IN MODEL PR17-8
DESIGNED
DRAWN HOB.
CHECKED C.A. HCB
DATE 12-14-27
APPROVED
SCALE
CA-1191

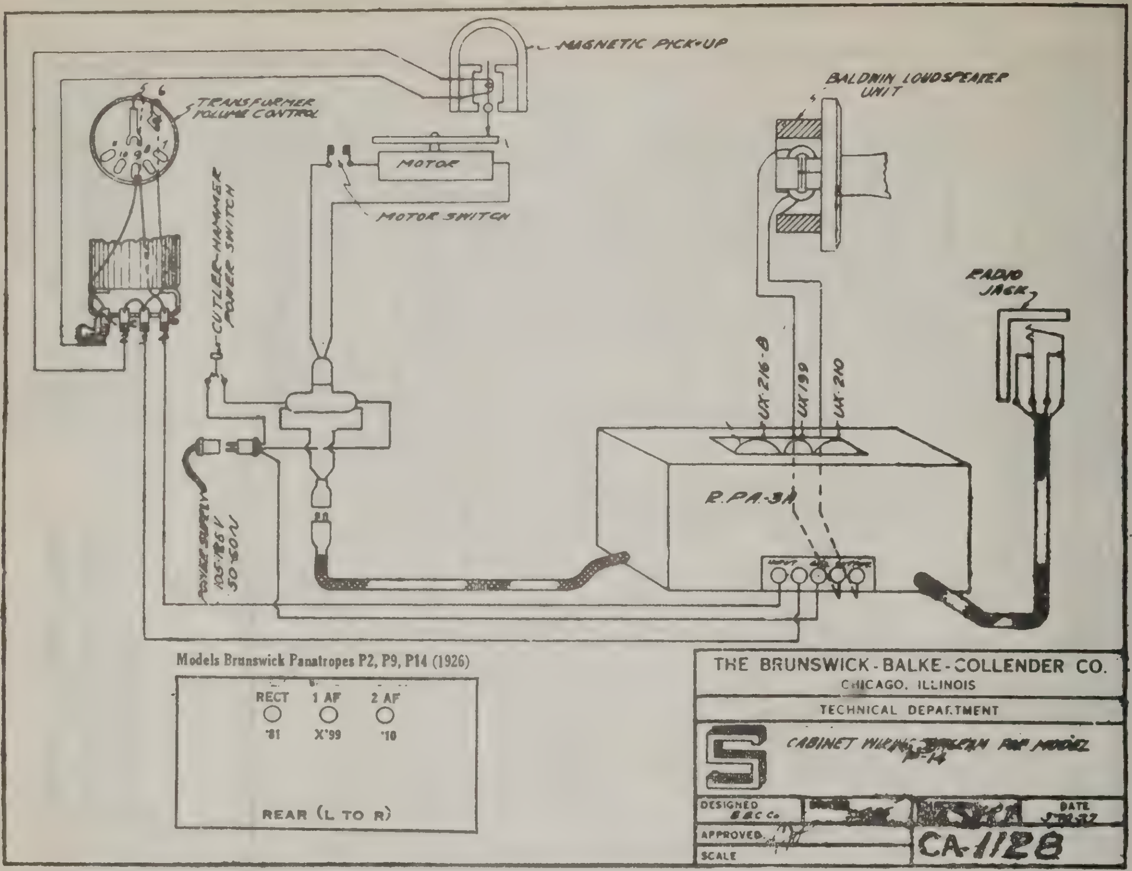
BRUNSWICK RADIO CORPORATION

MODEL SPU-18
Chassis for PR-17


-9
+POWER
+135
+45
-B
UX-171
UX-171
UX-227
UX-227
UX-226
UX-226
5V
2.5V
1.5V
NOTE- FOR INFORMATION ON 'A', 'B', 'C' AND 'D' REFER TO PRINT CA-1193
THE BRUNSWICK-BALKE-COLLENDER CO. CHICAGO-ILLINOIS
TECHNICAL DEPARTMENT
5
ACTUAL WIRING DIAGRAM OF SPU-18 AS USED IN PR-17-8
DESIGNED
DRAWN
CHECKED
DATE
APPROVED
CA-1192
VOLTAGE SWITCH
UX-226
UX-227
UX-171
'A'
'B'
'C'
'D'
+PWR
+135
+45
-B
-9 -30
+20
① BLACK WITH GREEN TRACER
② RED
③ MAROON AND RED
④ MAROON
⑤ GREEN WITH RED TRACER
⑥ GREEN
⑦ BLUE
⑧ BLACK WITH YELLOW TRACER
⑨ YELLOW
⑩ BLACK
⑪ BROWN
⑫ RED AND BLACK
⑬ BLACK WITH RED TRACER
⑭ BLACK WITH BROWN TRACER

MODEL P-14

BRUNSWICK RADIO CORPORATION

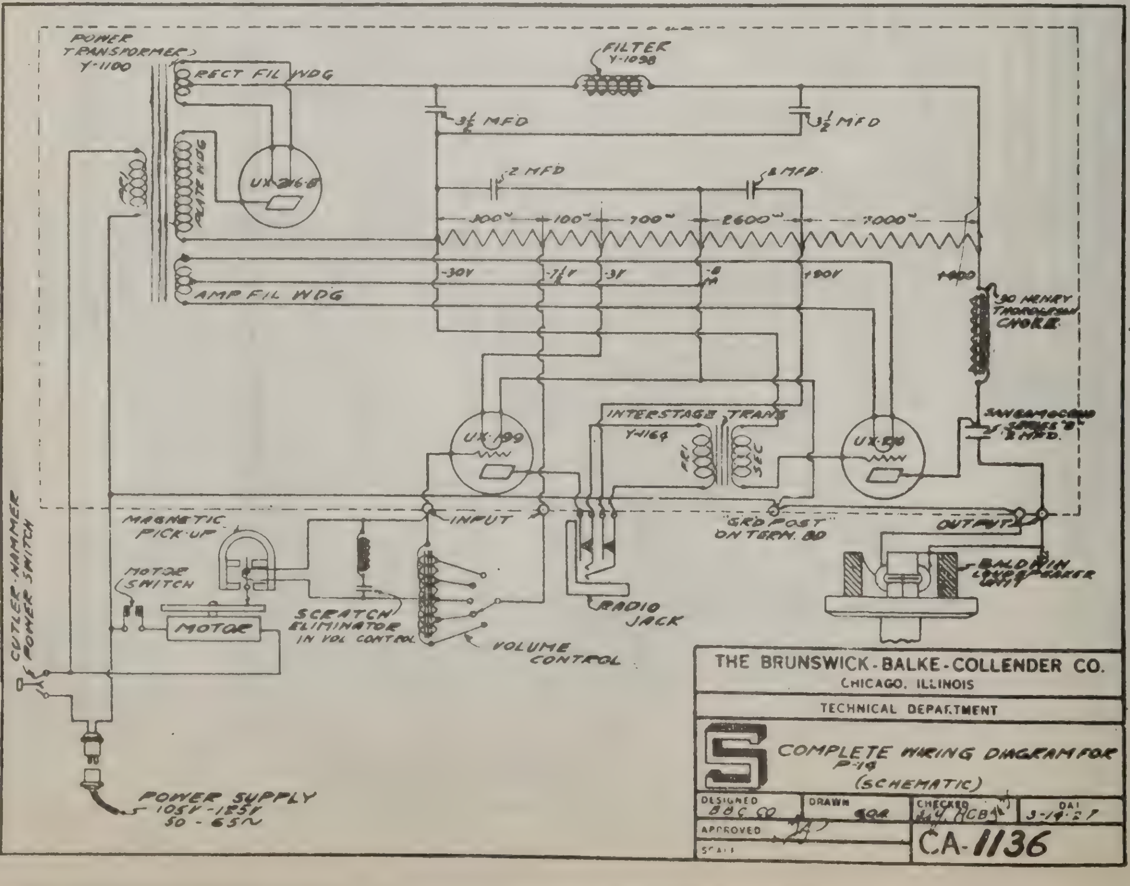

MAGNETIC PICK-UP
BALDWIN LOUDSPEAKER UNIT
5
6
TRANSFORMER VOLUME CONTROL
MOTOR
MOTOR SWITCH
CUTLER-HAMMER POWER SWITCH
RADIO JACK
UX-216-B
UX-199
UX-210
R.P.A.-3A
INPUT
OUTPUT
POWER SUPPLY 105-125 V 50-60~

Models Brunswick Panatropes P2, P9, P14 (1926)

RECT	1 AF	2 AF
○	○	○
'81	X'99	'10

REAR (L TO R)

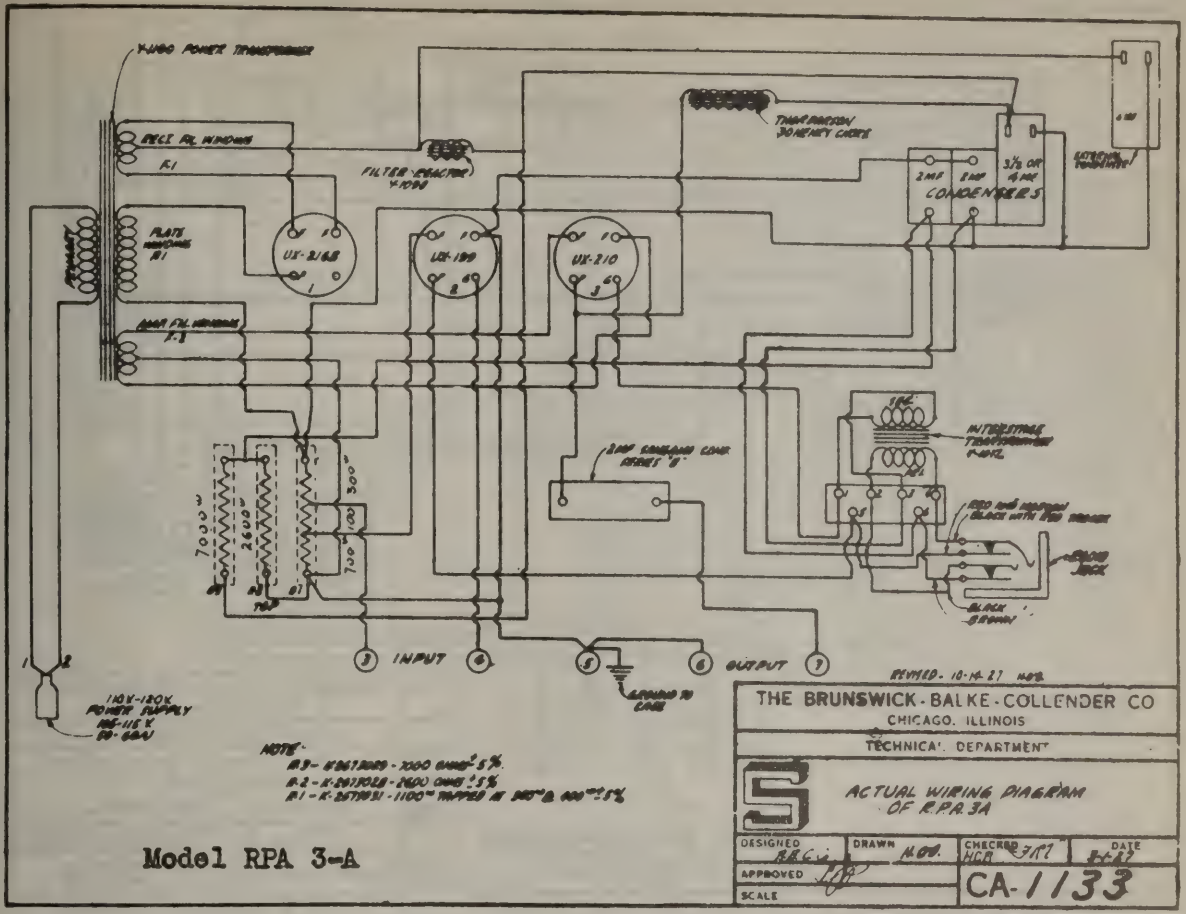
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS
TECHNICAL DEPARTMENT
CABINET WIRING DIAGRAM FOR MODEL P-14
DESIGNED B B C Co
APPROVED
SCALE
DATE
CA-1128


POWER TRANSFORMER Y-1100
RECT FIL WDG
PLATE WDG
PRI
AMP FIL WDG
UX-216-B
FILTER Y-1098
3½ MFD
3½ MFD
2 MFD
2 MFD
300Ω
100Ω
700Ω
2600Ω
7000Ω
-30V
-7½V
-3V
+90V
+400
30 HENRY THORDARSON CHOKE
SANGAMO COND SERIES "B" 2 MFD.
INTERSTAGE TRANS Y-4164
PRI
SEC
UX-199
UX-210
INPUT
"GRD POST" ON TERM. 80
OUTPUT
BALDWIN LOUDSPEAKER UNIT
MAGNETIC PICK-UP
MOTOR SWITCH
MOTOR
SCRATCH ELIMINATOR IN VOL CONTROL
VOLUME CONTROL
RADIO JACK
CUTLER-HAMMER POWER SWITCH
POWER SUPPLY 105V-125V 50-65~

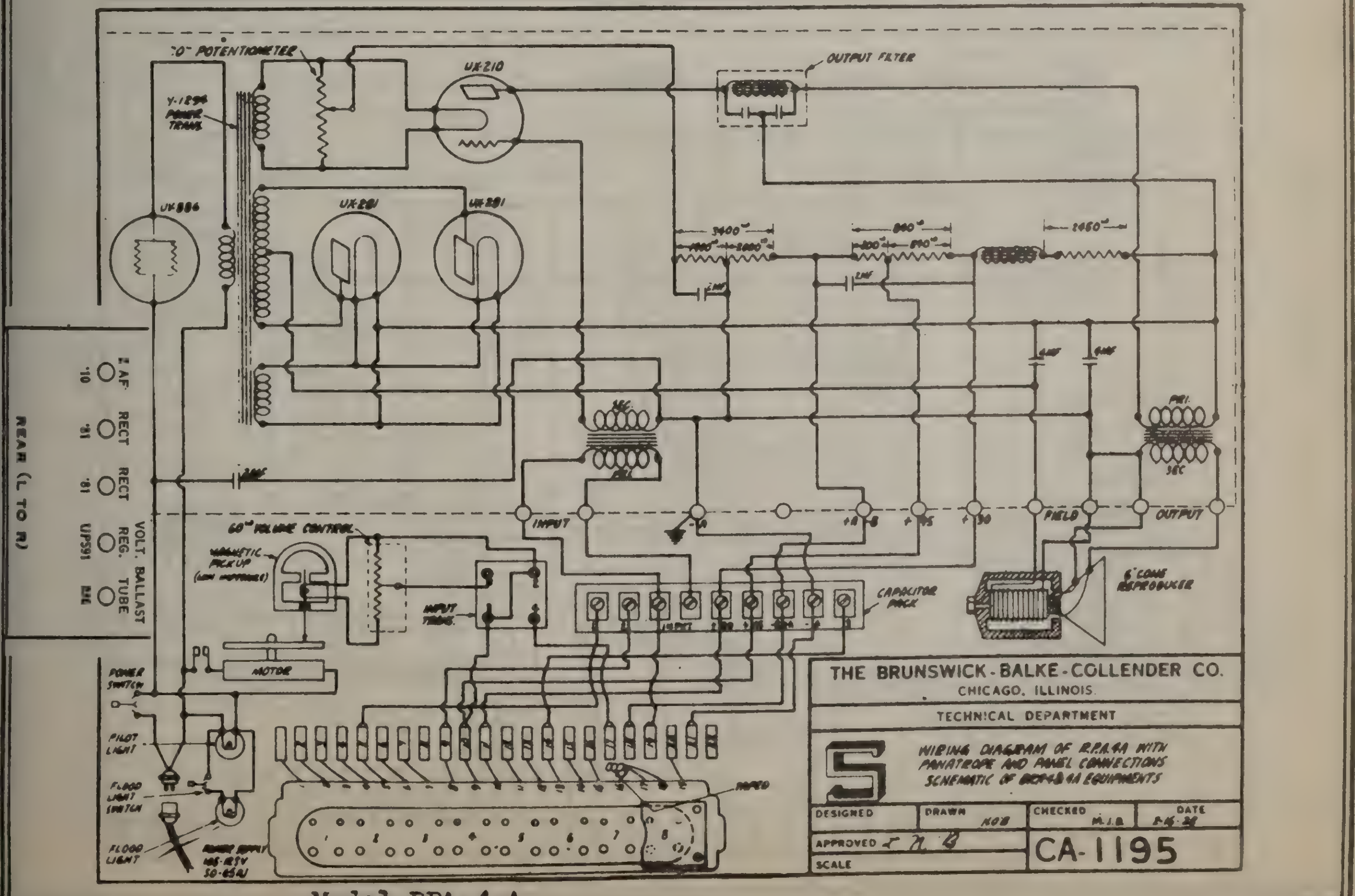
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS
TECHNICAL DEPARTMENT
COMPLETE WIRING DIAGRAM FOR P-14 (SCHEMATIC)
DESIGNED BBC Co
DRAWN SGR
CHECKED HCB
DATE 3-14-27
APPROVED
SCALE
CA-1136

BRUNSWICK RADIO CORPORATION

MODEL RPA-3A
MODEL RPA-4A


Y-1400 POWER TRANSFORMER
RECT. FIL. WINDING
F.1
PRIMARY
PLATE WINDING
AMP. FIL. WINDING
F.2
FILTER REACTOR Y-1090
THORDARSON 30 HENRY CHOKE
UX-216B
UX-199
UX-210
1
2
3
2 MF
2 MF
3½ OR 4 MF
CONDENSERS
EXTERNAL TERMINAL
INTERSTAGE TRANSFORMER
SEC.
PRI.
2 MF CONDENSER SERIES "B"
RED AND MAROON
BLACK WITH RED TRACER
BLACK
BROWN
7000 Ω
2600 Ω
300 Ω
100
700
R3
R2
R1
TAP
1
2
3 INPUT
4
5
GROUND TO CASE
6 OUTPUT
7
110V-120V POWER SUPPLY 105-115 V 50-60 ~
NOTE:
R3 - K-267809 - 7000 OHMS ± 5%.
R2 - K-267028 - 2600 OHMS ± 5%
R1 - K-267031 - 1100 Ω TAPPED AT 300 Ω & 400 Ω ± 5%
REVISED - 10-14-27 HOB
THE BRUNSWICK-BALKE-COLLENDER CO
CHICAGO, ILLINOIS
TECHNICAL DEPARTMENT
ACTUAL WIRING DIAGRAM OF R.P.A. 3A
DESIGNED
DRAWN HOB
CHECKED HCB
DATE
APPROVED
SCALE
CA-1133

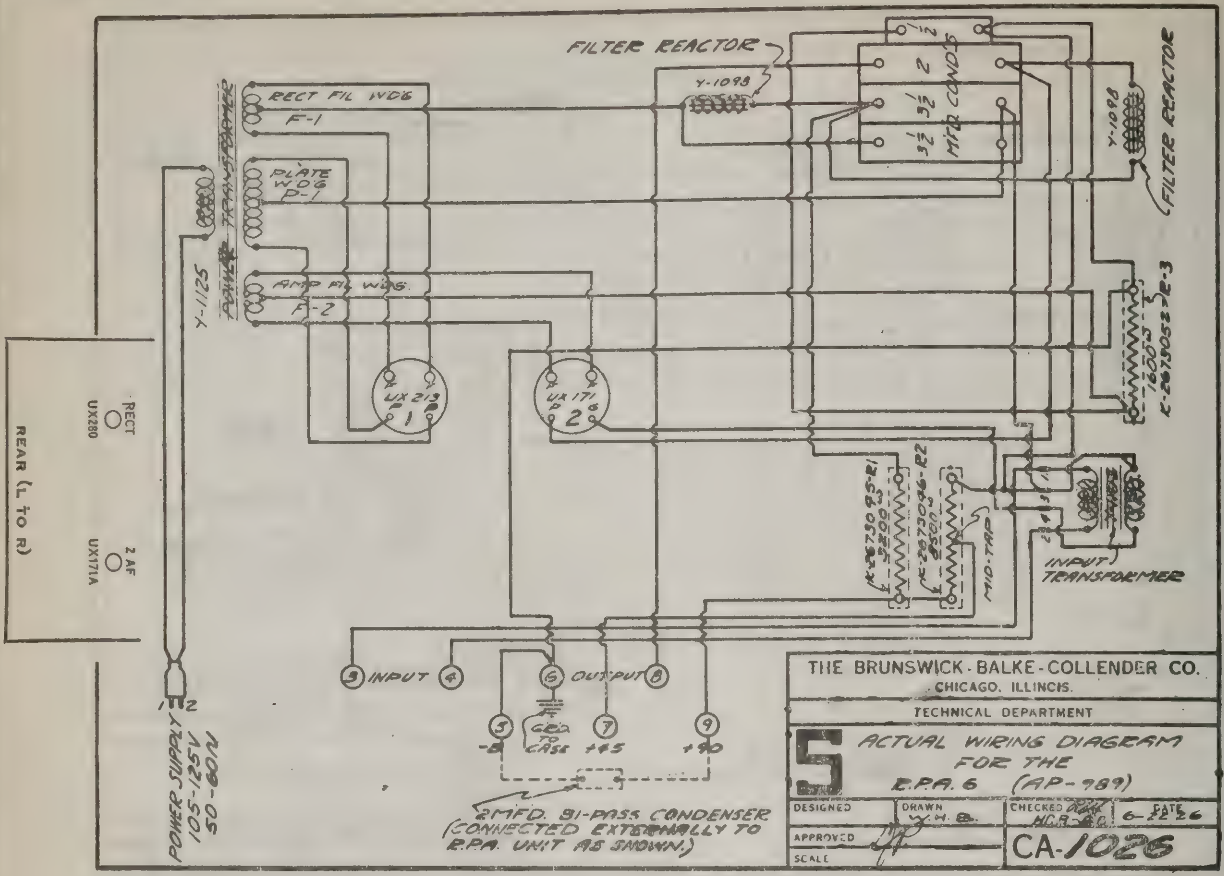
Model RPA 3-A

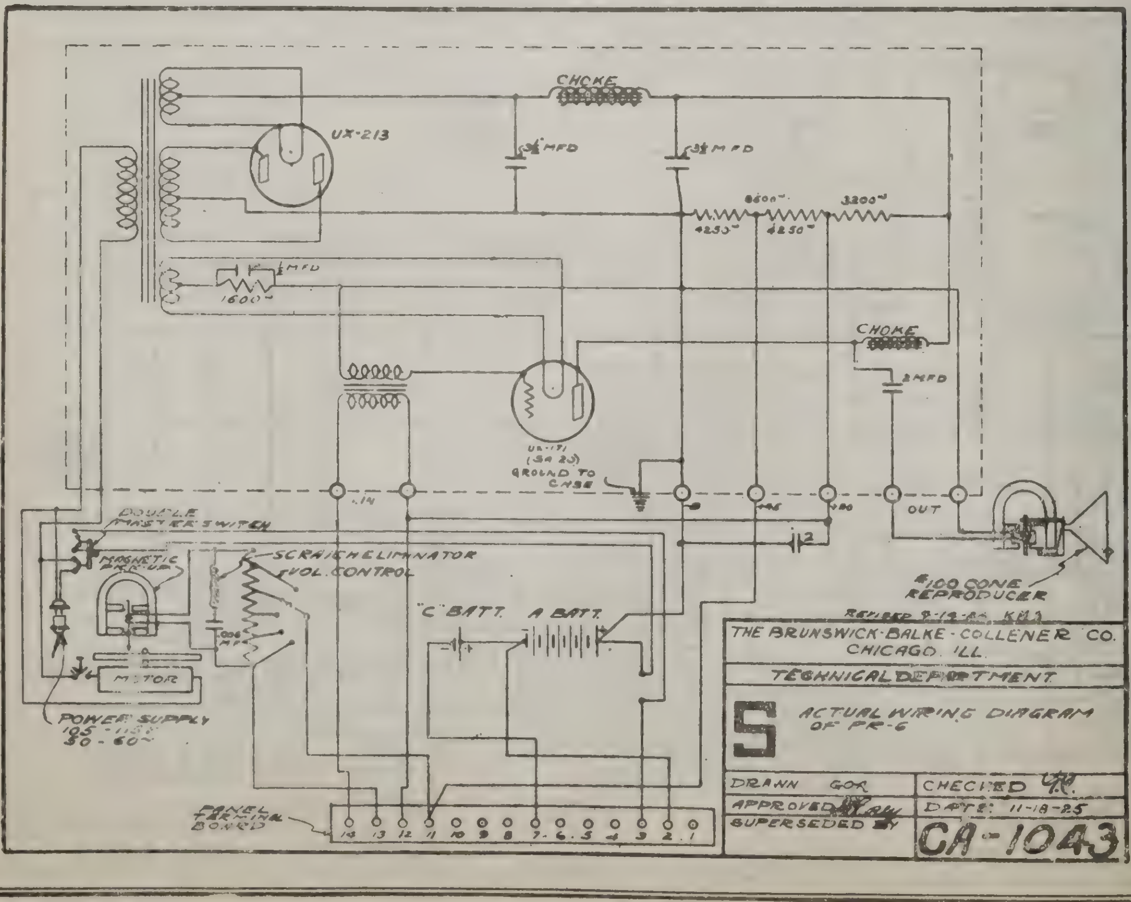

POTENTIOMETER
Y-1294 POWER TRANS.
UX-210
OUTPUT FILTER
UX-886
UX-281
UX-281
3400 Ω
1000 Ω
2000 Ω
880 Ω
200 Ω
680 Ω
2450 Ω
2 MF
1 MF
4 MF
4 MF
SEC.
PRI.
PRI.
SEC.
2 MF
INPUT
FIELD
OUTPUT
6" CONE REPRODUCER
CAPACITOR PACK
INPUT
60 Ω VOLUME CONTROL
MAGNETIC PICK-UP (LOW IMPEDANCE)
INPUT TRANS.
MOTOR
POWER SWITCH
PILOT LIGHT
FLOOD LIGHT SWITCH
FLOOD LIGHT
POWER SUPPLY 105-125 V 50-65 ~
TAPED
1
2
3
4
5
6
7
8
2 AF '10
RECT '81
RECT '81
VOLT. REG. UX874
BALLAST TUBE
REAR (L TO R)
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
WIRING DIAGRAM OF R.P.A.4A WITH PANATROPE AND PANEL CONNECTIONS SCHEMATIC OF RPA-3 & 4A EQUIPMENTS
DESIGNED
DRAWN HOB
CHECKED M.J.B.
DATE
APPROVED
SCALE
CA-1195

Model RPA 4-A

MODEL RPA-6
MODEL PR-6

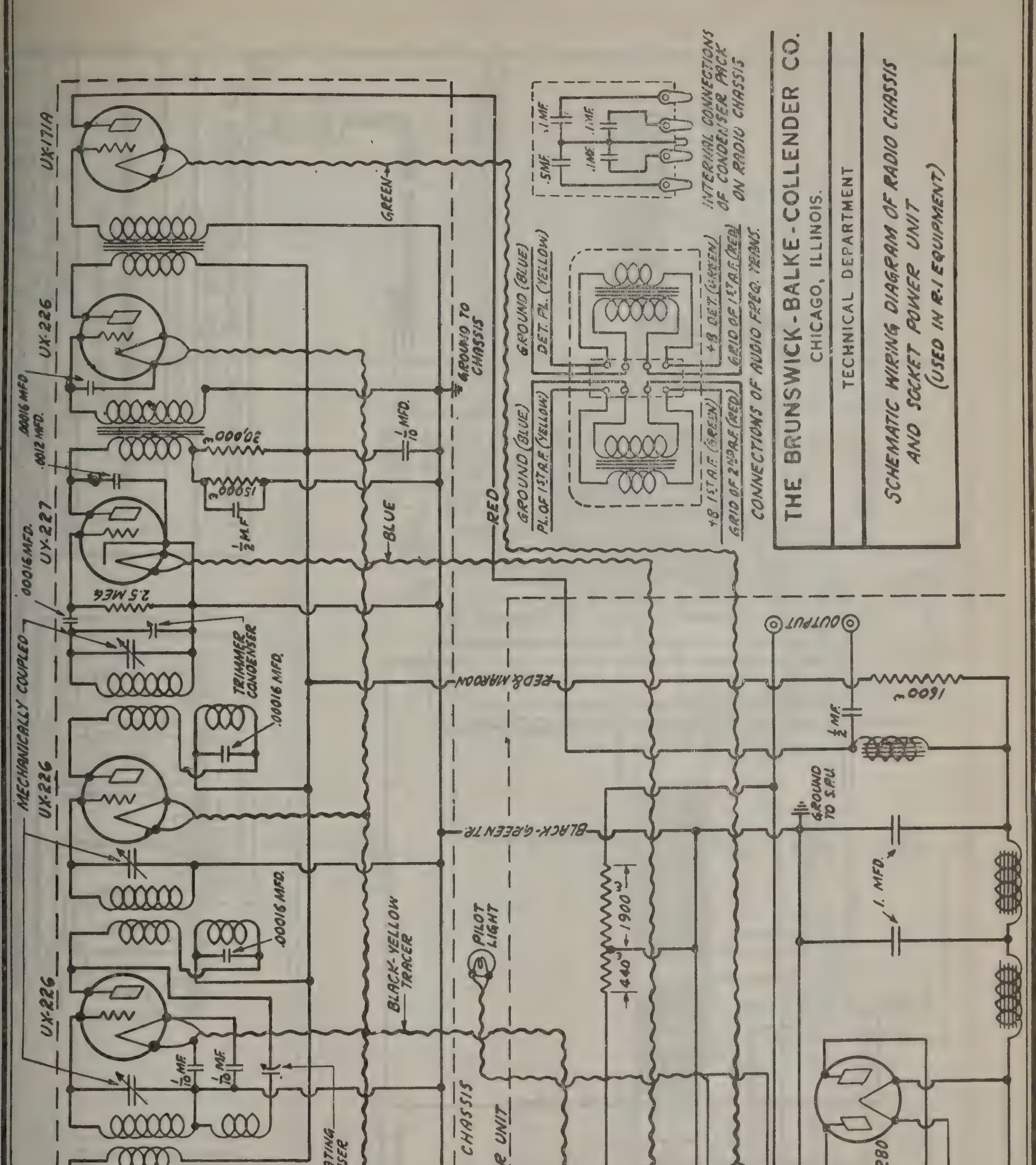
BRUNSWICK RADIO CORPORATION


FILTER REACTOR
Y-1098
FILTER REACTOR
Y-1098
1/2
1/2 MFD CONDS 2
RECT FIL WDG
F-1
PLATE WDG
P-1
AMP FIL WDG.
F-2
POWER TRANSFORMER
Y-1125
UX213
1
UX171
2
RECT
UX280
2 AF
UX171A
REAR (L to R)
K-2673052 R-3
1600Ω
K-2673095-R1
3200Ω
K-2673096-R2
8500Ω
MID-TAP
INPUT TRANSFORMER
3 INPUT 4
6 OUTPUT 8
5 -B
GRD TO CASE
7 +45
9 +90
2 MFD. BI-PASS CONDENSER (CONNECTED EXTERNALLY TO R.P.A. UNIT AS SHOWN.)
1 2
POWER SUPPLY 105-125V 50-60N
THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
S
ACTUAL WIRING DIAGRAM FOR THE R.P.A. 6 (AP-989)
DESIGNED
DRAWN W.H.B.
CHECKED H.C.R.
DATE 6-22-26
APPROVED
SCALE
CA-1026


CHOKE
UX-213
½ MFD
½ MFD
8600Ω
3200Ω
4250Ω
4250Ω
1 MFD
1600Ω
CHOKE
2 MFD
UX-171 (SA 20)
GROUND TO CASE
-14
+45
+90
OUT
DOUBLE MASTER SWITCH
MAGNETIC PICK-UP
SCRATCH ELIMINATOR
VOL. CONTROL
.006 MFD
"C" BATT.
A BATT.
MOTOR
POWER SUPPLY 105-115V 50-60~
2
#100 CONE REPRODUCER
REVISED 9-19-26 KBJ
THE BRUNSWICK-BALKE-COLLENER CO.
CHICAGO. ILL.
TECHNICAL DEPARTMENT
S
ACTUAL WIRING DIAGRAM OF PR-6
DRAWN GOR
CHECKED
APPROVED
DATE: 11-18-25
SUPERSEDED BY
CA-1043
PANEL TERMINAL BOARD
14 13 12 11 10 9 8 7 6 5 4 3 2 1

BRUNSWICK RADIO CORPORATION

MODEL R-1

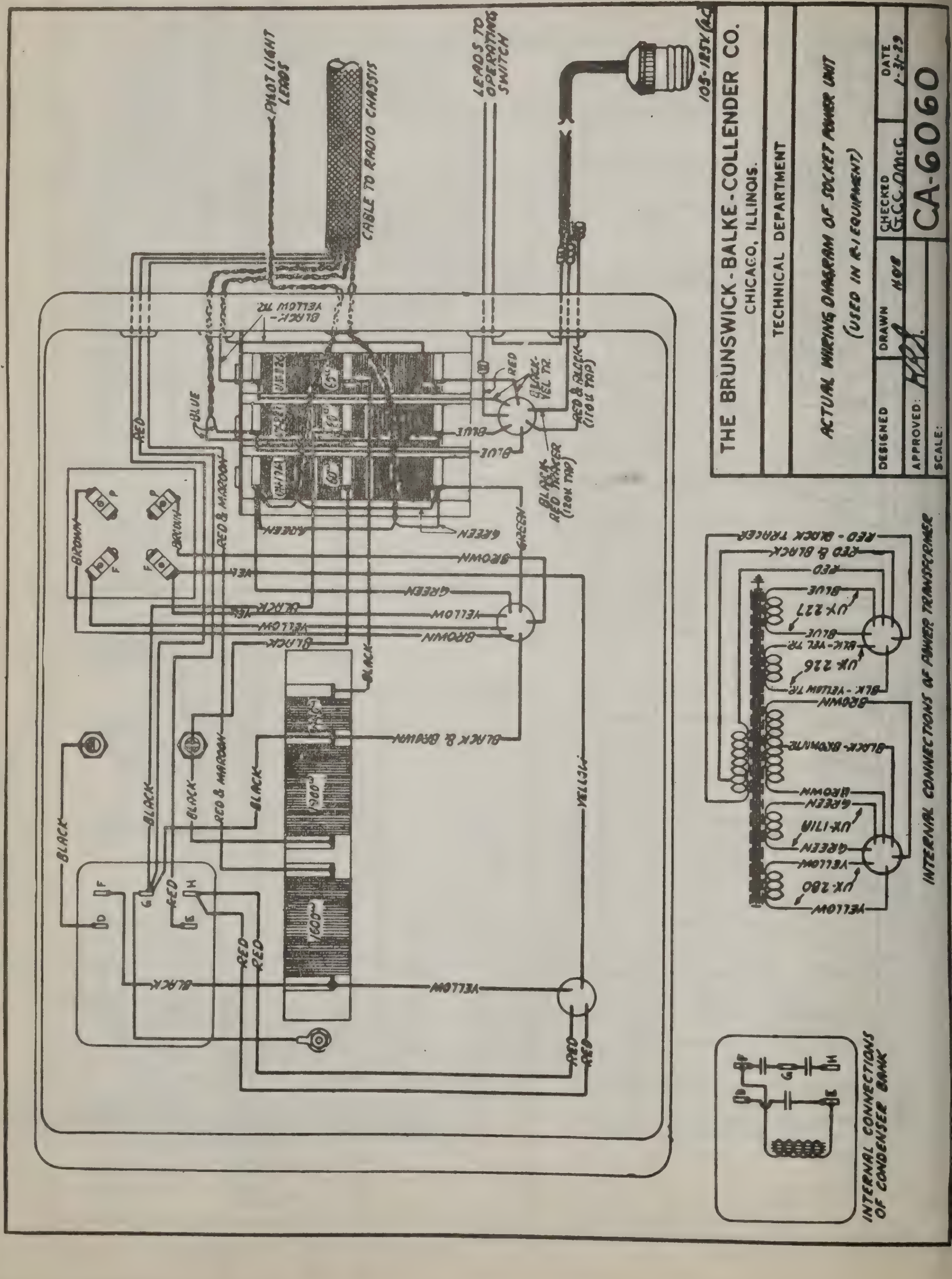


THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
SCHEMATIC WIRING DIAGRAM OF RADIO CHASSIS AND SOCKET POWER UNIT
(USED IN R-1 EQUIPMENT)

UX-171A
UX-226
UX-226
UY-227
UX-226
UX-226
UX-280
.00016 MFD.
.0012 MFD.
.00016 MFD.
MECHANICALLY COUPLED
TRIMMER CONDENSER
.00016 MFD.
.00016 MFD.
2.5 MEG.
30,000Ω
15000Ω
½ M.F.
1/10 MFD.
1/10 M.F.
1/10 M.F.
COMPENSATING CONDENSER
2000Ω
GREEN
BLUE
RED
BLACK-YELLOW TRACER
RED & MAROON
BLACK-GREEN TR.
GROUND TO CHASSIS
GROUND TO S.P.U.
PILOT LIGHT
RADIO CHASSIS
SOCKET POWER UNIT
OUTPUT
1600Ω
½ MF.
1. MFD.
440Ω
1900Ω
BLACK-RED TRACER
OPERATING SWITCH
120V.
110V.
RED & BLACK
105-125V (AC)
.5MF.
.1MF.
.1MF.
.1MF.
INTERNAL CONNECTIONS OF CONDENSER PACK ON RADIO CHASSIS
GROUND (BLUE)
PL. OF 1ST A.F. (YELLOW)
+B 1ST A.F. (GREEN)
GRID OF 2ND A.F. (RED)
GROUND (BLUE)
DET. PL. (YELLOW)
+B DET. (GREEN)
GRID OF 1ST A.F. (RED)
CONNECTIONS OF AUDIO FREQ. TRANS.

MODEL R-1
Chassis

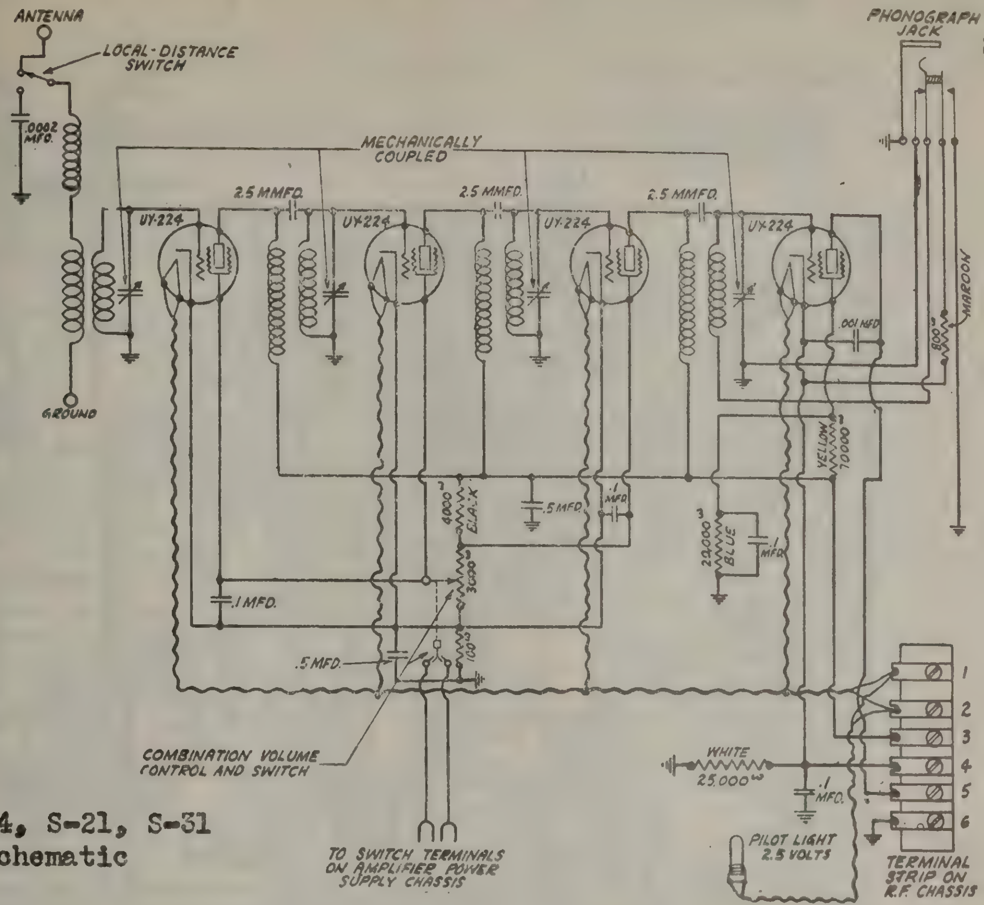
BRUNSWICK RADIO CORPORATION


THE BRUNSWICK-BALKE-COLLENDER CO.
CHICAGO, ILLINOIS.
TECHNICAL DEPARTMENT
ACTUAL WIRING DIAGRAM OF SOCKET POWER UNIT
(USED IN R-1 EQUIPMENT)
DESIGNED
DRAWN HAB
CHECKED G.C.C. DMcG.
DATE 1-31-29
APPROVED:
SCALE:
CA-6060
105-125V AC
LEADS TO OPERATING SWITCH
CABLE TO RADIO CHASSIS
PILOT LIGHT LEADS
BLACK-YELLOW TR.
RED
BLACK-YEL TR.
RED & BLACK (110 V TAP)
BLACK-RED TRACER (120 V TAP)
BLUE
GREEN
BROWN
YELLOW
BLACK
RED & MAROON
BLACK & BROWN
P
F
G
M
D
E
INTERNAL CONNECTIONS OF POWER TRANSFORMER
RED-BLACK TRACER
RED & BLACK
UX-227
UX-226
BLK-YEL TR.
BLK-YELLOW TR.
BLACK-BROWN
UX-171A
UX-280
INTERNAL CONNECTIONS OF CONDENSER BANK

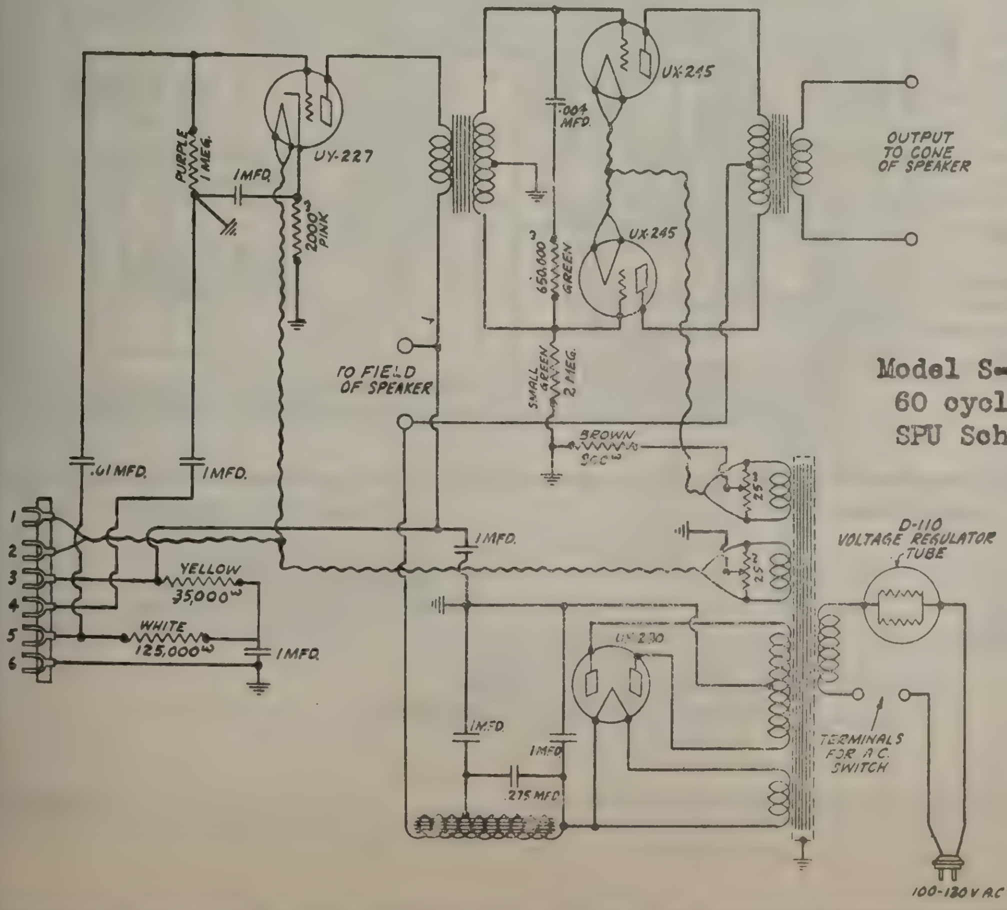
BRUNSWICK RADIO CORPORATION

MODEL S-14,S-21,
S-31,S-81,S-82 AC
Radio
Schematic

MODEL S-14,S21
S-81 AF and
SPU
Schematic


ANTENNA
LOCAL-DISTANCE SWITCH
.0002 MFD.
GROUND
MECHANICALLY COUPLED
2.5 MMFD.
2.5 MMFD.
2.5 MMFD.
UY-224
UY-224
UY-224
UY-224
PHONOGRAPH JACK
.001 MFD
800ω
MAROON
YELLOW 10000ω
4000ω ELA.X
3000ω
100ω
.5 MFD.
.1 MFD
29000ω BLUE
1 MFD
.1 MFD.
.5 MFD.
COMBINATION VOLUME CONTROL AND SWITCH
TO SWITCH TERMINALS ON AMPLIFIER POWER SUPPLY CHASSIS
WHITE 25,000ω
.1 MFD.
PILOT LIGHT 2.5 VOLTS
TERMINAL STRIP ON R.F. CHASSIS
1
2
3
4
5
6

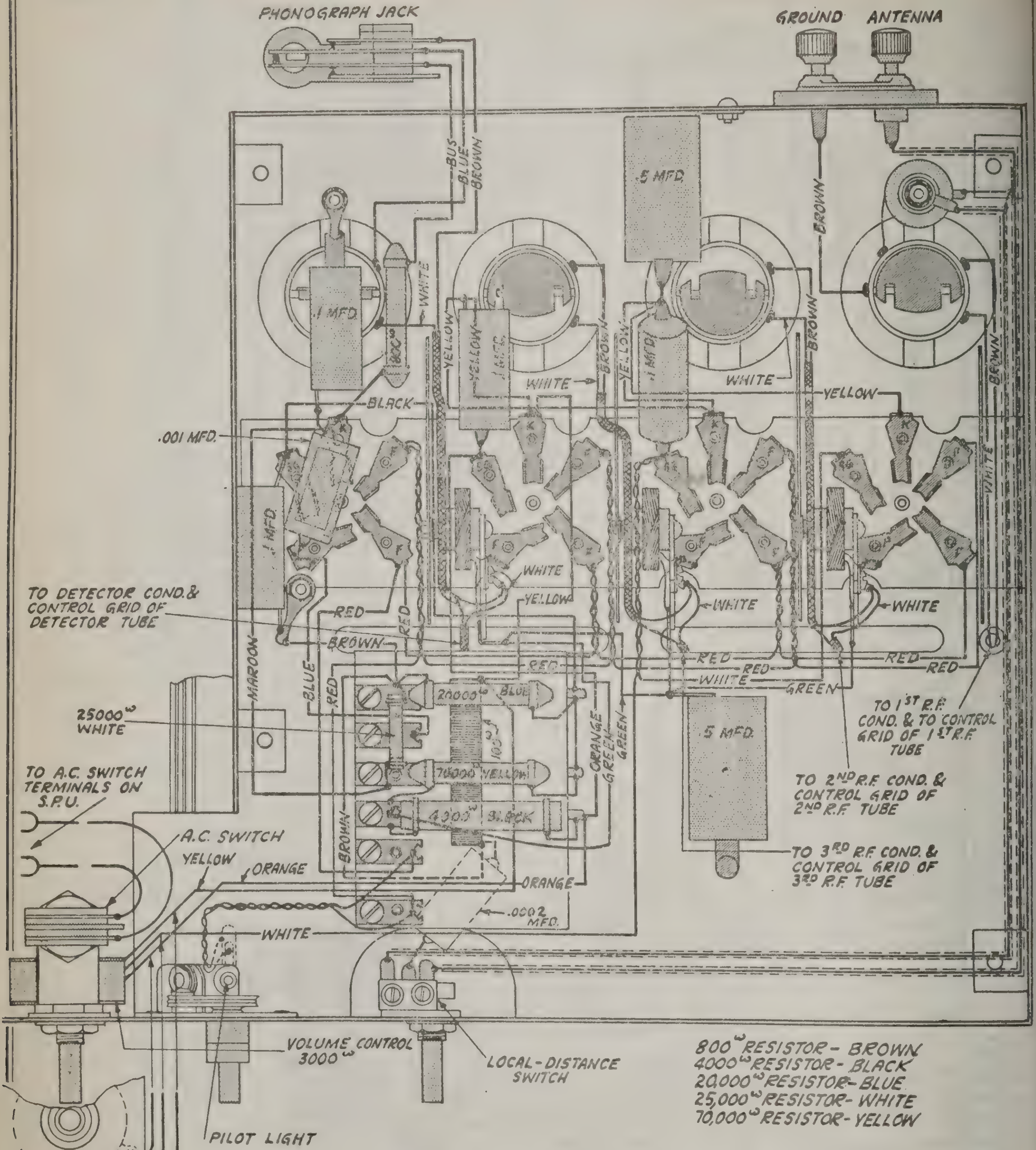
Model S-14, S-21, S-31
Radio Schematic


PURPLE 1 MEG.
1 MFD.
UY-227
2000ω PINK
.004 MFD.
UX-245
UX-245
650,000ω GREEN
SMALL GREEN 2 MEG.
TO FIELD OF SPEAKER
OUTPUT TO CONE OF SPEAKER
BROWN
.01 MFD.
1 MFD.
1 MFD.
25ω
25ω
D-110 VOLTAGE REGULATOR TUBE
YELLOW 35,000ω
WHITE 125,000ω
1 MFD.
UX-280
1 MFD.
1 MFD
.275 MFD
TERMINALS FOR A.C. SWITCH
100-130 V A.C.
1
2
3
4
5
6

Model S-14, S-21
60 cycle AF and
SPU Schematic

MODEL S-14, S-21, S-31
S-81, S-82 Radio
Chassis

BRUNSWICK RADIO CORPORATION


PHONOGRAPH JACK
GROUND
ANTENNA
BUS
BLUE
BROWN
.5 MFD.
BROWN
WHITE
.1 MFD.
800ω
YELLOW
YELLOW
1 MFD.
WHITE
BROWN
YELLOW
.1 MFD.
WHITE
BROWN
YELLOW
BROWN
BLACK
.001 MFD.
.1 MFD.
WHITE
WHITE
WHITE
YELLOW
WHITE
TO DETECTOR COND. & CONTROL GRID OF DETECTOR TUBE
RED
RED
BROWN
RED
RED
RED
RED
WHITE
GREEN
RED
BLUE
MAROON
RED
BLUE
20000ω BLUE
25000ω WHITE
100ω
70000 YELLOW
4000ω BLACK
ORANGE
GREEN
GREEN
.5 MFD.
TO 1ST R.F. COND. & TO CONTROL GRID OF 1ST R.F. TUBE
TO 2ND R.F. COND. & CONTROL GRID OF 2ND R.F. TUBE
TO 3RD R.F. COND. & CONTROL GRID OF 3RD R.F. TUBE
TO A.C. SWITCH TERMINALS ON S.P.U.
A.C. SWITCH
YELLOW
ORANGE
BROWN
ORANGE
.0002 MFD.
WHITE
VOLUME CONTROL 3000ω
LOCAL-DISTANCE SWITCH
PILOT LIGHT

800ω RESISTOR - BROWN
4000ω RESISTOR - BLACK
20,000ω RESISTOR - BLUE
25,000ω RESISTOR - WHITE
70,000ω RESISTOR - YELLOW

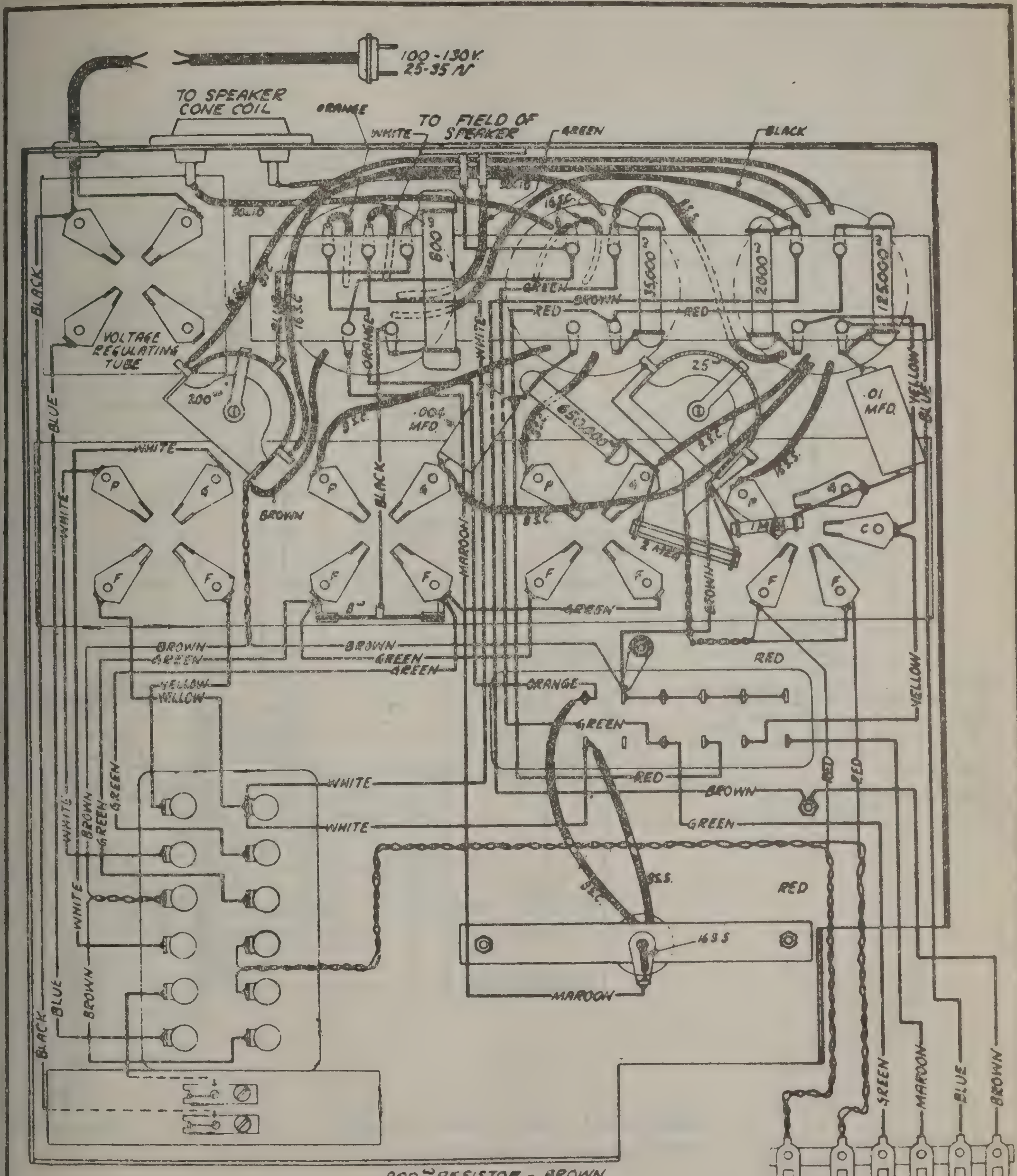
Model S-14, S-21, S-31,
S-81, S-82 Radio Chassis

SCHEMATIC CIRCUIT OF RADIO CHASSIS USING UY-224 TUBES

7008

BRUNSWICK RADIO CORPORATION

MODEL S-14, S-21,
S-81, S-82
25 cycle AF
Chassis

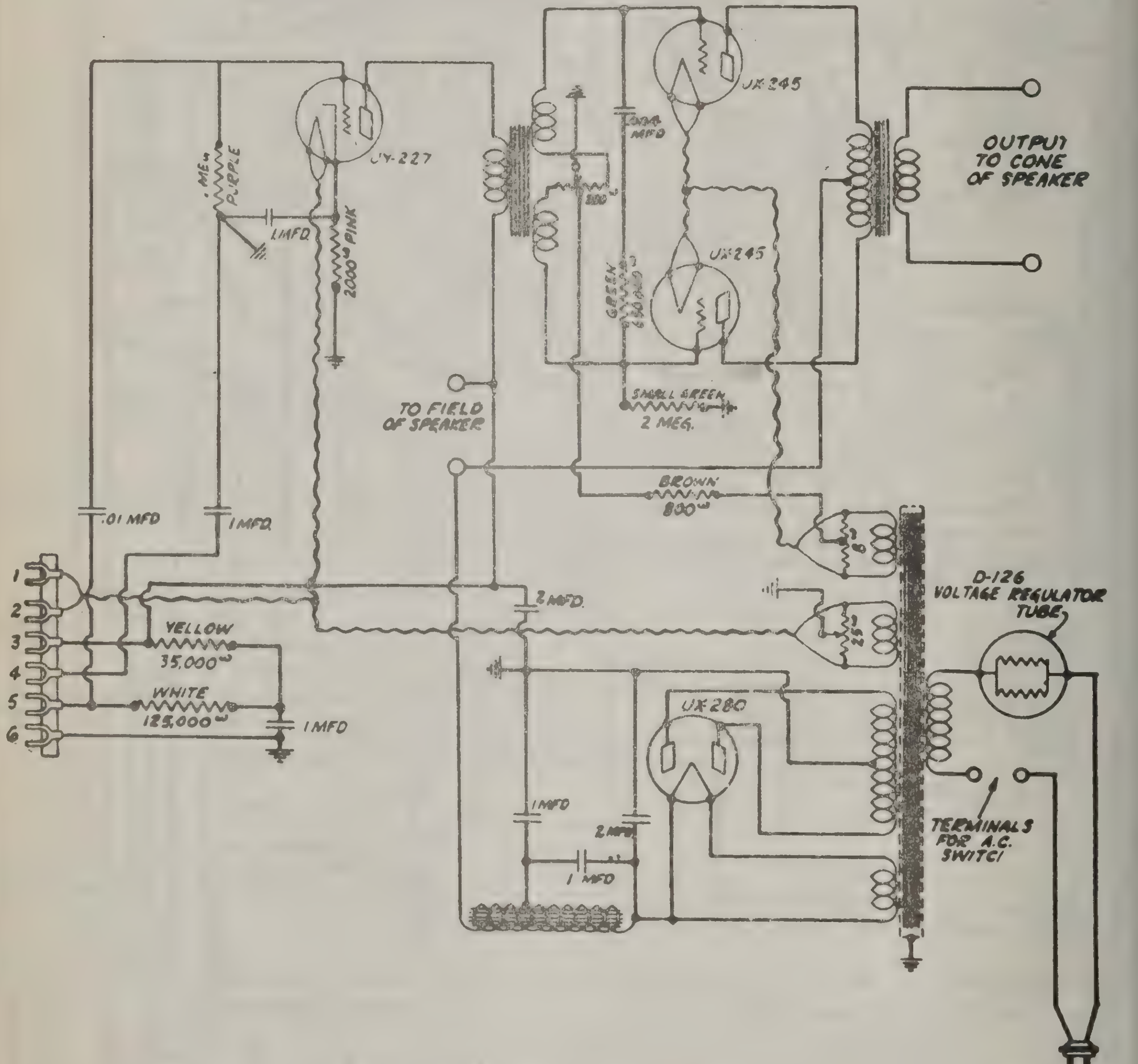

100-130V.
25-35 ~
TO SPEAKER
CONE COIL
ORANGE
WHITE
TO FIELD OF
SPEAKER
GREEN
BLACK
SOLID
16 S.C.
B.S.S.
800~
35,000~
2000~
125,000~
GREEN
BROWN
RED
RED
BLACK
VOLTAGE
REGULATING
TUBE
BLUE
16 S.C.
B.S.C.
ORANGE
WHITE
200~
25
.004
MFD.
650,000~
.01
MFD.
YELLOW
BLUE
WHITE
WHITE
P
G
F
F
BROWN
BLACK
MAROON
B.S.C.
2 MEG
CO
BROWN
8~
GREEN
BROWN
GREEN
BROWN
GREEN
GREEN
YELLOW
YELLOW
ORANGE
RED
YELLOW
GREEN
RED
BROWN
GREEN
RED
RED
WHITE
WHITE
WHITE
BROWN
GREEN
WHITE
B.S.C.
B.S.S.
RED
16 S.S.
MAROON
BLACK
BLUE
BROWN
GREEN
MAROON
BLUE
BROWN
1
2
3
4
5
6

800~ RESISTOR - BROWN
2000~ RESISTOR - PINK
35000~ RESISTOR - ORANGE
125,000~ RESISTOR - WHITE
650,000~ RESISTOR - GREEN
1 MEG RESISTOR - PURPLE
2 MEG RESISTOR - LIGHT GREEN

Model S-14, S-21, S-81, S-82 AF Chassis
25 cycle

MODEL S-14, S-21
S-81, S-82 AC
25 cycle AF
Schematic

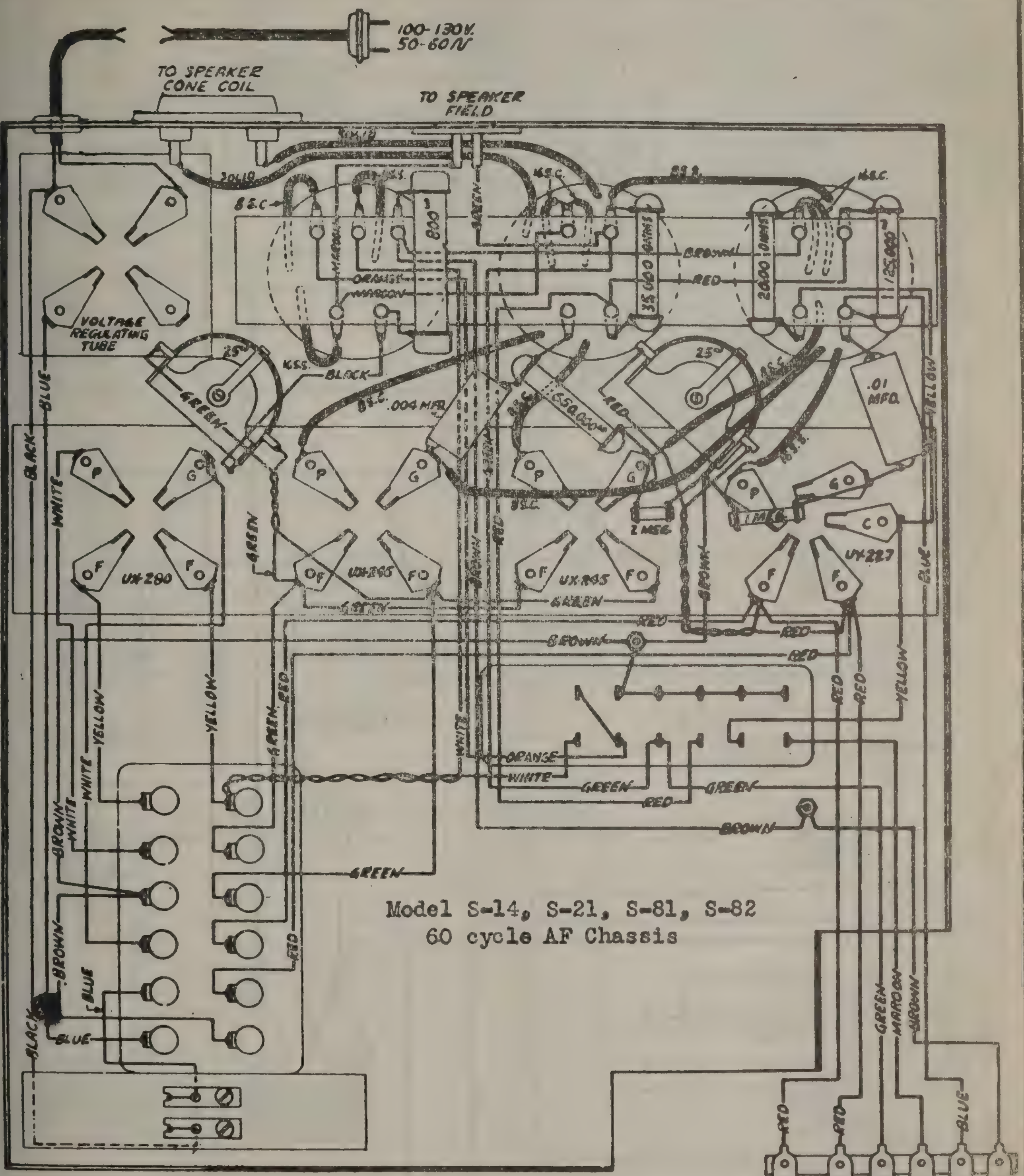
BRUNSWICK RADIO CORPORATION


UY-227
MEG PURPLE
1MFD
2000 PINK
UX245
UX245
MFD
800
GREEN
SMALL GREEN
2 MEG.
TO FIELD OF SPEAKER
OUTPUT TO CONE OF SPEAKER
BROWN
800
.01 MFD
1MFD
1
2
3
4
5
6
YELLOW
35,000
WHITE
125,000
1MFD
2 MFD
D-126 VOLTAGE REGULATOR TUBE
UX280
1MFD
2MFD
1 MFD
TERMINALS FOR A.C. SWITCH
100-130V. A.C

Model S-14, S-21, S-81, S-82
25 cycle AF Schematic

BRUNSWICK RADIO CORPORATION

MODEL S-14, S-21
S-81, S-82
60 cycle AF
Chassis


100-130V.
50-60~
TO SPEAKER CONE COIL
TO SPEAKER FIELD
VOLTAGE REGULATING TUBE
800
35,000 OHMS
2000 OHMS
125,000
25
.004 MFD.
650,000
.01 MFD.
2 MEG.
1 MEG.
UX-280
UX-245
UX-245
UY-227
P
G
F
FO
C
BLACK
BLUE
WHITE
YELLOW
BROWN
GREEN
RED
ORANGE
MAROON
1
2
3
4
5
6

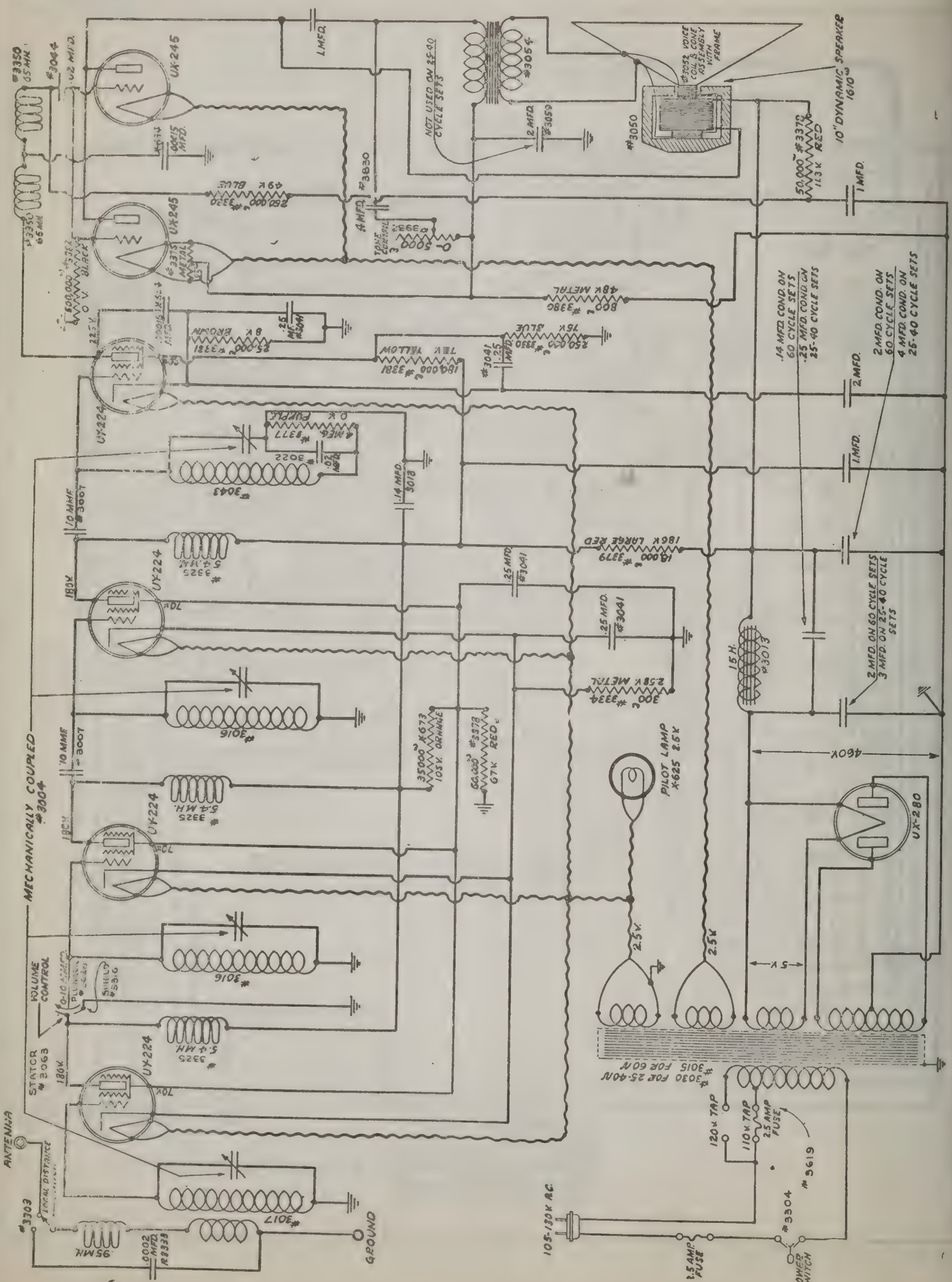
Model S-14, S-21, S-81, S-82
60 cycle AF Chassis

800~ RESISTOR - BROWN
2000~ RESISTOR - PINK
35000~ RESISTOR - ORANGE
125,000~ RESISTOR - WHITE
650,000~ RESISTOR - GREEN
1 MEG. RESISTOR - PURPLE

2 MEG. RESISTOR - LIGHT GREEN

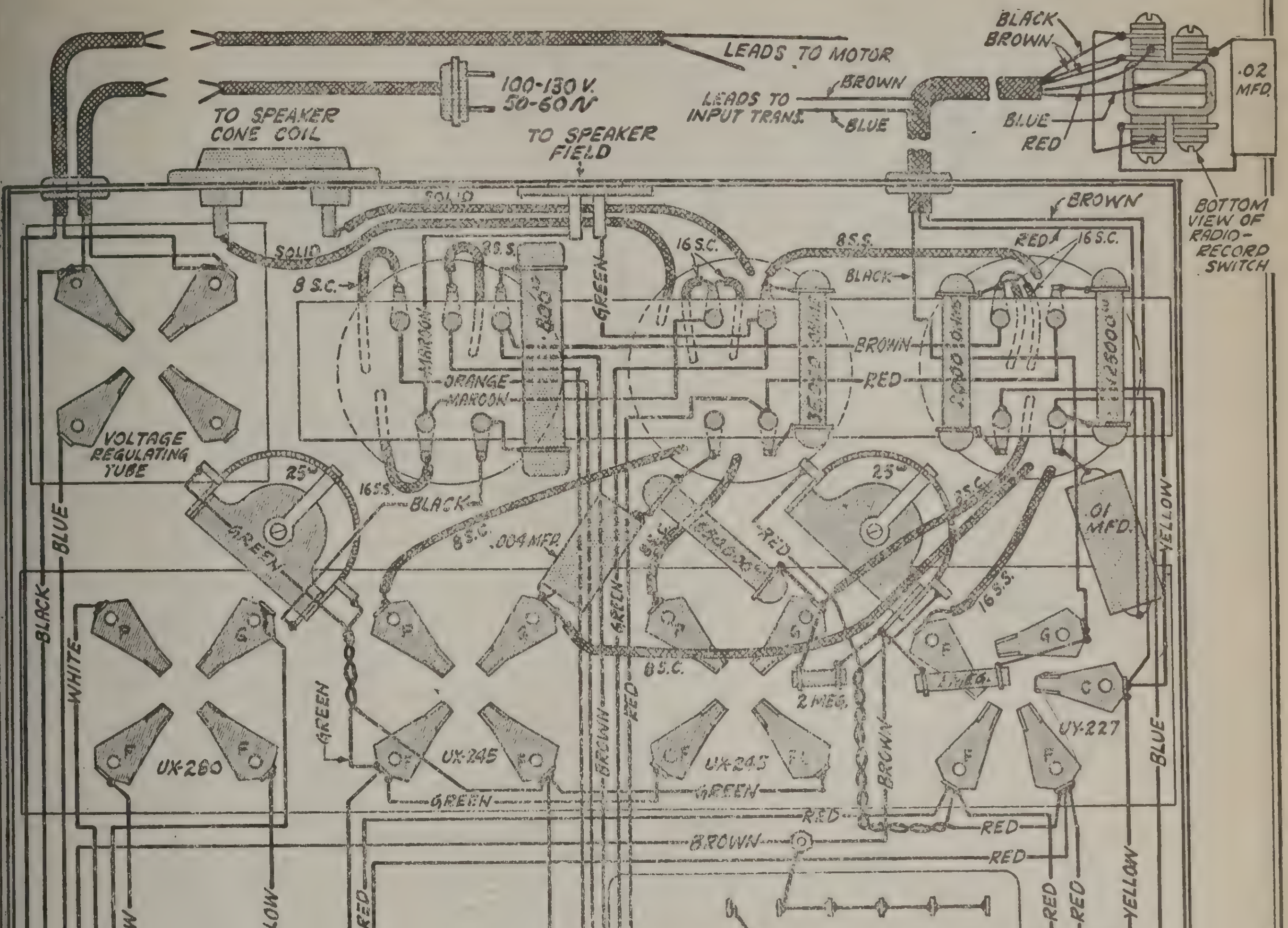
MODEL 15, 22 AC
Schematic
Also 32 and 42 AC

BRUNSWICK RADIO CORPORATION


UX-245
UX-245
#3350 65 MH
#3350 65 MH
#3044
.02 MFD
1 MFD
#3054
NOT USED ON 25-40 CYCLE SETS
2 MFD #3059
#3052 VOICE COIL & CONE ASSEMBLY WITH FRAME
#3050
10" DYNAMIC SPEAKER 1610
50,000 #3378 11.3K RED
1 MFD
#3830
4 MFD
250,000 #3320 49K BLUE
.00015 MFD
5000 #3332 TONE CONTROL
500,000 #3382 0 V BLACK
#3315 METAL
800 #3386 48K METAL
.14 MFD COND. ON 60 CYCLE SETS
.25 MFD COND. ON 25-40 CYCLE SETS
2 MFD COND. ON 60 CYCLE SETS
4 MFD COND. ON 25-40 CYCLE SETS
22.5 V
25,000 #3331 8K BROWN
.25 MFD
184,000 #3381 14K YELLOW
#3041 .25 MFD
250,000 #3330 75K BLUE
UY-224
2 MFD
#3022
#3377 4 MEG PURPLE
.02 MFD
#3043
.14 MFD 3018
1 MFD
10 MMF #3007
18,000 #3376 186K LARGE RED
#3325 5.4 MH
180K
UY-224
70V
.25 MFD #3041
.25 MFD #3041
300 #3334 2.58K METAL
2 MFD ON 60 CYCLE SETS
3 MFD ON 25-40 CYCLE SETS
15 H. #3013
#3016
460V
35000 #3673 105V ORANGE
60,000 #3578 67K RED
PILOT LAMP X-625 2.5V
UX-280
MECHANICALLY COUPLED #3004
10 MMF #3007
180K
UY-224
#3325 5.4 MH
CL
2.5V
2.5V
5V
VOLUME CONTROL
PLUNGER
SHIELD #3316
#3016
STATOR #3063
UY-224
180K
70V
#3325 5.4 MH
#3015 FOR 60N
#3030 FOR 25-40N
120V TAP
110V TAP
2.5 AMP FUSE
#5619
ANTENNA
LOCAL DISTANCE
#3303
95 MH
.0002 MFD R3338
#3017
GROUND
105-130V AC
1.5 AMP FUSE
#3304
POWER SWITCH

BRUNSWICK RADIO CORPORATION

MODEL S-31
60 cycle AF
Chassis


LEADS TO MOTOR
100-130 V.
50-60 ∿
TO SPEAKER CONE COIL
TO SPEAKER FIELD
LEADS TO INPUT TRANS.
BROWN
BLUE
BLACK
BROWN
BLUE
RED
.02 MFD.
BOTTOM VIEW OF RADIO-RECORD SWITCH
SOLID
8 S.C.
8 S.S.
16 S.C.
16 S.S.
MAROON
ORANGE
800Ω
GREEN
35000Ω
2000 OHMS
125000Ω
RED
VOLTAGE REGULATING TUBE
25Ω
.004 MFD.
.01 MFD.
YELLOW
WHITE
UX-280
UX-245
UX-245
UY-227
2 MEG.
1 MEG.
P
G
F
C
O
WHITE
ORANGE
GREEN
RED
BROWN
BLACK
BLUE
MAROON
TERMINALS FOR A.C. SWITCH

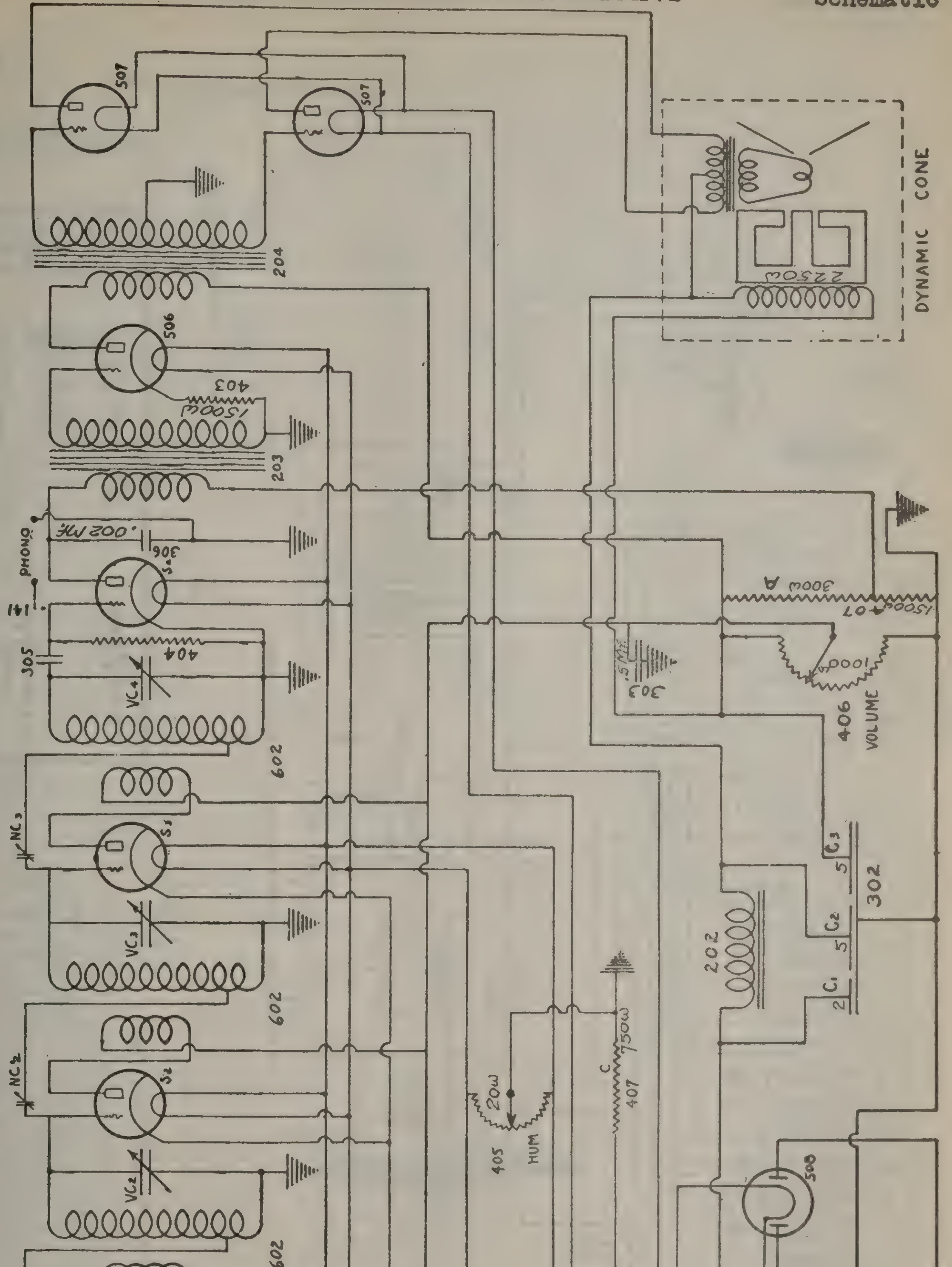
#8 S.C. = #8 STRAND COPPER WIRE
#8 S.S. = #8 STRAND SILVER WIRE
#16 S.C. = #16 STRAND COPPER WIRE
#16 S.S. = #16 STRAND SILVER WIRE

800Ω RESISTOR - BROWN
2000Ω RESISTOR - PINK
35000Ω RESISTOR - ORANGE
125,000Ω RESISTOR - WHITE
650,000Ω RESISTOR - GREEN
1 MEG. RESISTOR - PURPLE
2 MEG. RESISTOR - GREEN

ACTUAL WIRING DIAGRAM OF AUDIO AMPLIFIER POWER SUPPLY CHASSIS USED S-31 COMBINATION **6083**

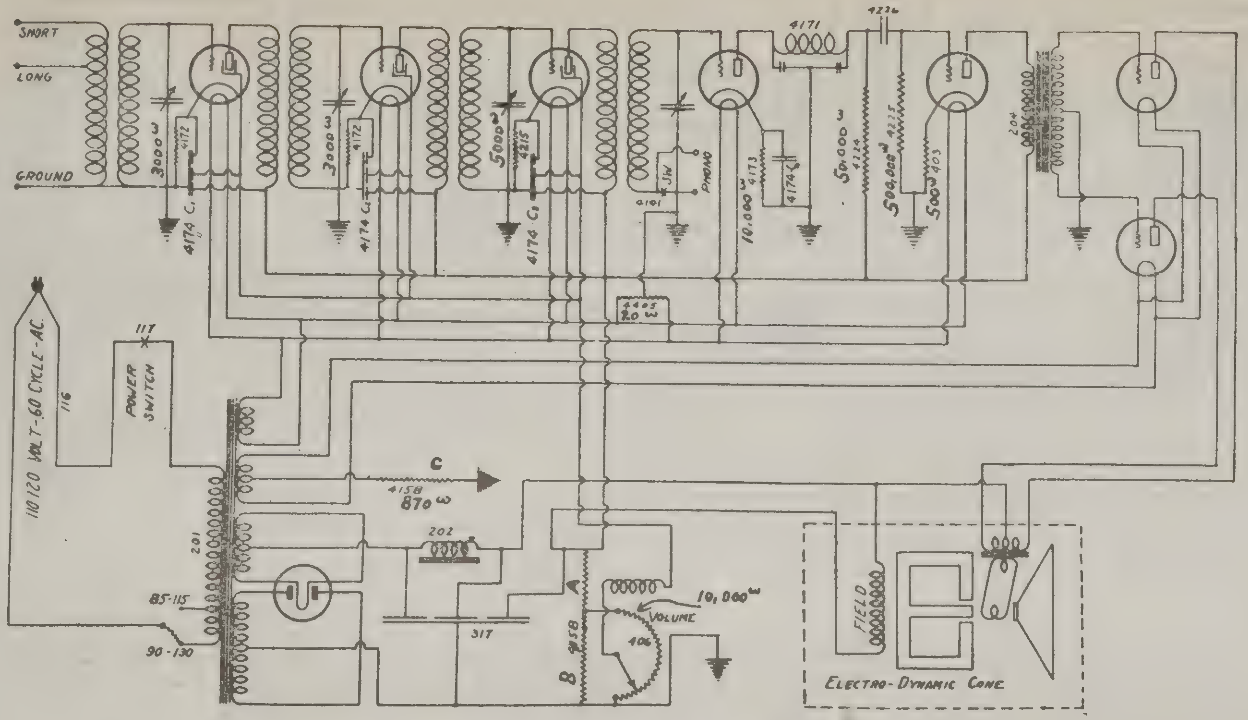
BUSH & LANE PIANO COMPANY

MODEL 10
Schematic


507
507
DYNAMIC CONE
2250Ω
204
506
403
1500Ω
203
.002 MF
PHONO
306
S4
305
404
VC4
602
NC3
S3
VC3
602
NC2
S2
VC2
602
NC1
S1
VC1
601
SHORT
LONG
GND.
402
550Ω
.5 MF
303
117
SWITCH
110-120 VOLT A-C
116
201
508
405
HUM
20Ω
C
407
750Ω
202
C1
2
C2
5
C3
5
302
406
VOLUME
1000Ω
300Ω A
1500Ω 407
303
.5 MF

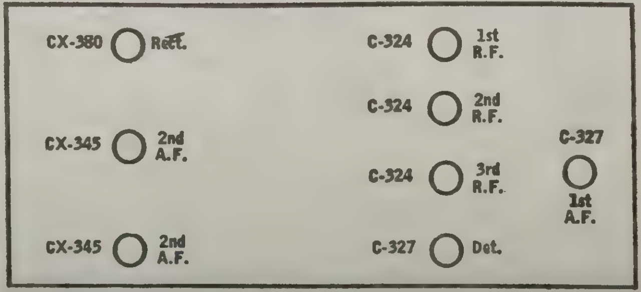
MODEL 12
Schematic and
Data

BUSH & LANE PIANO COMPANY


SHORT
LONG
GROUND
3000ω
4172
4174 C1
3000ω
4172
4174 C1
5000ω
4215
4174 C1
4171
4226
0101
SW
PHONO
10,000ω
4173
4174 C
50,000ω
4224
500,000ω
4215
500ω 403
204
4405
20 ω
117
POWER SWITCH
116
110 120 VOLT-60 CYCLE-AC.
C
4158
870ω
201
202
85-115
90-130
317
A
B
4158
10,000ω
VOLUME
406
FIELD
ELECTRO-DYNAMIC CONE

4158—Voltage Divider Resistor 5750 Ohms, Total.

No.12 Screen Grid

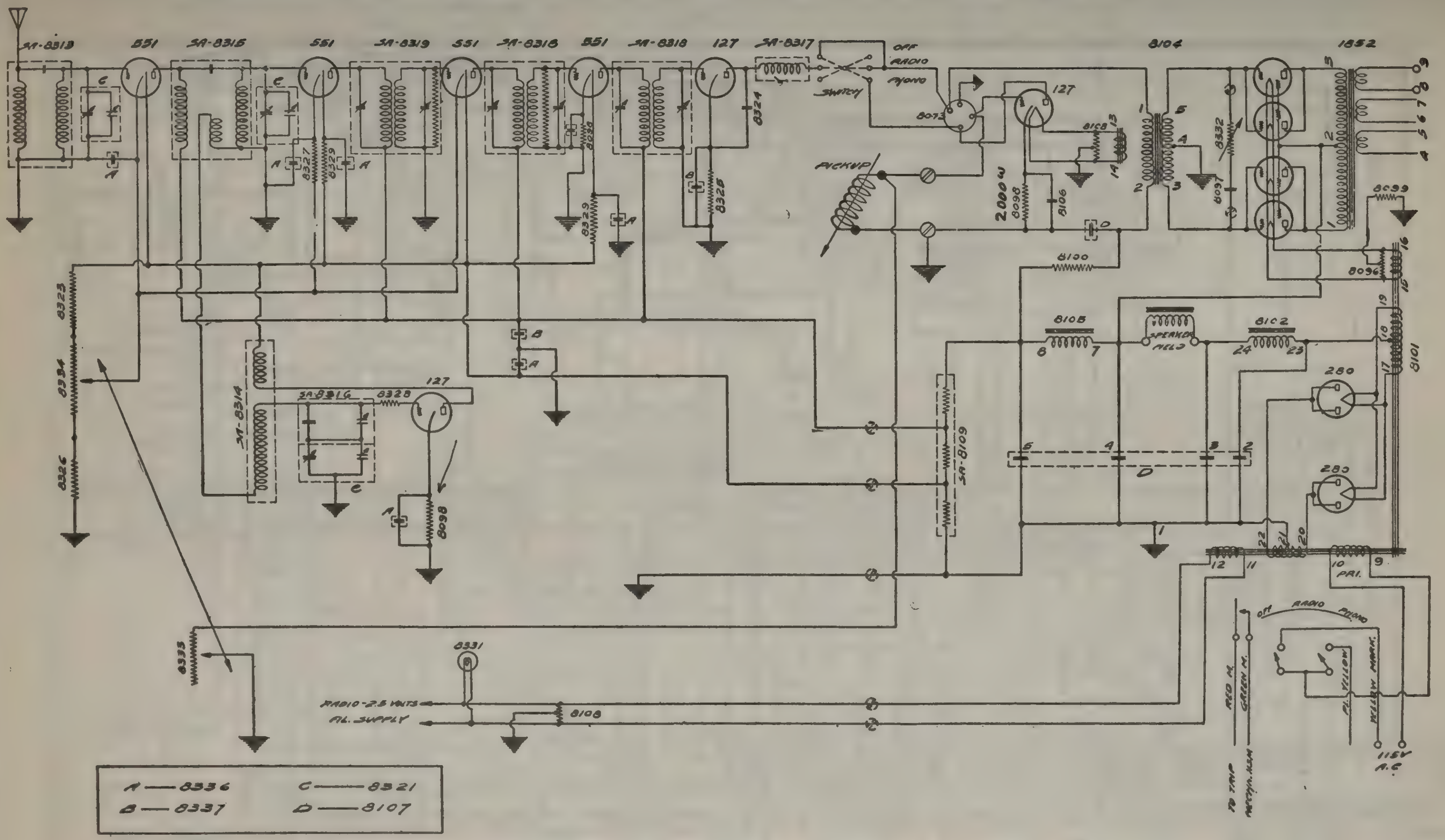

CX-380
Rect.
CX-345
2nd A.F.
CX-345
2nd A.F.
C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-327
Det.
C-327
1st A.F.

Line Voltage 112—Set on 120 Volt Tap

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST R.F. DET., ETC. ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE ⑩ M.A.	PLATE M.A GRID ⑪ TEST	PLATE CHANGE ⑫ M.A	SCREEN GRID ⑬ VOLTS
1	224	1st RF	2.45	185	2.35	170	3.5	3	1	4	3	65
2	224	2nd RF	2.45	185	2.35	170	3.0	3	1.0	4	3	65
3	224	3rd RF	2.45	185	2.35	170	3.0	3	1.6	4	3	65
4	227	Det.	2.45	150	2.35	130	18.0	18.0	1.8	3	1.2	-
5	227	1st AF	2.45	110	2.35	160	10.0	10	7.4	9	1.5	-
6	245	Pwr.	2.45	285	2.36	230	45	-	26	30	4	-
7	245	Pwr.	2.45	285	2.36	230	45	-	26	30	4	-
8	280	Rect.	5.	-	4.8	-	-	-	80	-	-	-
9												
10												

CAPEHART CORPORATION

MODEL 400,401,402
Schematic

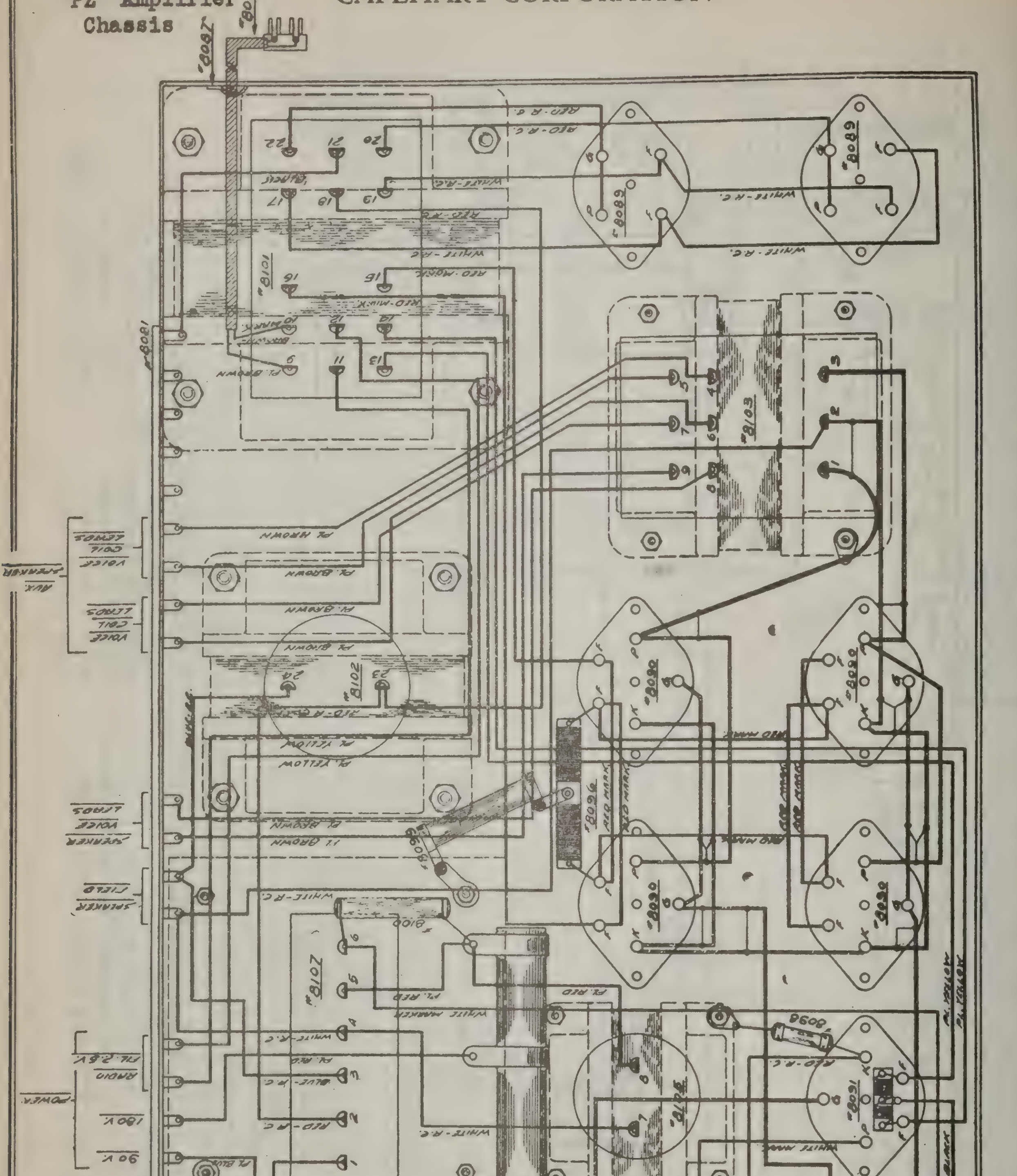

SA-8313
551
SA-8315
551
SA-8319
551
SA-8318
551
SA-8318
127
SA-8317
OFF
RADIO
PHONO
SWITCH
8104
1852
127
8073
8103
PICKUP
2000 W
8098
8106
8332
8097
8099
8096
8100
8105
SPEAKER FIELD
8102
8101
280
280
SA-8109
SA-8314
SA-8316
8328
8098
8323
8334
8326
8335
8331
RADIO-2.5 VOLTS
FIL. SUPPLY
8108
PRI.
RED M.
GREEN M.
TO TRIP MECHN.
YELLOW MARK.
PL.
115V A.C.
A — 8336
B — 8337
C — 8321
D — 8107

SCHEMATIC - CAPEHART TUNER & AMPLIFIER #400 - #401 - #402

8096 - Large 10 ohm CT
8097 - .004 mfd
8098 - 2000 ohms
8099 - 105 ohms
8100 - 11000 ohms
8108 - Small 10 ohm CT
8106 - Pentode bias cond. 300 mfd
8107 - 5 section cond. 24 mfd
8109 - 6250 ohms
8323 - 20 megohms
8325 - 30000 ohms
8326 - 200 ohms
8327 - 1800 ohms
8328 - 3000 ohms
8329 - 300 ohms
8330 - .0009 mfd
8331 - 2.5 volt lamps

MODEL 400 Series
"PZ" Amplifier
Chassis

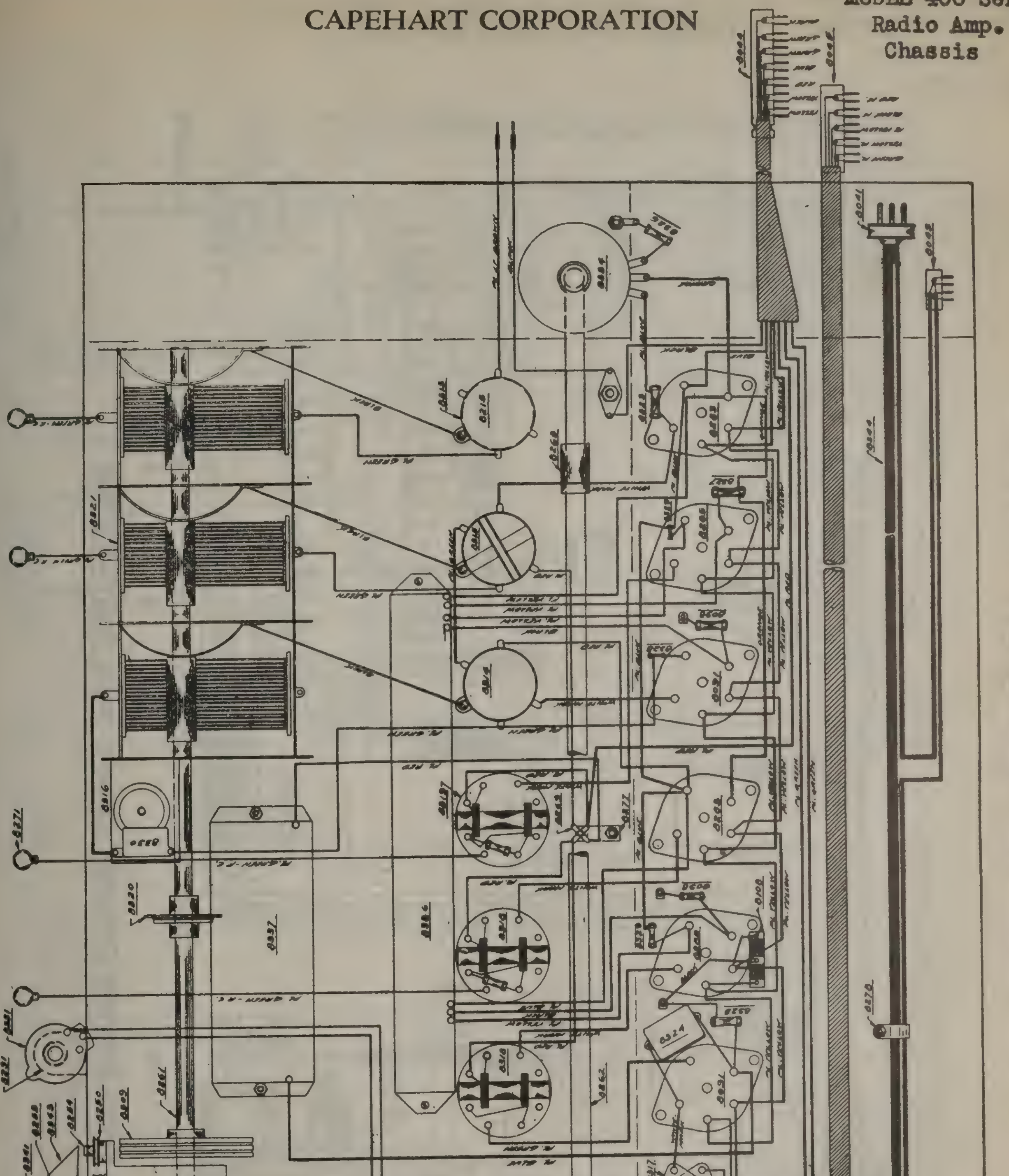
CAPEHART CORPORATION


#8097
#8096
#8089
#8089
#8101
#8081
#8103
#8102
#8090
#8090
#8090
#8090
#8096
#8108
#8107
#8109
#8098
#8091
#8092
#8106
#8104
AUX. SPEAKER
VOICE COIL LEADS
VOICE COIL LEADS
SPEAKER VOICE LEADS
SPEAKER FIELD
RADIO FIL. 2.5 V.
POWER
180 V.
90 V.
TONE CONTROL
GROUND
RED-R.C.
WHITE-R.C.
BLACK
RED-MARK
PL. BROWN
PL. YELLOW
RED MARK
WHITE MARKER
PL. RED
BLUE-R.C.
PL. BLUE
PL. YELLOW
BLACK

PICTORIAL-UNDERSIDE OF CAPEHART PZ AMPLIFIER #8078 (400 Series)

CAPEHART CORPORATION

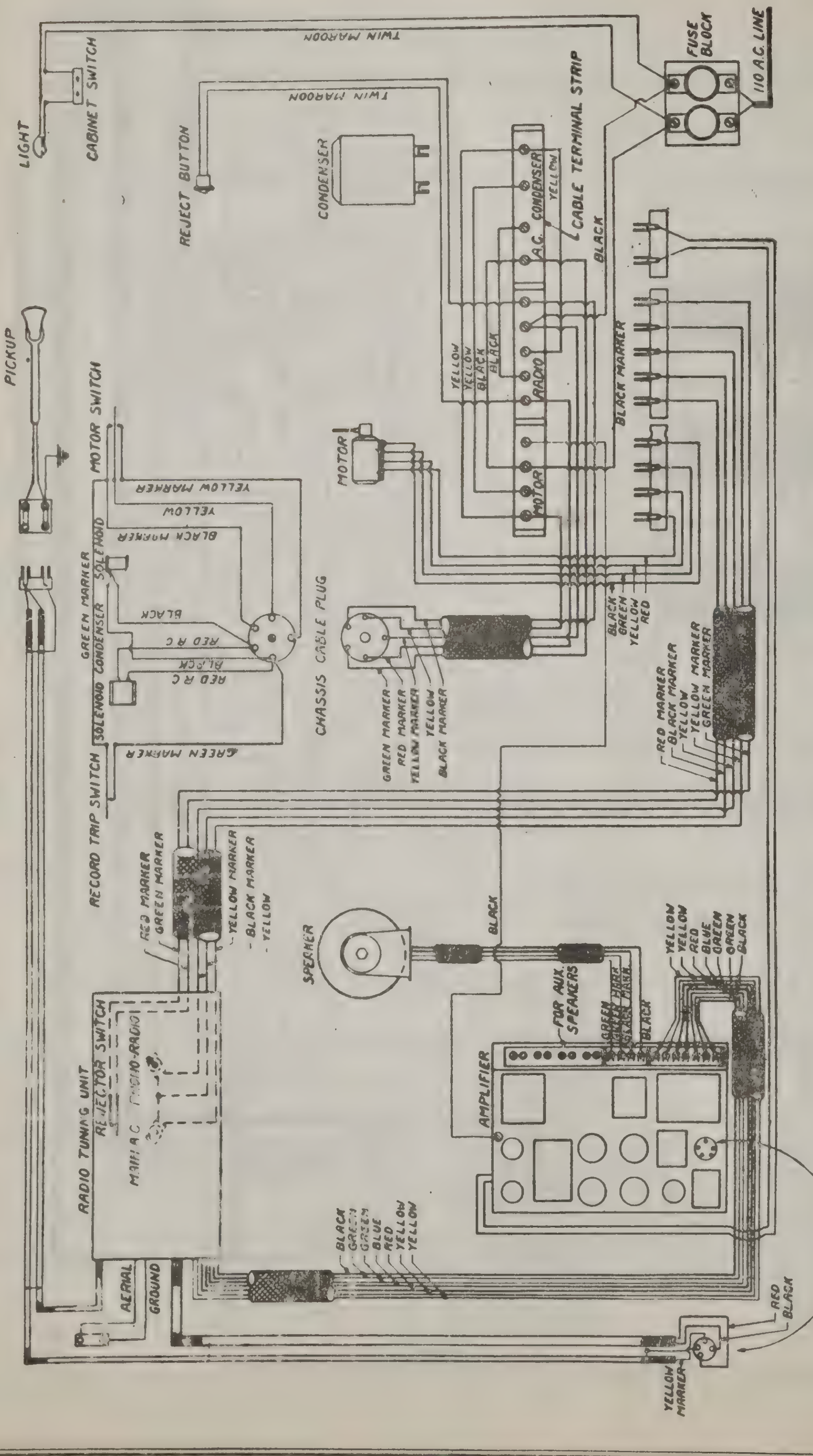
MODEL 400 Series
Radio Amp.
Chassis



PICTORIAL - CAPEHART RADIO TUNER #8076 (400 Series)

MODEL 400,401,402
Complete Wiring

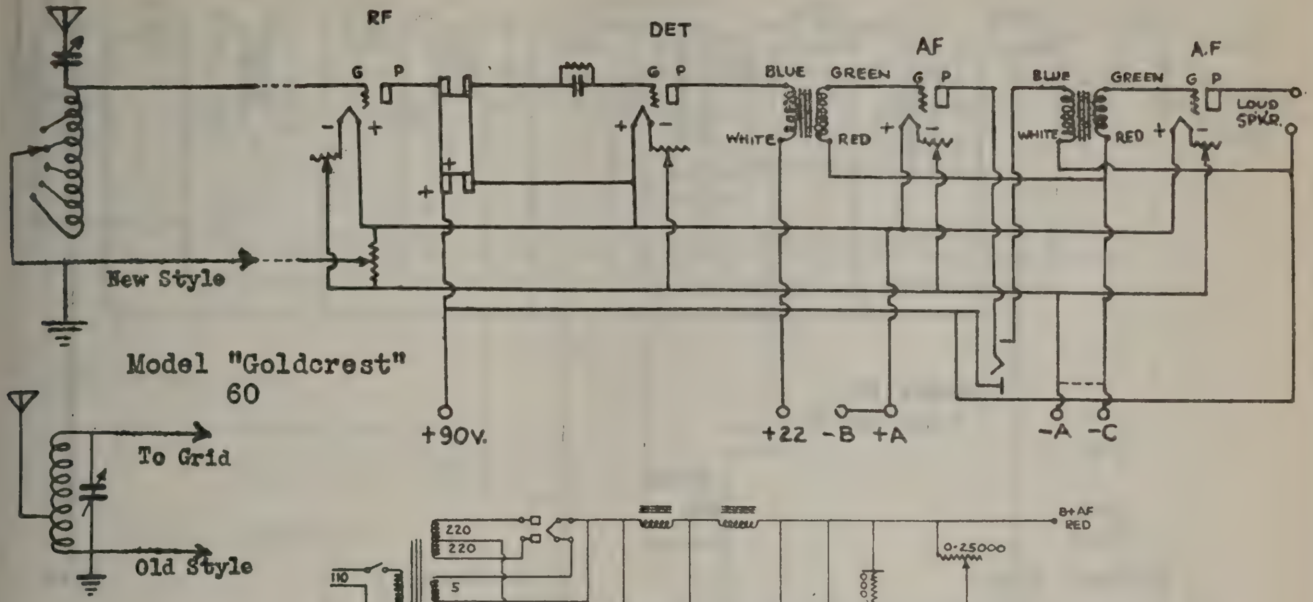
CAPEHART CORPORATION


LIGHT
CABINET SWITCH
TWIN MAROON
TWIN MAROON
FUSE BLOCK
110 A.C. LINE
REJECT BUTTON
CONDENSER
CABLE TERMINAL STRIP
A.C. CONDENSER
YELLOW
BLACK
RADIO
MOTOR
YELLOW
YELLOW
BLACK
BLACK
BLACK MARKER
PICKUP
MOTOR SWITCH
MOTOR
YELLOW MARKER
YELLOW
BLACK MARKER
GREEN MARKER
SOLENOID
BLACK
RED R C
BLACK
RED R C
SOLENOID CONDENSER
GREEN MARKER
RECORD TRIP SWITCH
CHASSIS CABLE PLUG
GREEN MARKER
RED MARKER
YELLOW MARKER
YELLOW
BLACK MARKER
BLACK
GREEN
YELLOW
RED
RED MARKER
BLACK MARKER
YELLOW
YELLOW MARKER
GREEN MARKER
RED MARKER
GREEN MARKER
YELLOW MARKER
BLACK MARKER
YELLOW
SPEAKER
BLACK
FOR AUX. SPEAKERS
GREEN
BLACK
YELLOW
YELLOW
RED
BLUE
GREEN
BLACK
AMPLIFIER
RADIO TUNING UNIT
REJECTOR SWITCH
MAIN A.C.
PHONO-RADIO
BLACK
GREEN
GREEN
BLUE
RED
YELLOW
YELLOW
AERIAL
GROUND
RED
BLACK
YELLOW MARKER

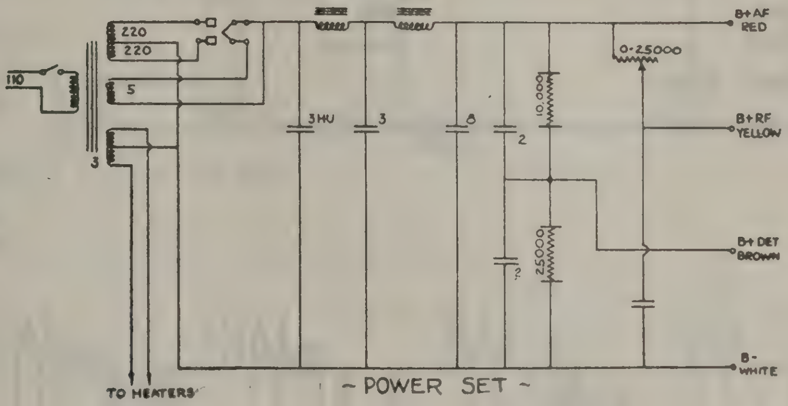
WIRING DIAGRAM CAPEHART DE LUXE MODEL #400 #401 & #402

CLEARTONE RADIO CORPORATION

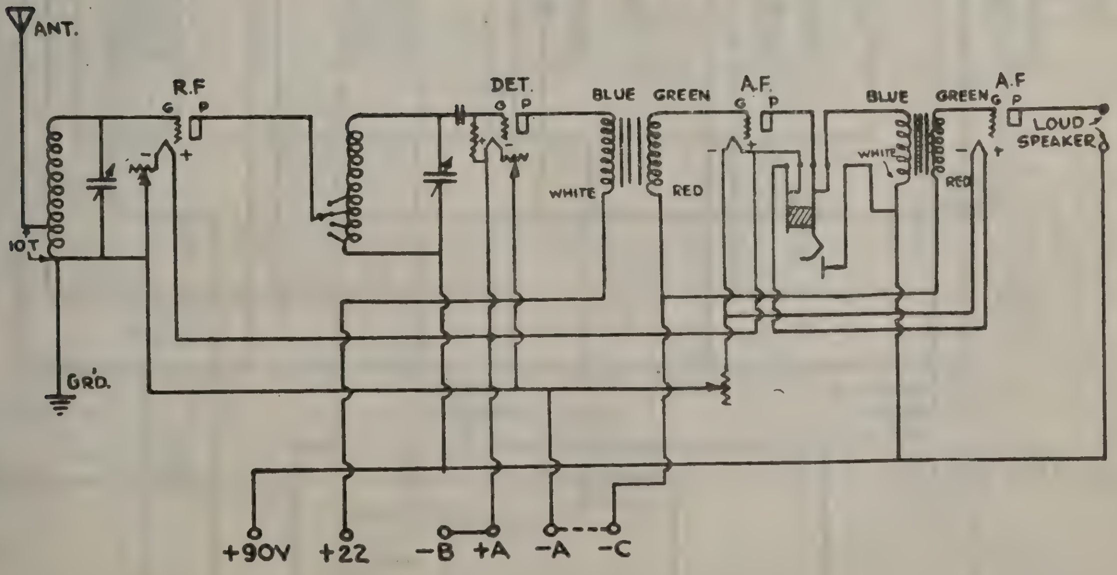
MODEL 60
Goldcrest
MODEL 70
Clearodyne


RF
G P
DET
G P
AF
BLUE
GREEN
G P
WHITE
RED
A.F
BLUE
GREEN
G P
WHITE
RED
LOUD SPKR.
New Style
+90V.
+22
-B
+A
-A
-C
To Grid
Old Style

Model "Goldcrest"
60


220
220
110
5
3
3HU
3
8
2
2
10,000
25000
0-25000
B+AF RED
B+RF YELLOW
B+DET BROWN
B- WHITE
TO HEATERS

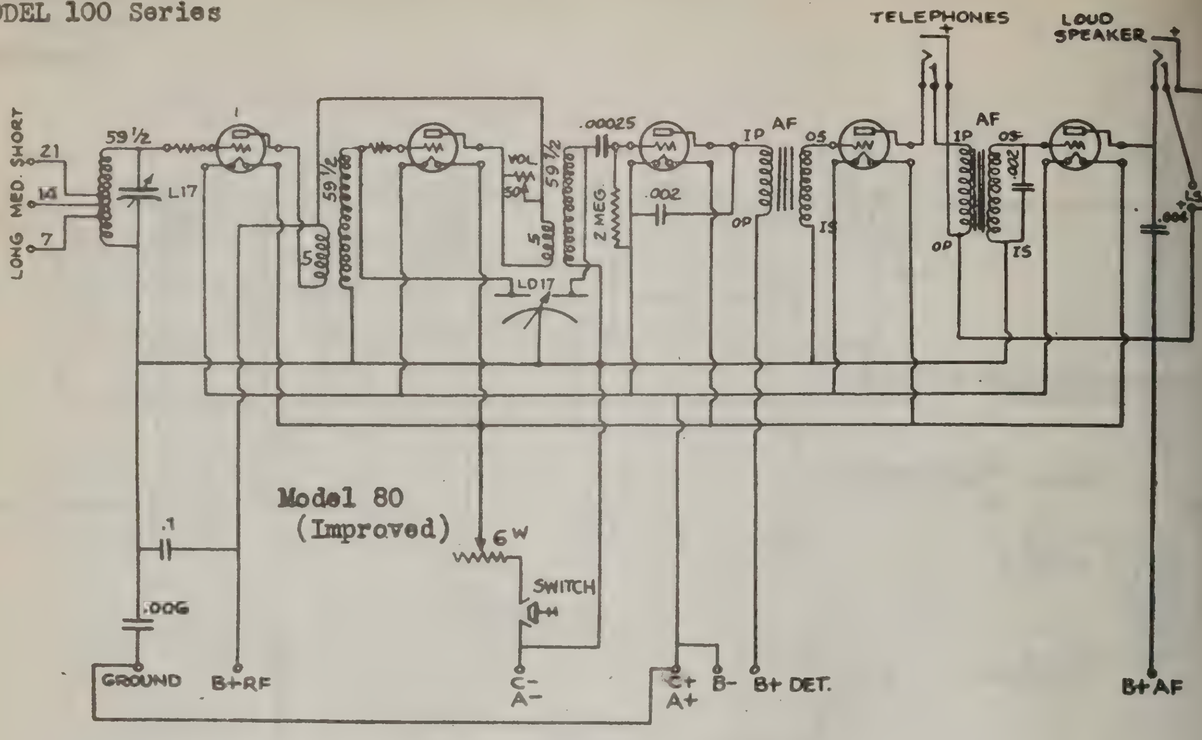
~ POWER SET ~


ANT.
R.F
G P
DET.
G P
BLUE
GREEN
A.F
G P
WHITE
RED
BLUE
GREEN
A.F
G P
WHITE
RED
LOUD SPEAKER
10T
GRD.
+90V
+22
-B
+A
-A
-C

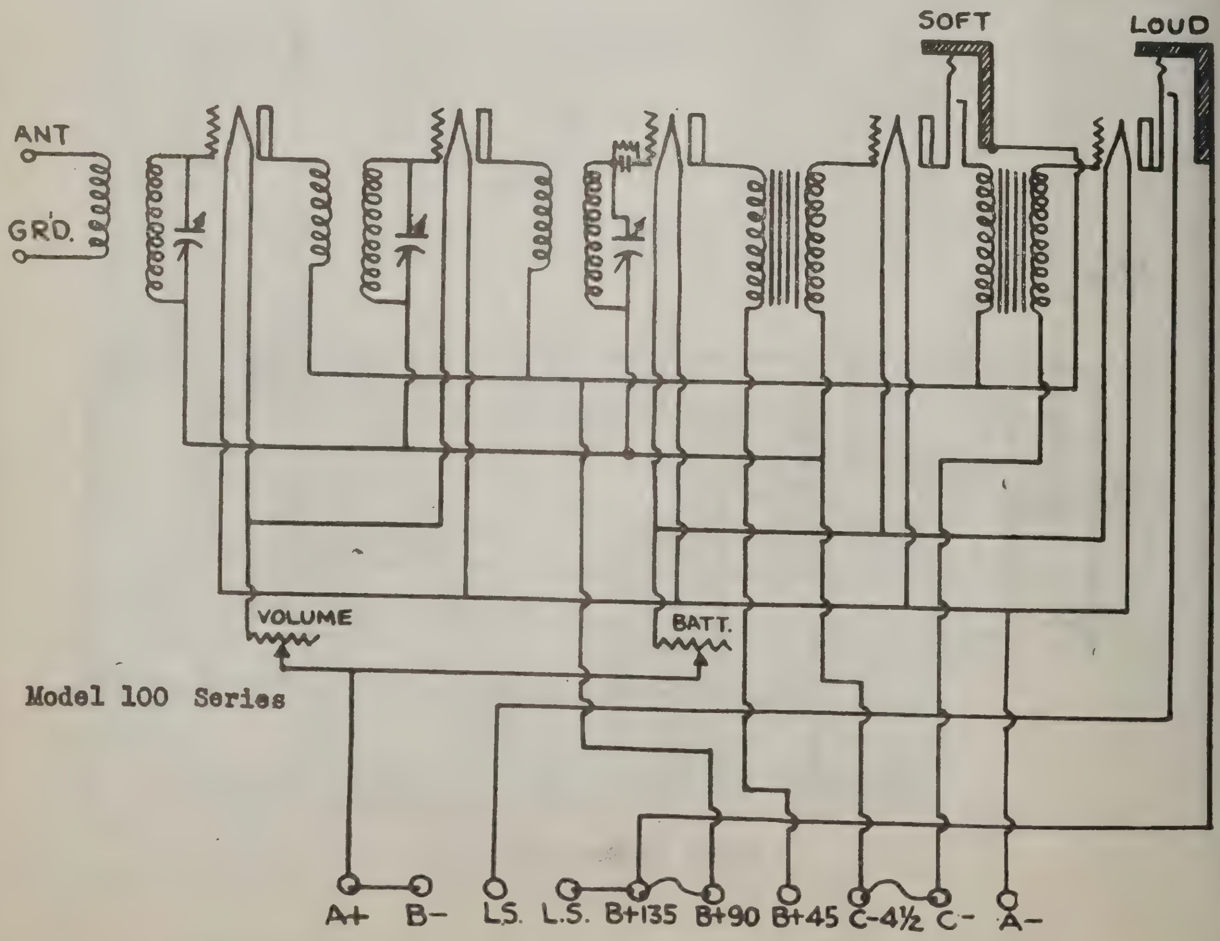
Model Clearodyne 70

MODEL 80
(Improved)
MODEL 100 Series

CLEARTONE RADIO CORPORATION


TELEPHONES
LOUD SPEAKER
LONG MED. SHORT
21
14
7
59½
L17
59½
VOL
50
5
5
59½
LD17
.00025
2 MEG
.002
IP
AF
OS
OP
IS
AF
IP
OS
.002
OP
IS
.006
.1
.006
6W
SWITCH
GROUND
B+RF
C−
A−
C+
A+
B−
B+ DET.
B+AF

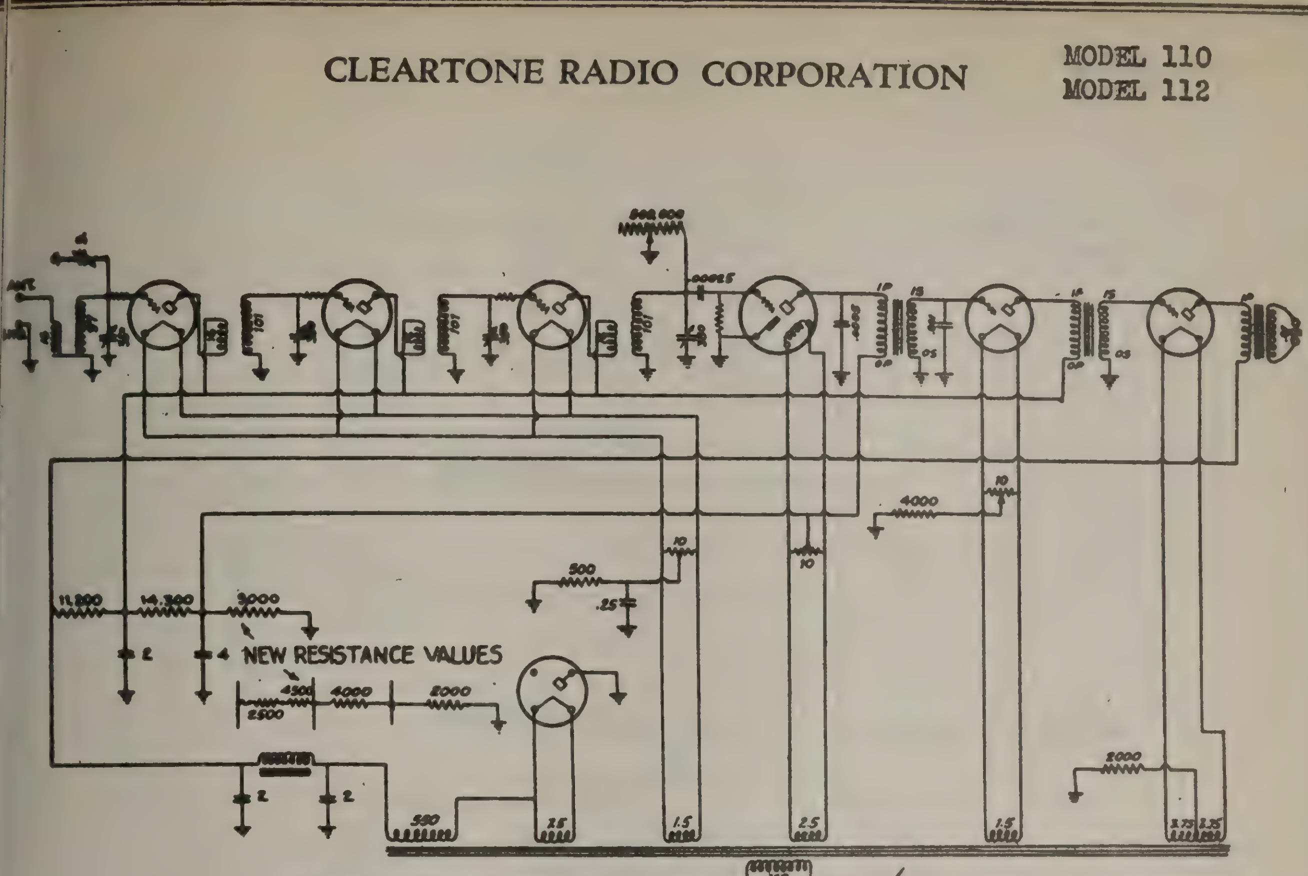
Model 80
(Improved)


SOFT
LOUD
ANT
GRD.
VOLUME
BATT.
A+
B−
L.S.
L.S.
B+135
B+90
B+45
C-4½
C−
A−

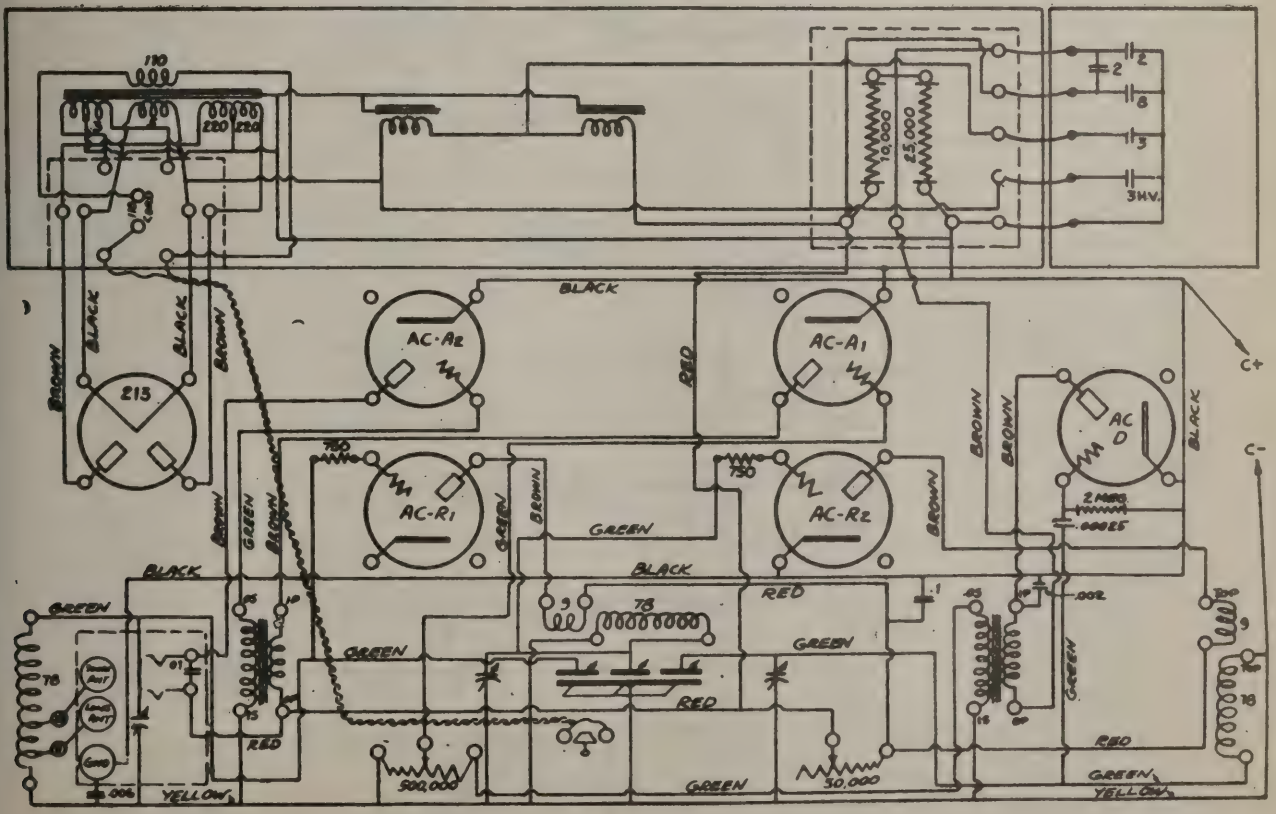
Model 100 Series

CLEARTONE RADIO CORPORATION

MODEL 110
MODEL 112


ANT.
500,000
.00025
11,200
14,300
3000
NEW RESISTANCE VALUES
4500
4000
2000
2500
2
4
500
.25
10
10
4000
10
2000
2
2
550
2.5
1.5
2.5
1.5
3.75
2.25
110

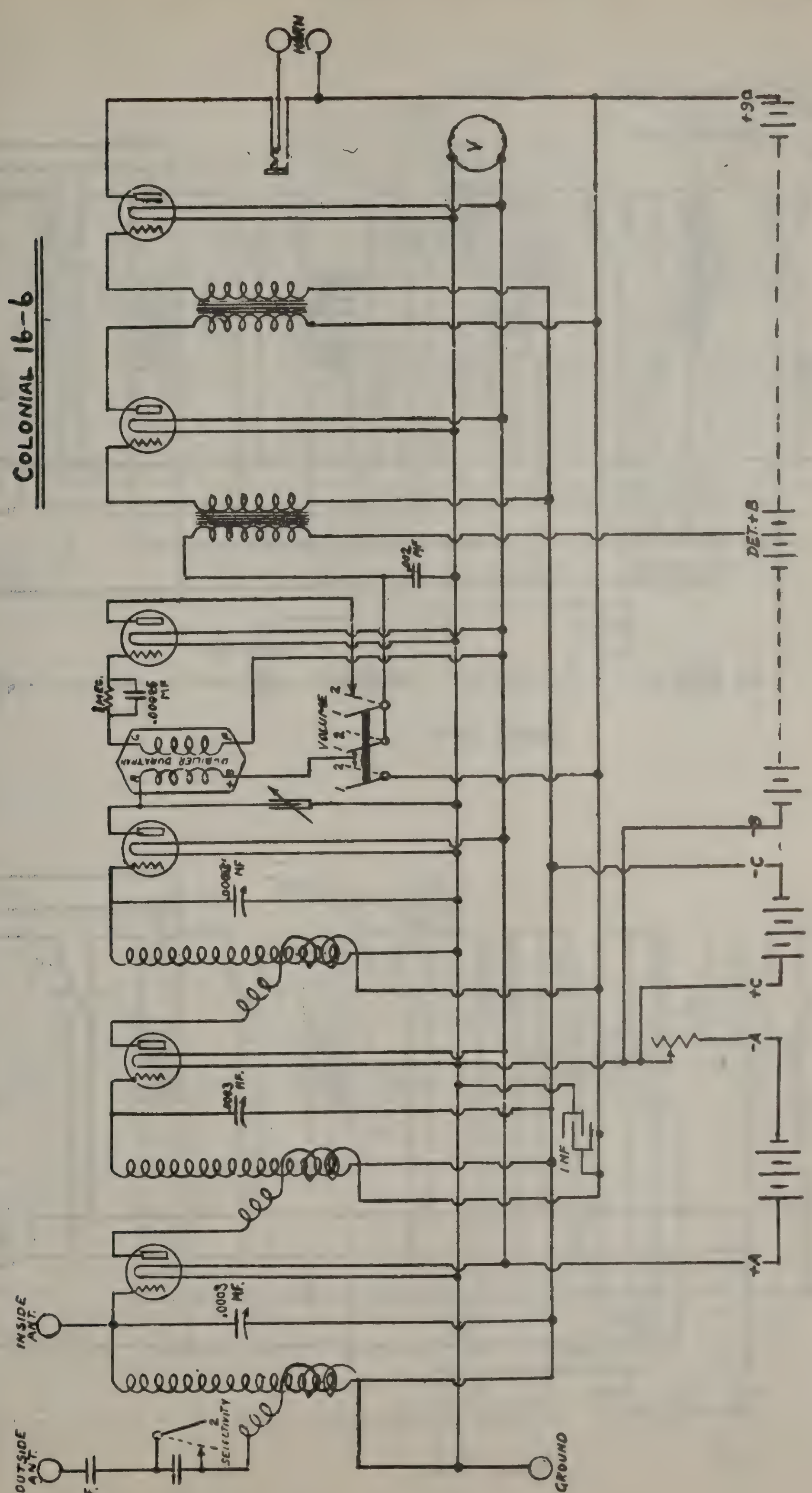
Model Cleartone 112


110
220
220
10,000
25,000
2
2
8
3
3HV.
BLACK
BROWN
BLACK
BLACK
BROWN
213
AC-A2
AC-A1
RED
C+
C-
BROWN
BROWN
BLACK
AC D
2 MEG.
.00025
750
AC-R1
750
AC-R2
BROWN
GREEN
BROWN
GREEN
BROWN
GREEN
BLACK
BLACK
RED
.1
.002
78
9
GREEN
ANT
ANT
GND
78
.006
YELLOW
GREEN
RED
RED
500,000
GREEN
30,000
GREEN
RED
GREEN
YELLOW
9
78

Model Cleartone 110

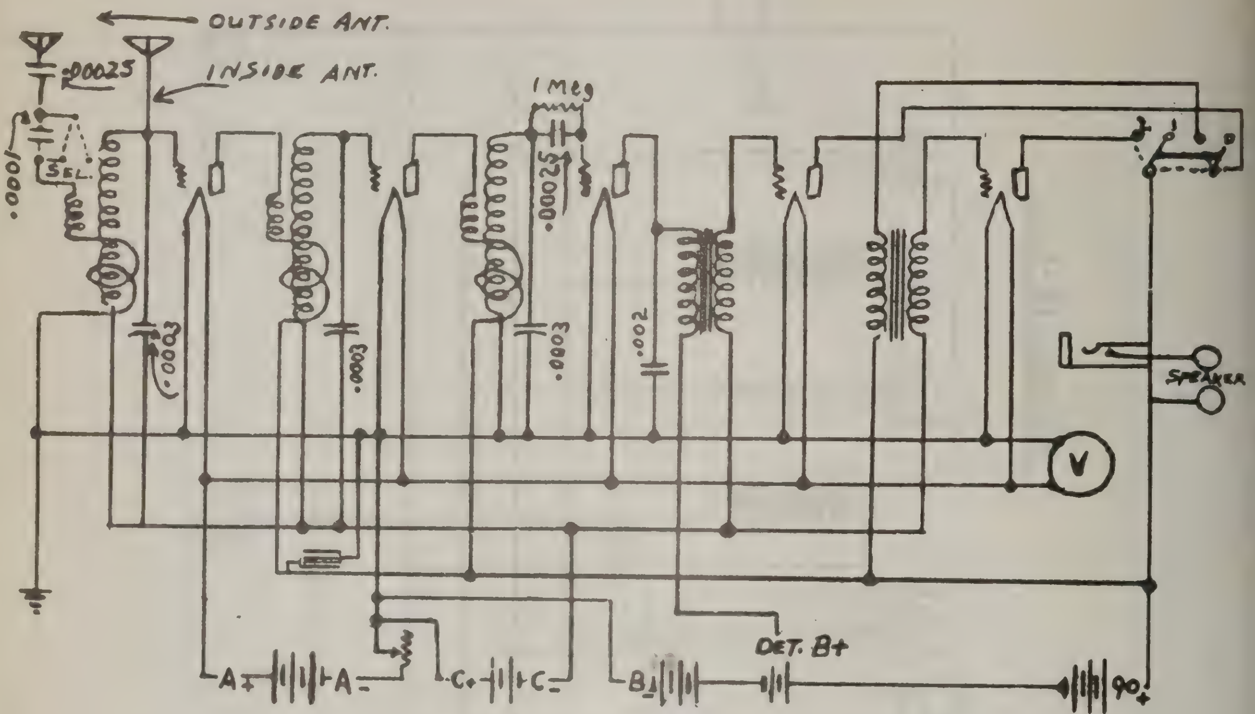
COLONIAL RADIO CORP.

MODEL 16-6

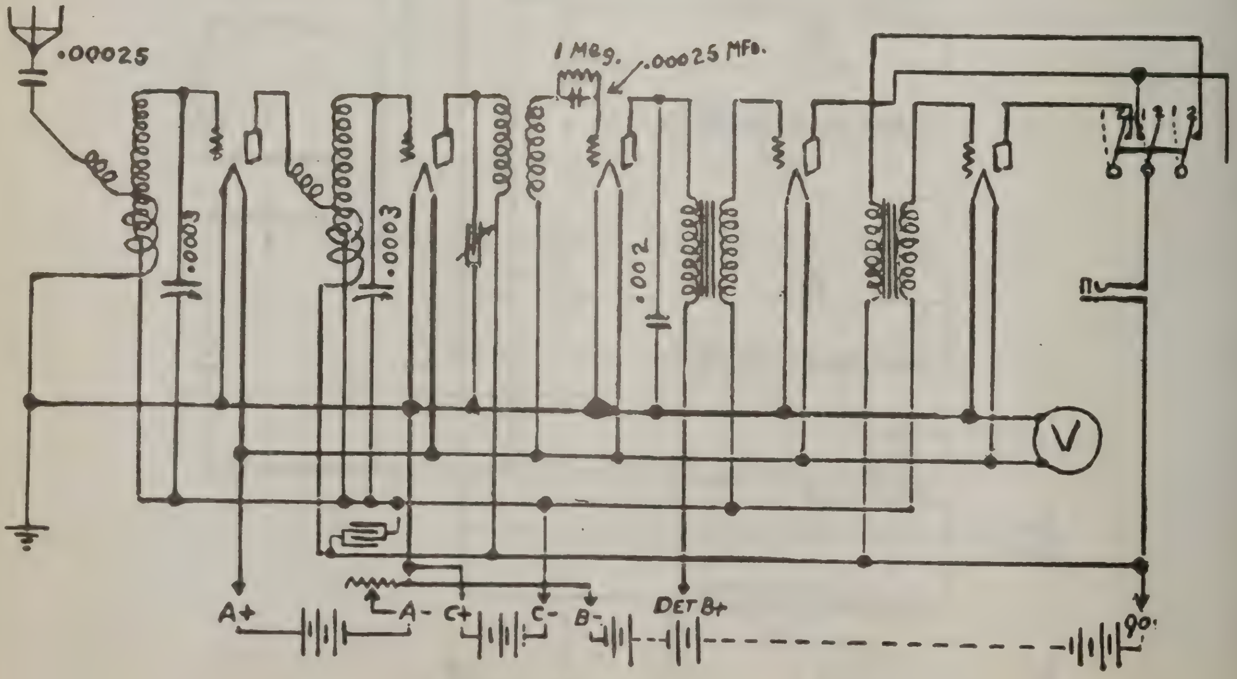

COLONIAL 16-6
HORN
V
+90
DET.+B
.002 MF
2 MEG.
.00025 MF
DUBILIER DURATRAN
G
P
B
+
VOLUME
1
2
+B
-C
+C
-A
+A
.00025 MF
.0003 MF
1 MF
.0003 MF
INSIDE ANT.
OUTSIDE ANT.
.00025 MF
.0001 MF
1
2
SELECTIVITY
GROUND

MODEL 16-5
MODEL 17-5

COLONIAL RADIO CORP.


OUTSIDE ANT.
.00025
INSIDE ANT.
.0001
SEL.
1 Meg
.00025
.0003
.0003
.0003
.002
SPEAKER
V
A+
A-
C+
C-
B-
DET. B+
90+

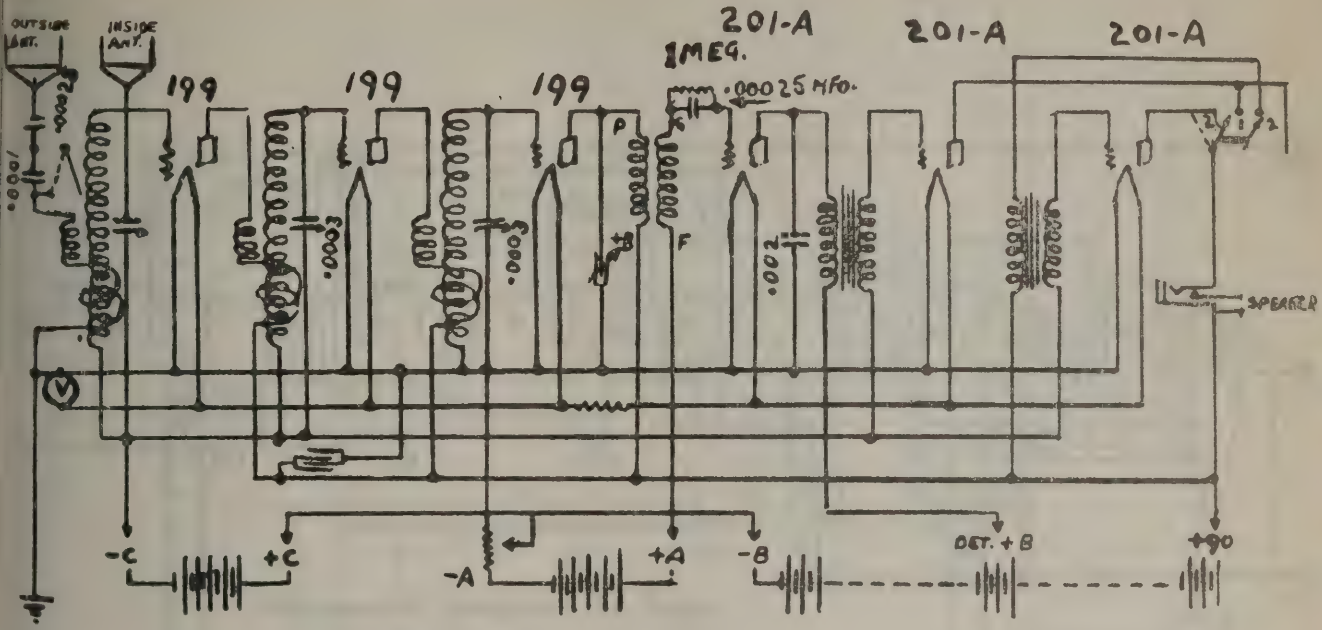
Model 16-5


.00025
1 Meg.
.00025 MFD.
.0003
.0003
.002
V
A+
A-
C+
C-
B-
DET B+
90

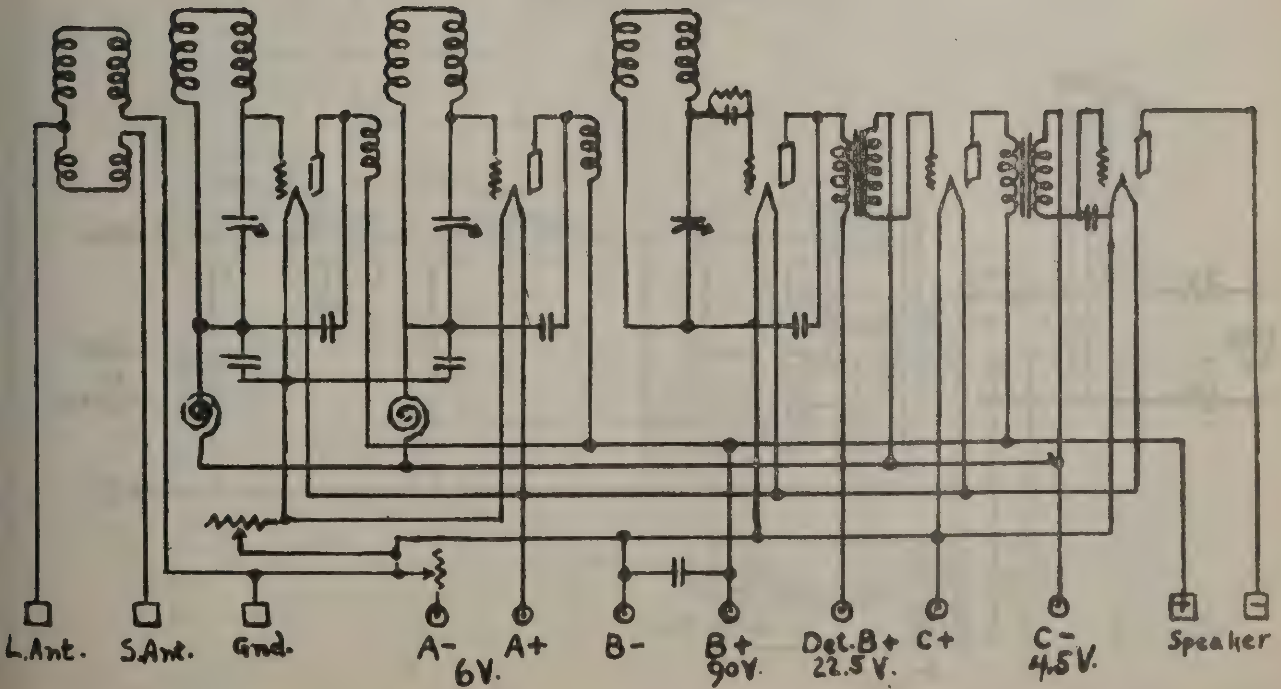
Model 17-5

COLONIAL RADIO CORP.

MODEL 20
MODEL 21


OUTSIDE ANT.
INSIDE ANT.
.0001
.0002
199
199
199
.0003
.0003
P
F
1 MEG.
.00025 MFD.
.002
201-A
201-A
201-A
SPEAKER
V
-C
+C
-A
+A
-B
DET. + B
+90

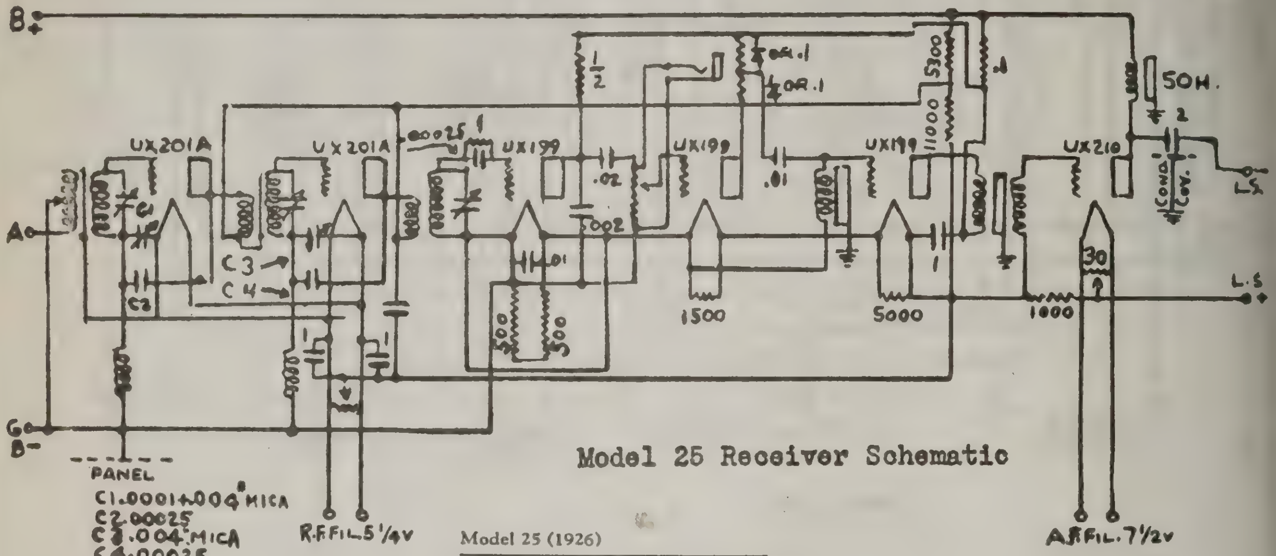
Model 20


L.Ant.
S.Ant.
Gnd.
A-
6V.
A+
B-
B+
90V.
Det.B+
22.5V.
C+
C-
4.5V.
+
-
Speaker

Model 21

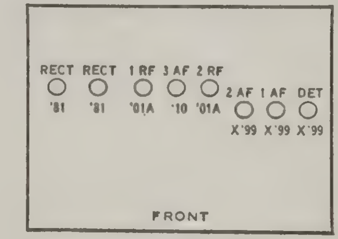
MODEL 25

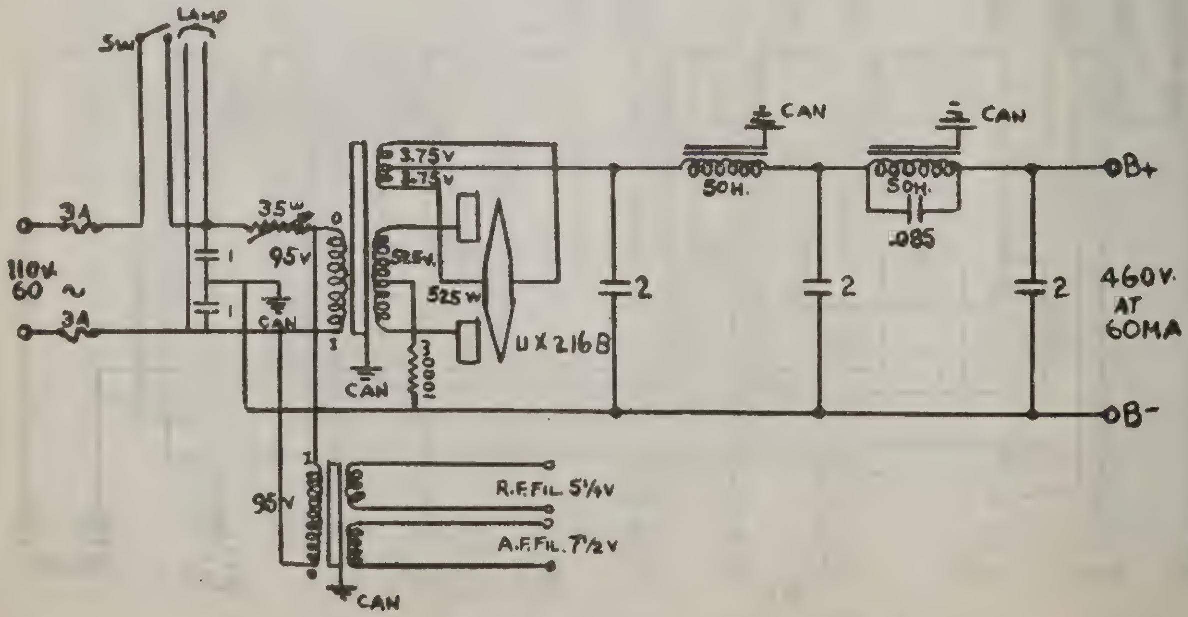
COLONIAL RADIO CORP


B+
A
G
B-
PANEL
UX201A
UX201A
.00025
UX199
UX199
UX199
UX210
C1
C2
C3
C4
.02
.002
.01
.01
1
1/2
5300
11000
50H.
2
CONE CAV.
L.S.
L.S.+
30
1500
5000
1000
300
300
C1.00014.004 MICA
C2.00025
C3.004 MICA
C4.00025
R.F.FIL.5¼V
A.F.FIL.7½V

Model 25 Receiver Schematic

Model 25 (1926)

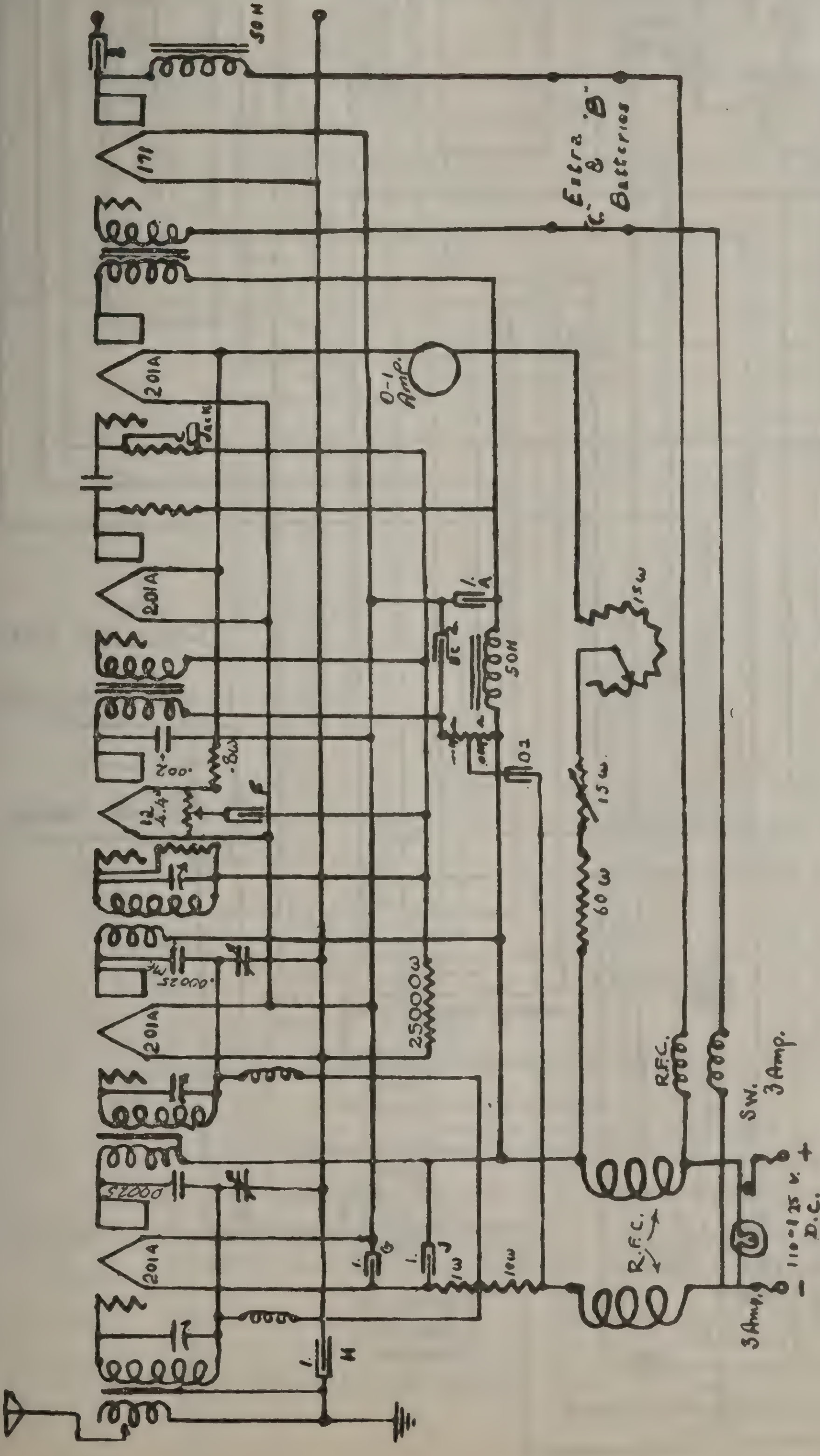

RECT
RECT
1 RF
3 AF
2 RF
2 AF
1 AF
DET
'81
'81
'01A
'10
'01A
X'99
X'99
X'99
FRONT


SW
LAMP
3A
3A
110V.
60 ~
35W
95V
1
1
CAN
3.75V
3.75V
525V.
525W
UX216B
10000
CAN
CAN
CAN
50H.
50H.
.085
2
2
2
B+
B-
460V.
AT
60MA
95V
R.F.FIL. 5¼V
A.F.FIL. 7½V
CAN

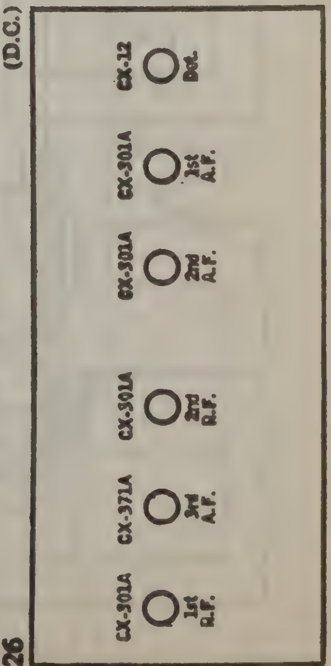
Model 25 Power Pack Schematic

COLONIAL RADIO CORP.

MODEL 26

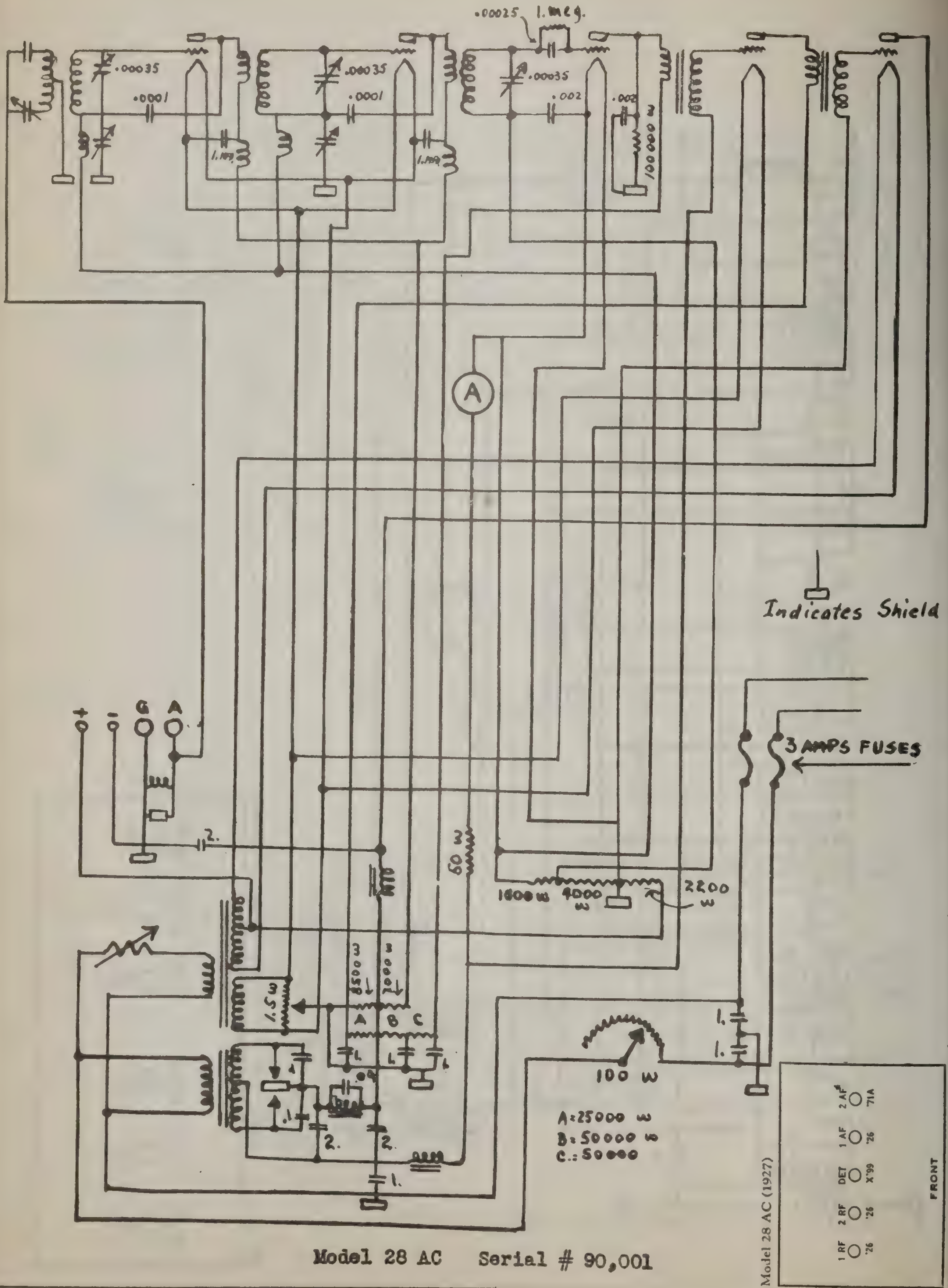

50 H
Extra 'C' & 'B' Batteries
171
201A
0-1 Amp.
Jack
15 w
1/4 A
B2
50 H
.01
.002
.8 w
12 4.4
1.5 w
60 w
.00025
25000 w
R.F.C.
3 Amp.
Sw.
.00025
1
G
1
J
1 w
10 w
R.F.C.
110-125 v. D.C.
+
-
3 Amp.
1
H

Model 26


26
(D.C.)
CX-301A 1st R.F.
CX-371A 3rd A.F.
CX-301A 2nd R.F.
CX-301A 2nd A.F.
CX-301A 1st A.F.
CX-12 Det.

MODEL 28 AC

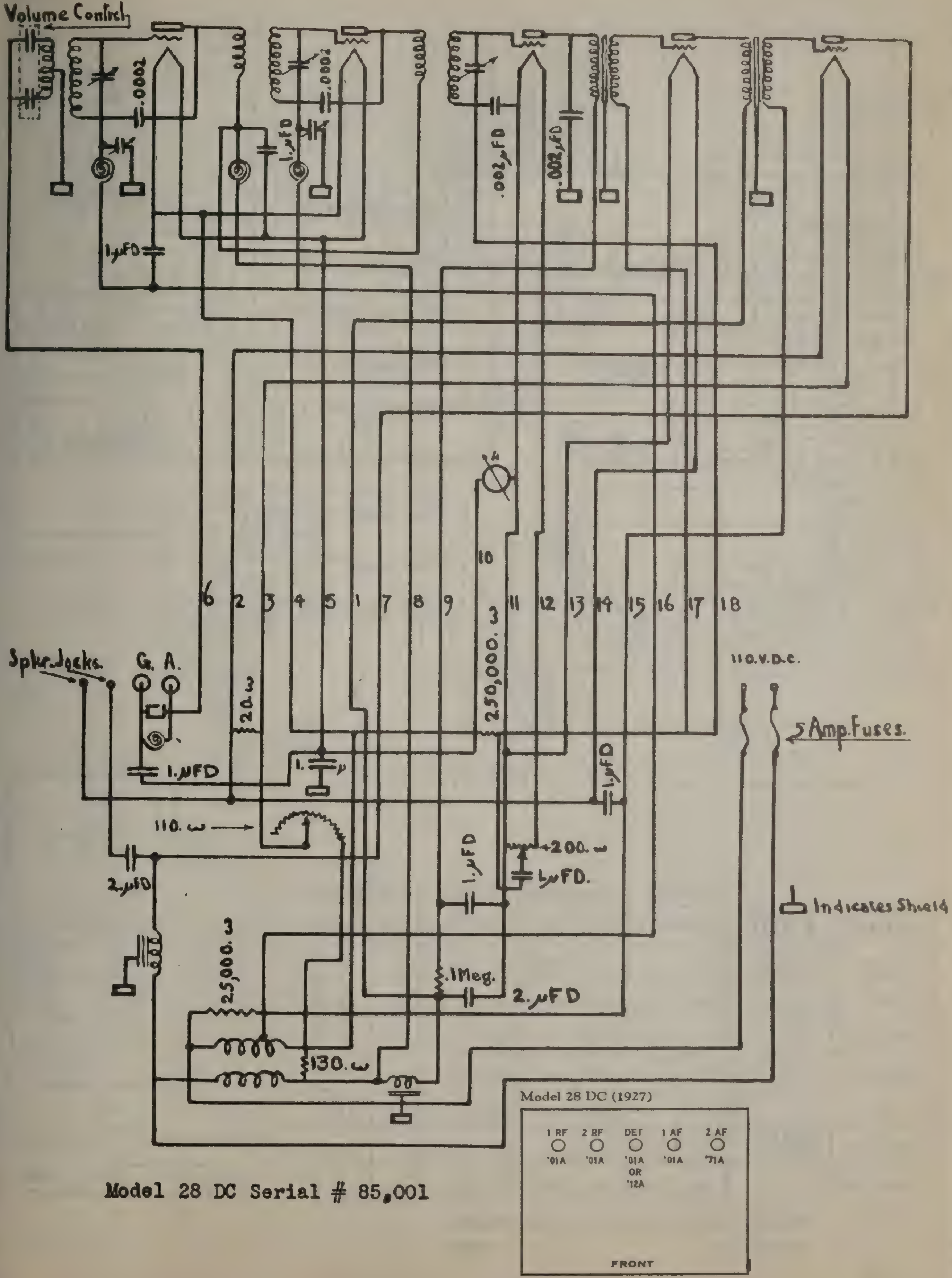
COLONIAL RADIO CORP.


.00025
1.meg.
.00035
.0001
.00035
.0001
1.meg
1.meg
.00035
.002
.002
100000 w
A
Indicates Shield
+
-
G
A
2.
3 AMPS FUSES
3
60
1600 w
4000 w
2200 w
1.5
3
3
3500
3
7000
A
B
C
L
L
L
.1
.1
2.
2.
1.
1.
1.
100 w
A=25000 w
B=50000 w
C.=50000
Model 28 AC (1927)
1 RF '26
2 RF '26
DET X'99
1 AF '26
2 AF 71A
FRONT

Model 28 AC Serial # 90,001

COLONIAL RADIO CORP.

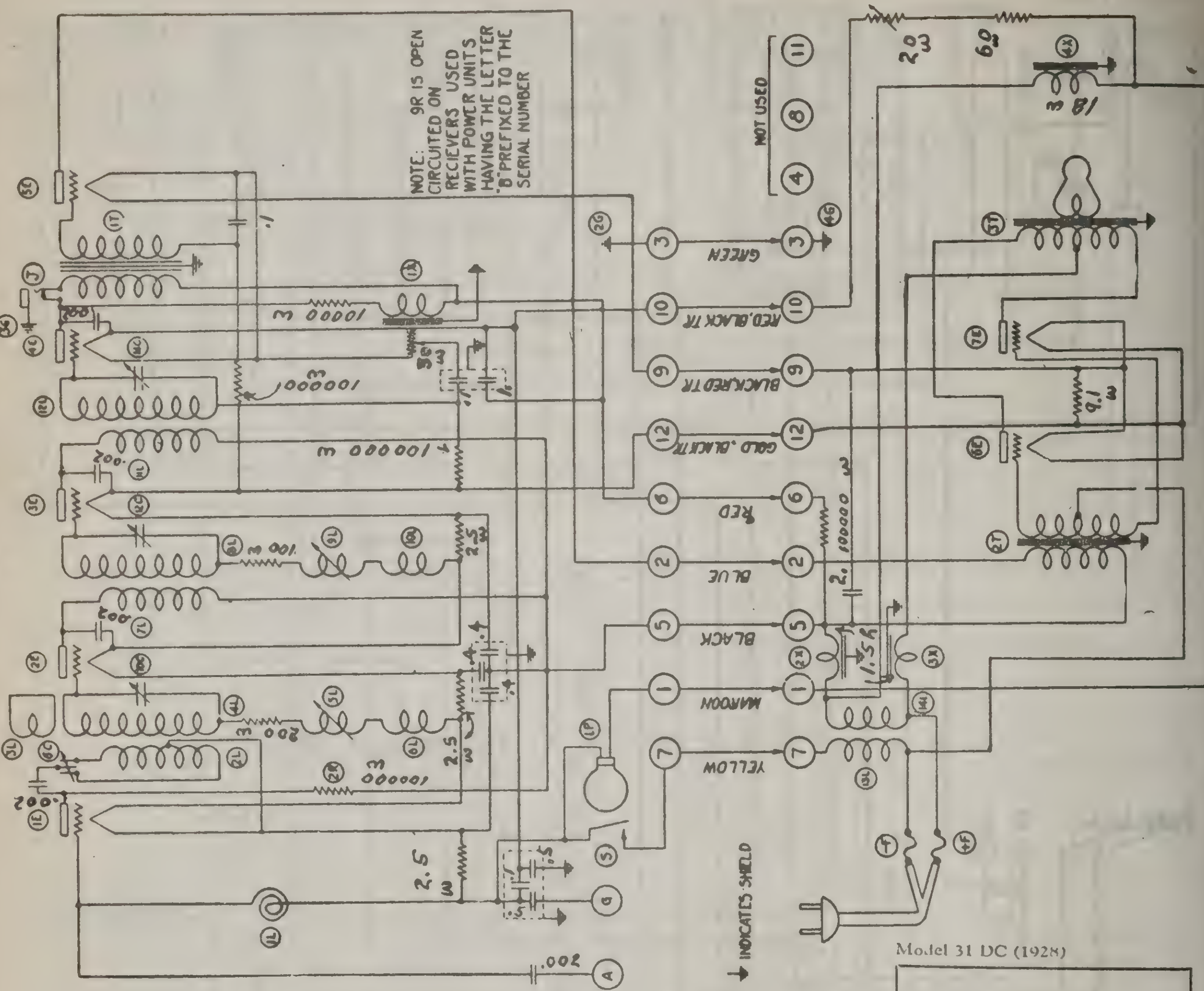
MODEL 28 DC


Volume Control
.0002
1.μFD
.0002
1.μFD
.002μFD
.002μFD
10
6 2 3 4 5 1 7 8 9 3 11 12 13 14 15 16 17 18
250,000. Ω
Spkr. Jacks.
G. A.
20. Ω
1.μFD
1.μ
110. Ω
2.μFD
1.μFD
1.μFD
200. Ω
1.μFD.
110.V.D.C.
5 Amp. Fuses.
Indicates Shield
25,000. Ω
.1 Meg.
2.μFD
130. Ω
Model 28 DC (1927)
1 RF
'01A
2 RF
'01A
DET
'01A OR '12A
1 AF
'01A
2 AF
'71A
FRONT

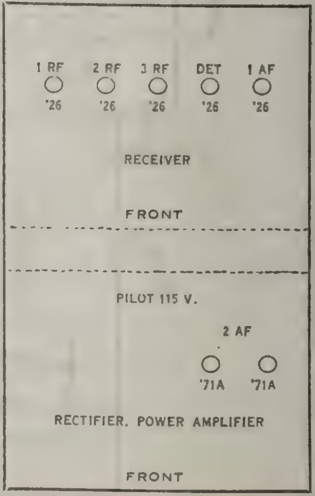
Model 28 DC Serial # 85,001

MODEL 31 DC

COLONIAL RADIO CORP.


NOTE: 9R IS OPEN CIRCUITED ON RECIEVERS USED WITH POWER UNITS HAVING THE LETTER "B" PREFIXED TO THE SERIAL NUMBER
NOT USED
GREEN
RED.BLACK TR
BLACK.RED TR
GOLD.BLACK TR
RED
BLUE
BLACK
MAROON
YELLOW
INDICATES SHIELD
10000 Ω
100000 Ω
100000 Ω
.001 Ω
200 Ω
100000 Ω
2.5 Ω
.002
.1
2.0 Ω
6 Ω
3 Ω
1.5 H
2.
.5

Model 31 DC (1928)


1 RF
'26
2 RF
'26
3 RF
'26
DET
'26
1 AF
'26
RECEIVER
FRONT
PILOT 115 V.
2 AF
'71A
'71A
RECTIFIER. POWER AMPLIFIER
FRONT

CIRCUIT DIAGRAM
MODEL 31 DC 50.001 - 40,001
COLONIAL RADIO CORPORATION

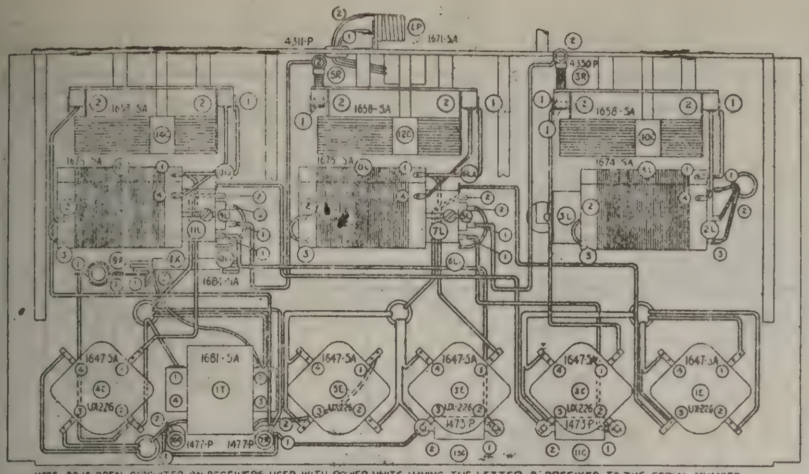
STAGE	TUBE	GRID VOLTAGE		FILAMENT VOLTAGE		PLATE VOLTAGE		PLATE CURRENT	
		MIN.	MAX.	MIN.	MAX.	MIN	MAX	MIN	MAX
1ST RF	CX 326 UX 226	2	4	1.4	1.6	50	90	2	5
2ND RF	"	2	4	1.4	1.6	75	120	5	10
3RD RF	"	2	4	1.4	1.6	75	115	5	10
DETECTOR	"	2	4	1.3	1.5	40	70	1	.5
1ST AF	"	1.5	3	1.3	1.5	70	100	2.5	5.5
2ND AF #1	UX 171 A CX 371A	12	16	4.4	5.1	75	115	8	20
2ND AF #2	"	12	16	4.4	5.1	75	115	8	20

TUBE CURRENT AND VOLTAGE CHART

Model 31 D. C. 50.010

COLONIAL RADIO CORP.

MODEL 31 DC
Data
MODEL 31 AC
Voltage

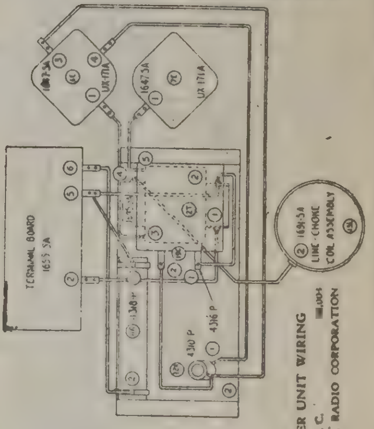

4311-P
1671-SA
4330 P
1658-SA
1658-SA
1658-SA
1675-SA
1675-SA
1674-SA
1681-SA
1681-5A
1647-SA
1647-SA
1647-SA
1647-SA
1647-SA
UX226
UX-226
UX-226
UX226
1473 P
1473 P
1477-P
1477-P
12C
10C
14C
11L
7L
6L
5L
2L
4E
5E
3E
2E
1E
1T
13C
11C
LP
5R
3R

NOTE 9R IS OPEN CIRCUITED ON RECEIVERS USED WITH POWER UNITS HAVING THE LETTER 'B' PREFIXED TO THE SERIAL NUMBER.

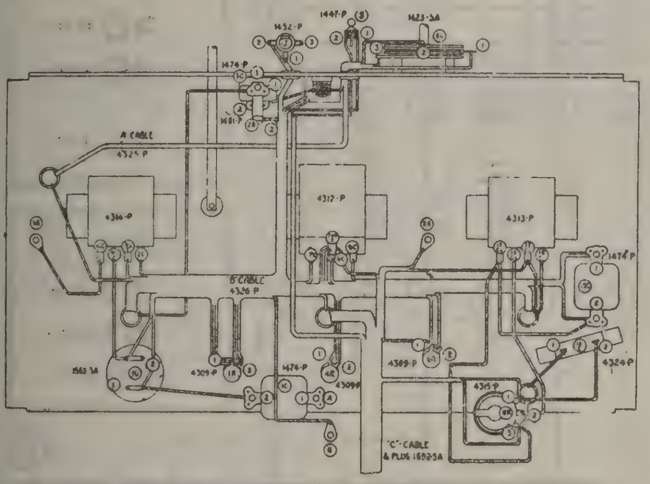
CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	TYPE
1E,-1L,	BLACK	A CAB	3E,6R,	(WHITE)*	C CAB	4L,10C,	RED	JUMP	9L,10L,	RED & WHITE	JUMP	1T,5E,	GREEN (BLACK SPAG	LEAD	3E,-13C,	SOLDER
1C,-5C,	RED & WHITE	JUMP	4C,9R,	GREEN	JUMP	4L,10C,	RED	·	10L,2E,	GREEN	·	1T,10R,	YELLOW	·	1X,9R,	MOUNT
1E,-4R,	BLUE	B CAB	4C,15C,	GREEN	B CAB	5L,3R,	RED & WHITE	·	11L,3E,	BLACK	·	1X,1T,	GREEN OR RED	·	3X,-13C,	·
1E,1R,	WHITE	-	4C,6R,	BLUE	JUMP	5L,6L,	·	·	11L,[illegible]C	-	B CAB	8L,8L,	GREEN	JUMP	5R-12C,	·
2C,11C,	NO WIRE	SOLDER	4E,8R,	WHITE	-	6L,1E,	GREEN	·	12L,14C,	RED	JUMP	17C,1T,	RED	·		
2C,11C,	· ·	·	5E,2	BLUE	C CAB	7L,2C,	BLACK	·	12L,-4E,	RED	·	7R,16C,	WHITE	·		
2E,6R,	BLUE	B CAB	5E,8R,	(YELLOW)*	C CAB	7L,[illegible]C	-	B CAB	12L,14C,	·	·	7R,10R,	BLUE	·		
2E,4R,	WHITE		5C,9	BLACK.RED TR	C CAB	8L,12C,	RED	JUMP	14C,7R,	·	·	7R,3E,	·	-		
10R,18C,	YELLOW	JUMP	2L,6C,	BLUE	A CAB	8L,3E,	·	·	10C,2E,	-	·	LP,-1R,	-	B CAB	* DOES PASS C CAB.	NOT THRU
3E,12	GOLD.BLACK TR	C CAB	2L,8R,	YELLOW	B CAB	8L,12C,		·	1T,-J,	YELLOW	B CAB	LP,-1	MAROON	C CAB		
3E,-13C,	NO WIRE	SOLDER	2L,6C,	WHITE	A CAB	9L,-5R,	RED & WHITE	·	4L,4L,	GREEN	JUMP	12L,12L,	GREEN	JUMP		

TOP VIEW OF RADIO SET WIRING
Model 31 DC 50,002

CODE	COLOR	TYPE
5E,9R,	BLACK	JUMP
1XC,1R,	·	·
2-2T,	BLUE	·
5-11R,	RED	·
5 [illegible]	·	·
6-11R,	RED & WHITE	·
9C,2L,	YELLOW	·
19C,LR,	WHITE	·
2L,6K,	·	LEAD
2L,7K,	YELLOW	·
2L,9X,	GREEN	[illegible]


UX171A
UX 171A
1647-SA
TERMINAL BOARD
1659-SA
4310 P
4316 P
4330 P
② 1694-SA
LINE-CHOKE
COIL ASSEMBLY

POWER UNIT WIRING
Model 31 D. C. [illegible],004
COLONIAL RADIO CORPORATION


1447-P
1452-P
1623-SA
1474-P
1681-P
A CABLE
4325 P
4316-P
4312-P
4313-P
B CABLE
4326 P
1474-P
4309-P
4309-P
4309 P
4324-P
1563 SA
4315-P
"C"-CABLE
& PLUG 1692-SA

CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	COLOR	TYPE	CODE	TYPE
1E,1L,	BLACK	B C/[illegible]	1L,1R,	RED	B CAB	[illegible]C 13,	BLACK	C CAB	1 LP,	MAROON	C CAB	5C,2R,	Solder
1E,4R,	BLUE	·	1L,[illegible]C		JUMP	[illegible]C-2[illegible]	·	·	15C,15C,	YELLOW	JUMP	1C,-A	·
1E,1R,	WHITE	·	1C-15C,	BLUE	B CAB	[illegible]	·	·	[illegible]		·	3G-J3	MTG
2E,6R,	BLUE	·	4[illegible] 1G	GREEN	JUMP	1R,3,	RED	·	[illegible]	·	·		
2E,4R,	WHITE		5C,1R,	RED & WHITE	·	1R,-1P,	BLUE	·	6C,15C,	BLACK	·		
3E,12	GOLD BLACK TR	C CAB	5C,6C,	GREEN	A CAB	1,15C,	WHITE	·	1R,1T,	RED	·		
3C,6R,	(WHITE)*		6C,2L,	WHITE	·	J,1T,	YELLOW	·	16C,7R,	WHITE	·		
4E,15C	GREEN	B CAB	6C,2L,	BLUE	·	2L,1R,	·	·	17C,8R,	RED & WHITE	·		
4C,7T,	BLUE	JUMP	7C-1R,	WHITE	B CAB	5C,8R,	(YELLOW)*	C CAB	[illegible]C 9	BLACK	C CAB		
4C,8R,	WHITE	·	8C-4C,	RED & WHITE	·	10-8R,	RED,BLACK TR	·	J,7	YELLOW	·		
5C,2	BLUE	C CAB	9C-6R,	GREEN	·	J-2G	GREEN	·	9-5E,	BLACK,RED TR	·		
1L,1E,	YELLOW	JUMP	2C G		·	6-17C,	RED	·	*	DOES NOT PASS THRU C CAB			

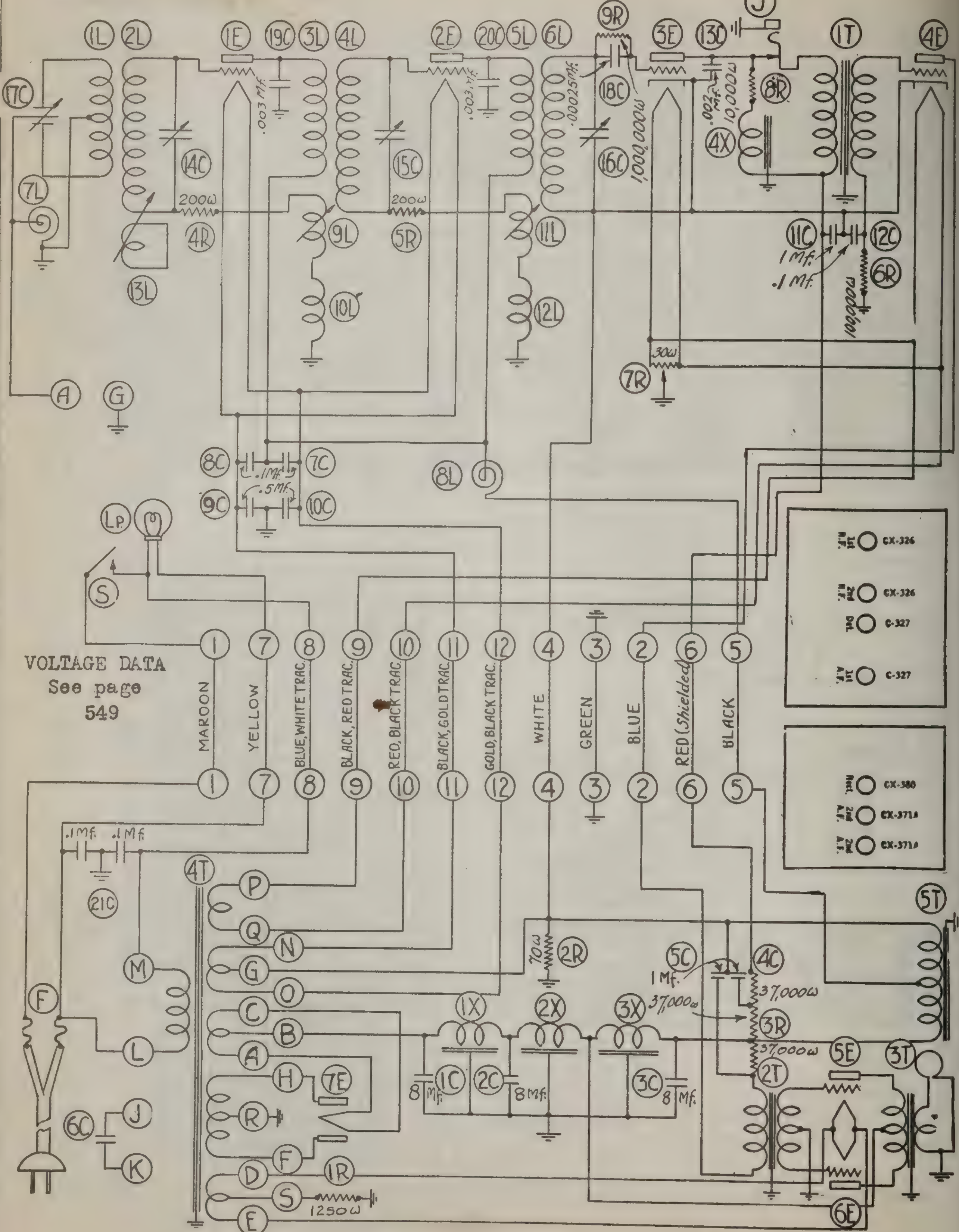
BOTTOM VIEW OF RADIO SET WIRING
Model 31 DC 50,003
COLONIAL RADIO CORPORATION

STAGE	TUBE	GRID VOLTAGE		FILAMENT VOLTAGE				PLATE VOLTAGE		PLATE CURRENT	
		AT SOCKET		AT TRANSFORMER		AT SOCKET		AT SOCKET		AT SOCKET	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
1ST R.F.	UX-226	-4.5	-6.1	1.53	1.77	1.35	1.55	95	125	6	9
2ND R.F.	UX-226	-4.5	-6.1	1.53	1.77	1.35	1.55	95	125	6	9
DETECTOR	UY-227	0	0	1.98	2.42	1.75	2.15	30	40	2	3
1ST A.F.	UY-227	-4.5	-6.1	1.98	2.42	1.75	2.15	80	110	3	4
2ND A.F.	UX-171A	-38	-52	4.6	5.10	4.55	5.05	160	220	15	21
3RD A.F.	UX-171A	-38	-52	4.6	5.10	4.55	5.05	160	220	15	21
RECTIFIER	UX-280	—	—	4.6	5.10	4.55	5.05	—	—	42	58

TUBE CURRENT AND VOLTAGE CHART
Model 31 AC 60001-5001

MODEL 31 AC

COLONIAL RADIO CORP.


1L
2L
1E
19C
3L
4L
2E
20C
5L
6L
9R
3E
13C
J
1T
4E
17C
7L
14C
200ω
4R
13L
.003 Mf.
9L
10L
15C
200ω
5R
.003 Mf.
11L
12L
.00025 Mf.
18C
16C
1,000,000ω
.002 Mf.
10,000ω
8R
4X
11C
12C
1 Mf.
.1 Mf.
6R
100,000ω
30ω
7R
A
G
8C
7C
.1 Mf.
.5 Mf.
9C
10C
8L
Lp.
S
1
7
8
9
10
11
12
4
3
2
6
5
MAROON
YELLOW
BLUE, WHITE TRAC.
BLACK, RED TRAC.
RED, BLACK TRAC.
BLACK, GOLD TRAC.
GOLD, BLACK TRAC.
WHITE
GREEN
BLUE
RED (Shielded)
BLACK
1st R.F. CX-326
2nd R.F. CX-326
Det. C-327
1st A.F. C-327
Rect. CX-380
2nd A.F. CX-371A
2nd A.F. CX-371A
.1 Mf.
.1 Mf.
21C
4T
P
Q
N
G
O
C
B
A
H
R
F
D
S
E
M
L
F
6C
J
K
7E
1R
1250ω
70ω
2R
1X
2X
3X
1C
2C
3C
8 Mf.
8 Mf.
8 Mf.
5C
1 Mf.
4C
37,000ω
37,000ω
3R
37,000ω
2T
5E
3T
5T
6E

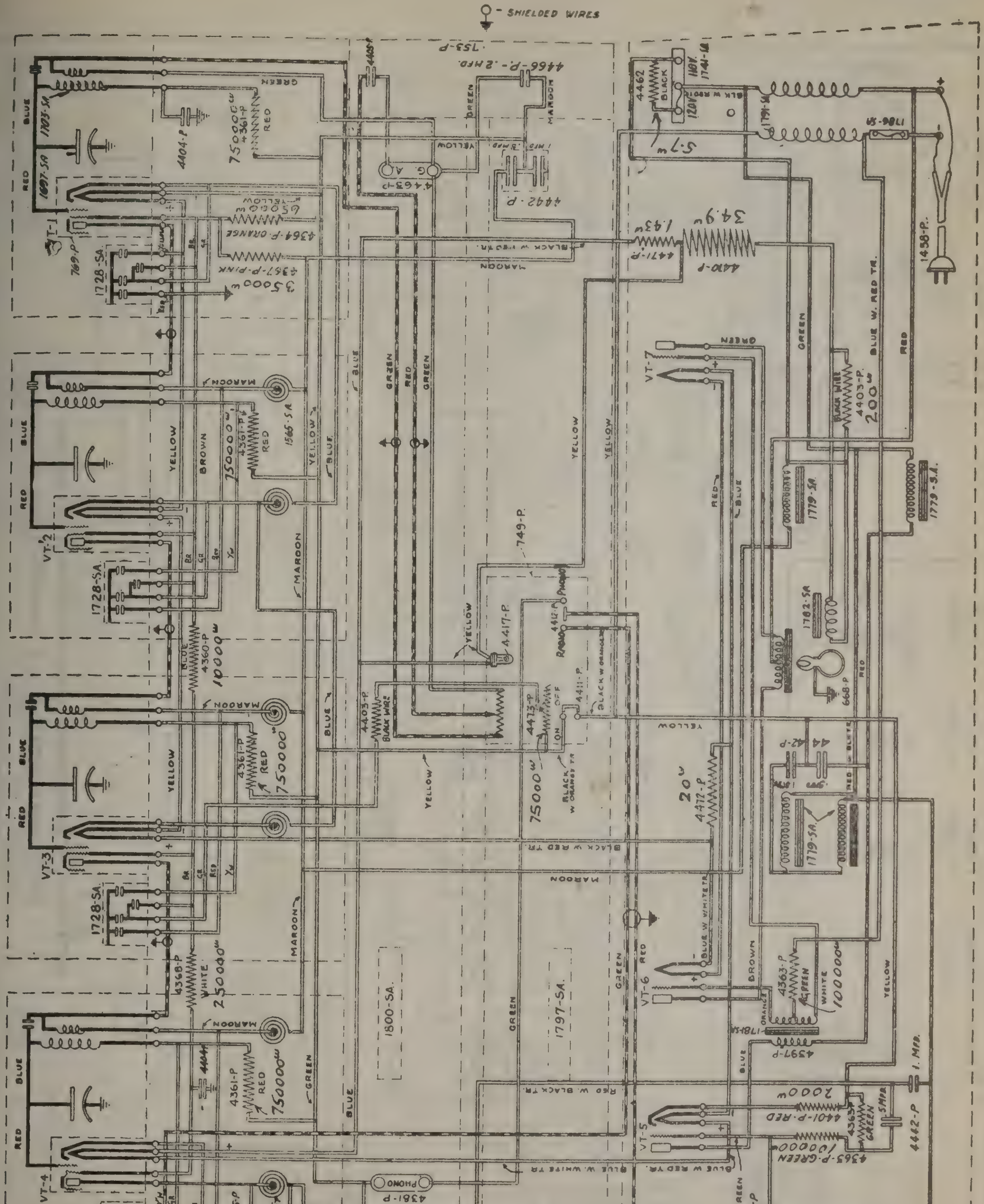
VOLTAGE DATA
See page
549

CIRCUIT DIAGRAM

MODEL 31 AC 60001-5001

COLONIAL RADIO CORP.

MODEL 32 DC
Chassis

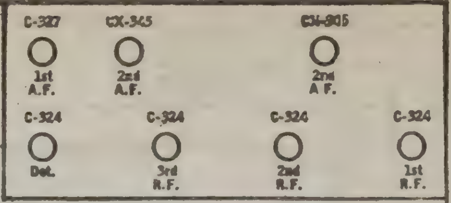

SHIELDED WIRES
153-P
4466-P-.2 MFD.
4465-P
4462
BLACK
120V
18V
1741-SA
1791-SA
45-98L1
5.7ω
1458-P
4404-P
4361-P
75000ω
RED
GREEN
MAROON
YELLOW
4463-P
G A
4442-P
1 MFD.
4364-P-ORANGE
65000ω
4367-P-PINK
35000ω
4471-P
1.43ω
34.9ω
4470-P
BLACK W RED TR.
VT-1
769-P
1728-SA
1897-SA
1103-SA
BLUE
RED
VT-2
VT-3
VT-4
VT-5
VT-6
VT-7
BROWN
1565-SA
4360-P
10000ω
749-P
4417-P
PHONO
RADIO
4411-P
4412-P
4413-P
75000ω
ON OFF
BLACK W ORANGE TR
4405-P
BLACK WIRE
4472-P
20ω
1779-SA
1779-S.A.
1782-SA
668-P
4403-P
200ω
BLUE W. RED TR.
4368-P
WHITE
250000ω
1800-SA.
1797-SA.
4363-P
100000ω
1781-SA
4397-P
RED W. BLACK TR.
4401-P-RED
2000ω
4365-P-GREEN
100000ω
.5 MFD.
4442-P
BLUE W WHITE TR.
BLUE W RED TR.
4381-P
4365-P-BLACK
50000ω
4404-P
1780-SA.
754-P
745-P
782-P

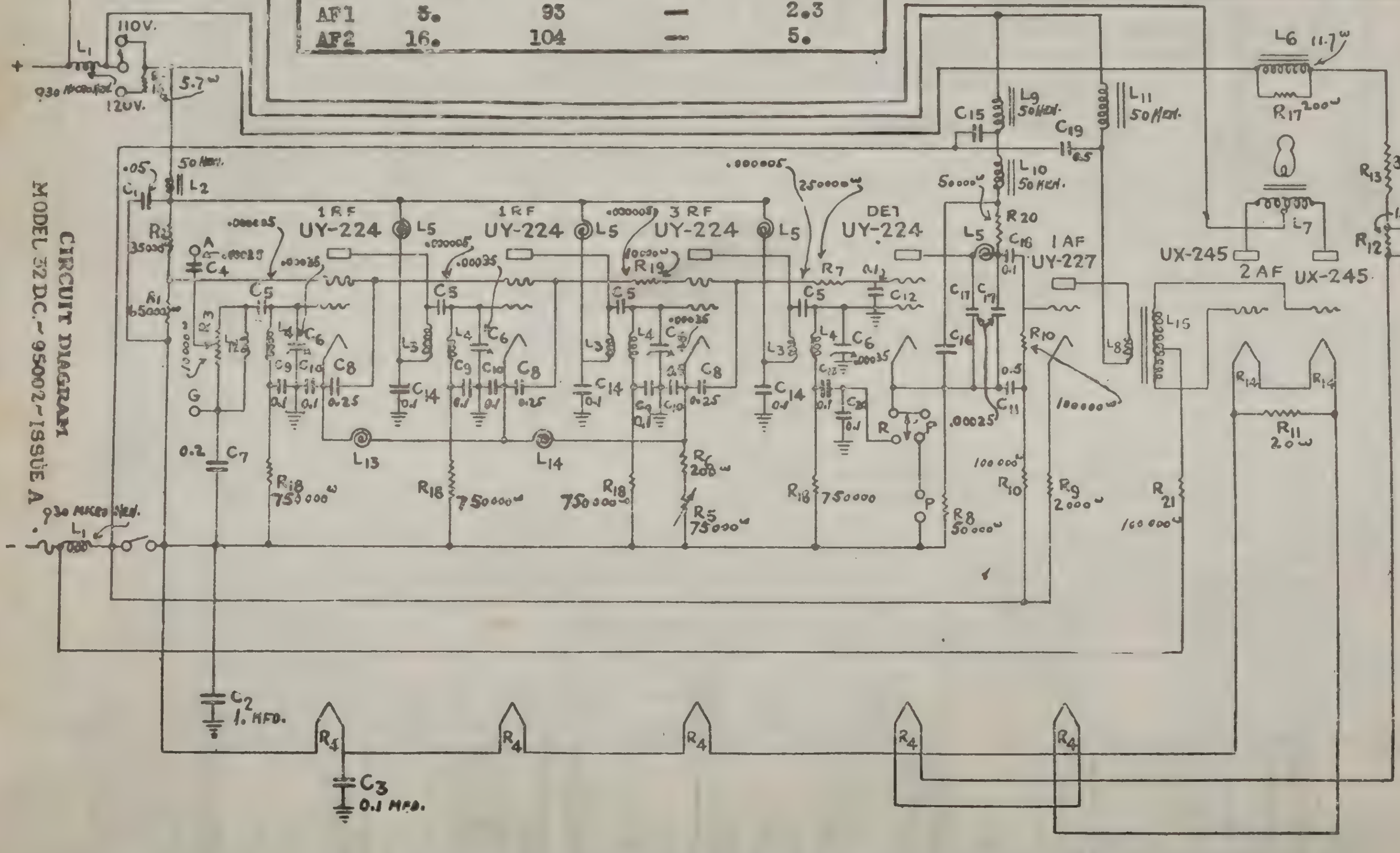
SCHEMATIC DIAGRAM
Model 32 D.C. ~ 95001 ~ Issue A

MODEL 32 DC

COLONIAL RADIO CORP.

Tube	Plate Current	Plate Voltage	Screen Voltage	Grid Voltage
RF1	1.3	91	32	cannot
RF2	1.3	91	32	be
RF3	1.2	92	27	read upon
Det	.15	81	5	meter
AF1	5.	93	—	2.3
AF2	16.	104	—	5.


C-327
1st A.F.
UX-345
2nd A.F.
CX-305
2nd A.F.
C-324
Det.
C-324
3rd R.F.
C-324
2nd R.F.
C-324
1st R.F.


110V.
120V.
930 MICROHM
5.7 ω
L1
+
−
.05
C1
50 HEN.
L2
R3
3500 ω
R1
6500 ω
A
.00025
C4
G
0.2
C7
C2
1. MFD.
C3
0.1 MFD.
1 RF
UY-224
3 RF
DET
1 AF
UY-227
2 AF
UX-245
L5
L3
L4
L13
L14
C5
C6
C8
C9
C10
C12
C14
.000005
.00035
0.1
0.25
R7
250000 ω
R19
10000 ω
R18
750000 ω
R6
200 ω
R5
75000 ω
R8
50000 ω
R10
100000 ω
R9
2000 ω
R21
100000 ω
R20
5000 ω
C16
C17
C11
.00025
0.5
R
P
L8
L9
50 HEN.
L10
50 HEN.
L11
50 HEN.
C15
C19
0.5
L6
11.7 ω
R17
200 ω
L7
L15
R14
R11
20 ω
R13
34.9 ω
R12
1.43 ω
R15
R4

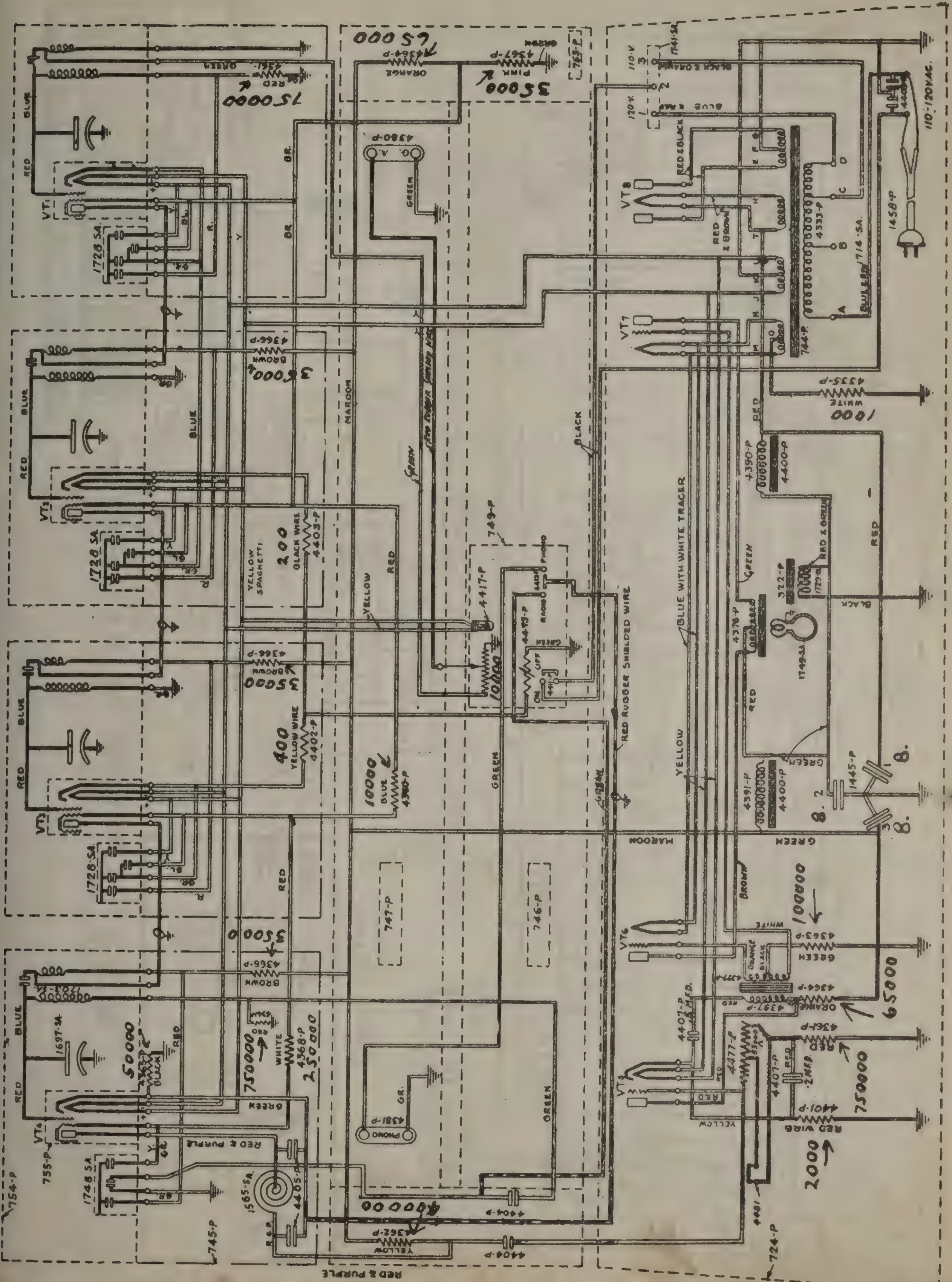
CIRCUIT DIAGRAM
MODEL 32 D.C.~95002~ISSUE A

NOTE :- ALL GROUND CONNECTIONS SHOWN ARE TO CHASSIS.
C-5 IS BUILT INTO THE R.F. TRANSFORMER.

Chassis layout on next page.

COLONIAL RADIO CORP.

MODEL 32 AC
Chassis



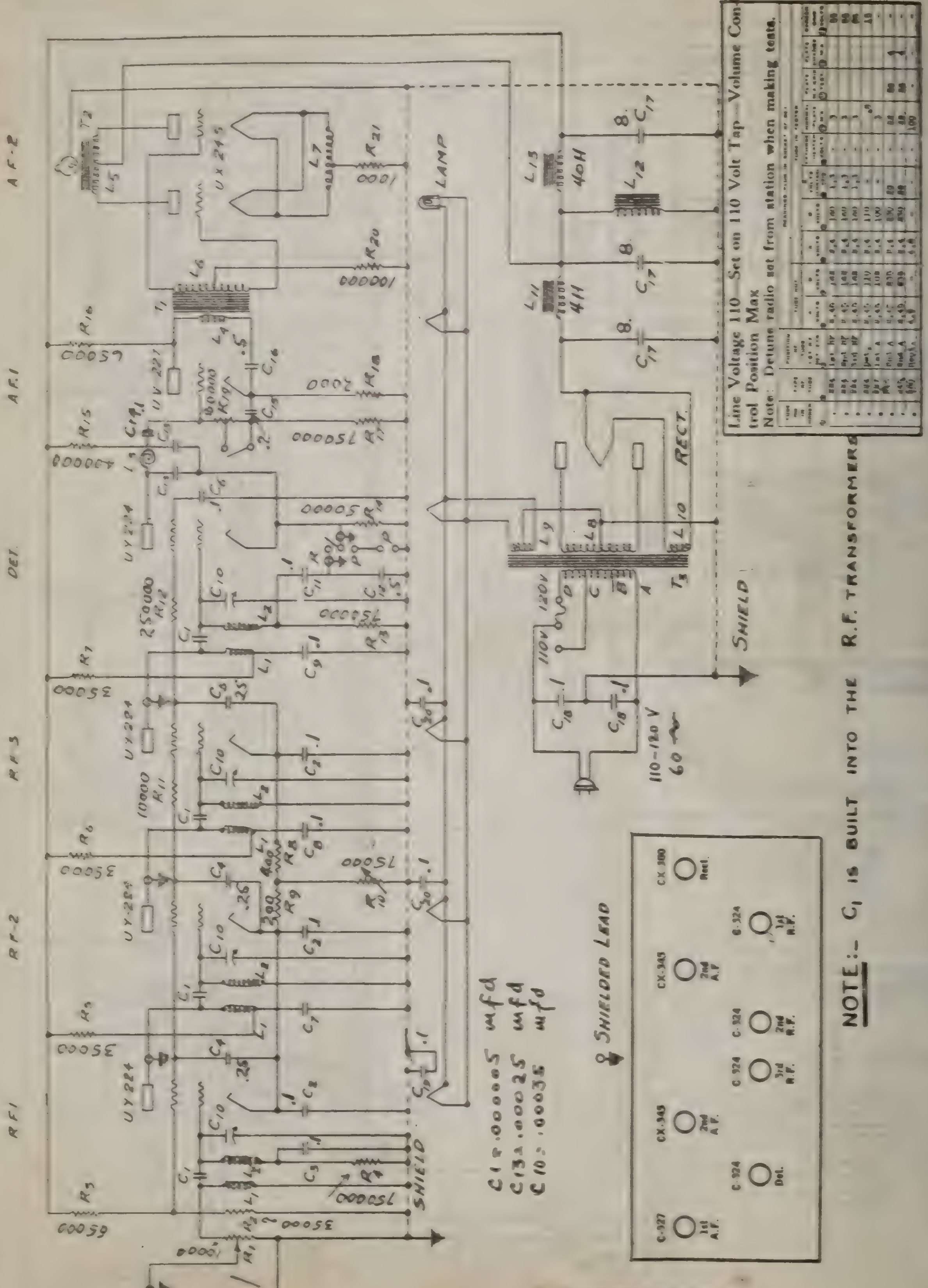
VT1
VT2
VT3
VT4
VT6
VT6
VT7
VT8
1728 SA.
1728 SA.
1728 SA.
1748 SA.
1697 SA.
1565 SA.
150000
4361-P
RED
GREEN
65000
4364-P
ORANGE
35000
4367-P
PINK
4380-P
GREEN
4366-P
BROWN
35000
35000
35000
200
BLACK WIRE
4403-P
YELLOW SPAGHETTI
400
YELLOW WIRE
4402-P
10000
BLUE
4380-P
50000
750000
WHITE
4368-P
250000
400000
4404-P
4362-P
YELLOW
4405-P
4406-P
RED & PURPLE
GREEN
747-P
746-P
745-P
754-P
755-P
4381-P
PHONO
GR.
749-P
4417-P
4418-P
RADIO
PHONO
OFF
ON
10000
BLUE
RED
MAROON
YELLOW
GREEN
BLACK
RED RUBBER SHIELDED WIRE
BLUE WITH WHITE TRACER
110 V.
120 V.
1741-SA.
BLACK & ORANGE
BLUE & RED
RED & BLACK
RED & BROWN
4333-P
714-SA.
744-P
BULL BAR
1458-P
110-120 V. AC.
4335-P
WHITE
1000
4390-P
4400-P
322-P
RED & GREEN
1749-SA.
4376-P
4391-P
4400-P
1445-P
8.
8.
8.
100000
4363-P
WHITE
GREEN
65000
4364-P
ORANGE
4397-P
4407-P
4361-P
750000
4401-P
RED WIRE
2000
4407-P
.2 MFD.
4477-P
724-P
BROWN
ORANGE
BLACK

SCHEMATIC DIAGRAM

Model 32 A.C. 100001-Issue-J

MODEL 32 AC
Schematic

COLONIAL RADIO CORP.


R F 1
R F-2
R F 3
DET.
A F. 1
A F-2
UY 224
UY-224
UY 224
UY 224
UY 227
UX 245
RECT.
LAMP
SHIELD
SHIELDED LEAD
T1
T2
T3
L1
L2
L4
L5
L6
L7
L8
L9
L10
L11
L12
L13
40H
41H
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C20
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
65000
35000
35000
35000
150000
150000
15000
10000
250000
50000
150000
400000
150000
2000
80000
65000
100000
1000
300
400
.25
.25
.25
.1
.5
.2
8.
110V
120V
110-120 V
60 ~
D
C
B
A
A
G
C1 = .00005 mfd
C13 = .00025 mfd
C10 = .00035 mfd
C-327 1st A.F.
C-324 Det.
CX-345 2nd A.F.
C-324 3rd R.F.
C-324 2nd R.F.
CX-345 2nd A.F.
C-324 1st R.F.
CX 380 Rect.

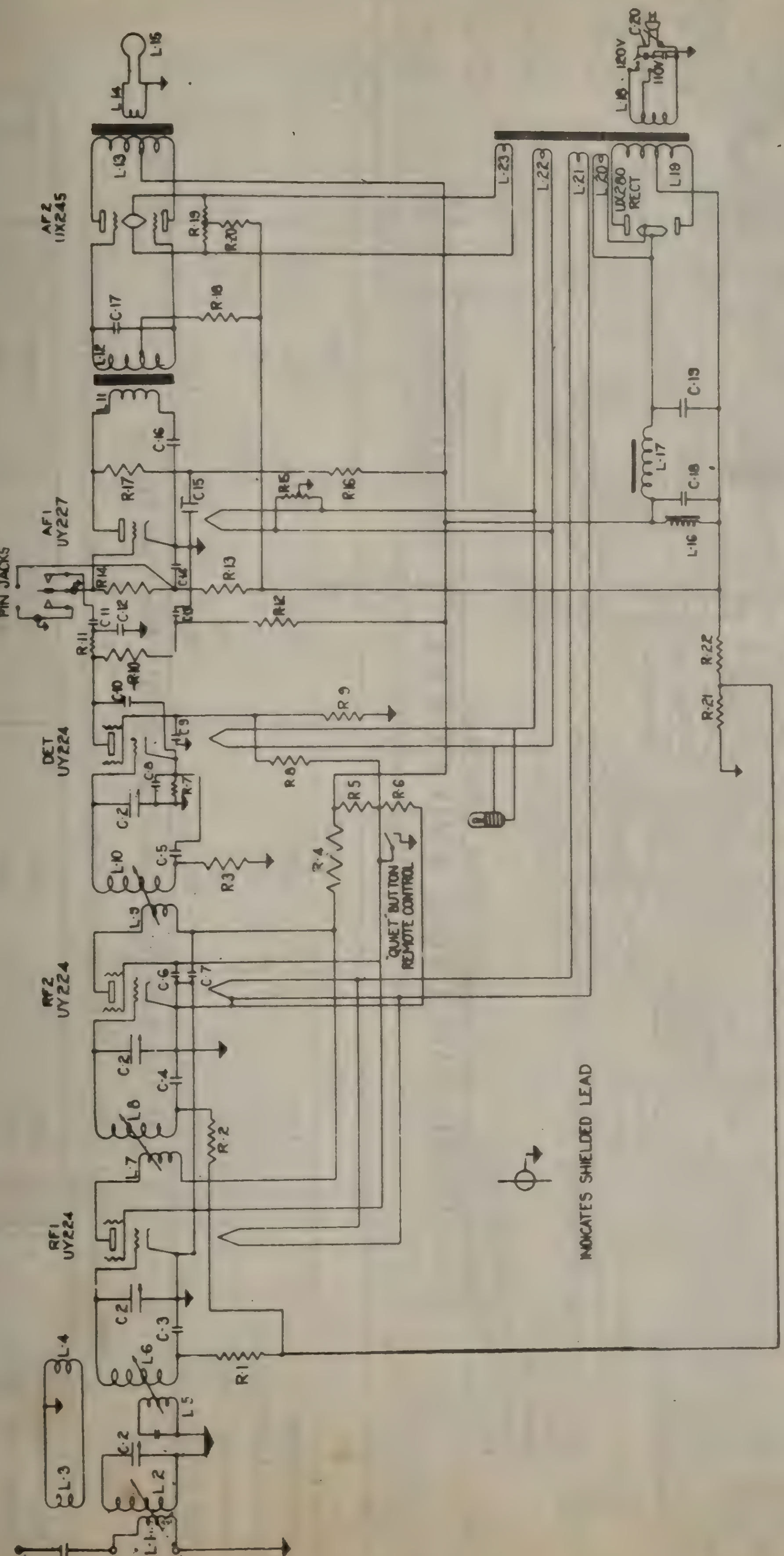
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max
Note: Detune radio set from station when making tests.

NOTE:- C1 IS BUILT INTO THE R.F. TRANSFORMERS

CIRCUIT DIAGRAM
MODEL 32 AC – 100002 - ISSUE J

COLONIAL RADIO CORP.

MODEL 33,34,35 AC
Schematic


LA
C-1
SA
L-1
G
L-2
C-2
L-3
L-4
L-5
L-6
C-2
C-3
R-1
RF1 UY224
L-7
L-8
C-2
C-4
R-2
RF2 UY224
C-6
C-7
L-9
L-10
C-5
R3
R-4
R5
R6
"QUIET" BUTTON REMOTE CONTROL
C-2
C-8
R-7
DET UY224
C-9
R-8
R-9
C-10
R-10
R-11
C-11
C-12
PHONO PIN JACKS
R-14
C-14
C-13
R-13
R-12
AF1 UY227
C-15
R-15
R-16
R-17
C-16
L-11
L-12
C-17
R-18
AF2 UX245
R-19
R-20
L-13
L-14
L-15
L-23
L-22
L-21
L-20
UX280 RECT
L-19
L-18
120V
110V
C-20
C-13
L-17
C-18
L-16
R-21
R-22
INDICATES SHIELDED LEAD

NOTE—In the 25 cycle models, R_3 is shorted out and there is an additional 1 mfd. condenser connected from the R.F. screen-grids to ground.

Electrical values on next page.

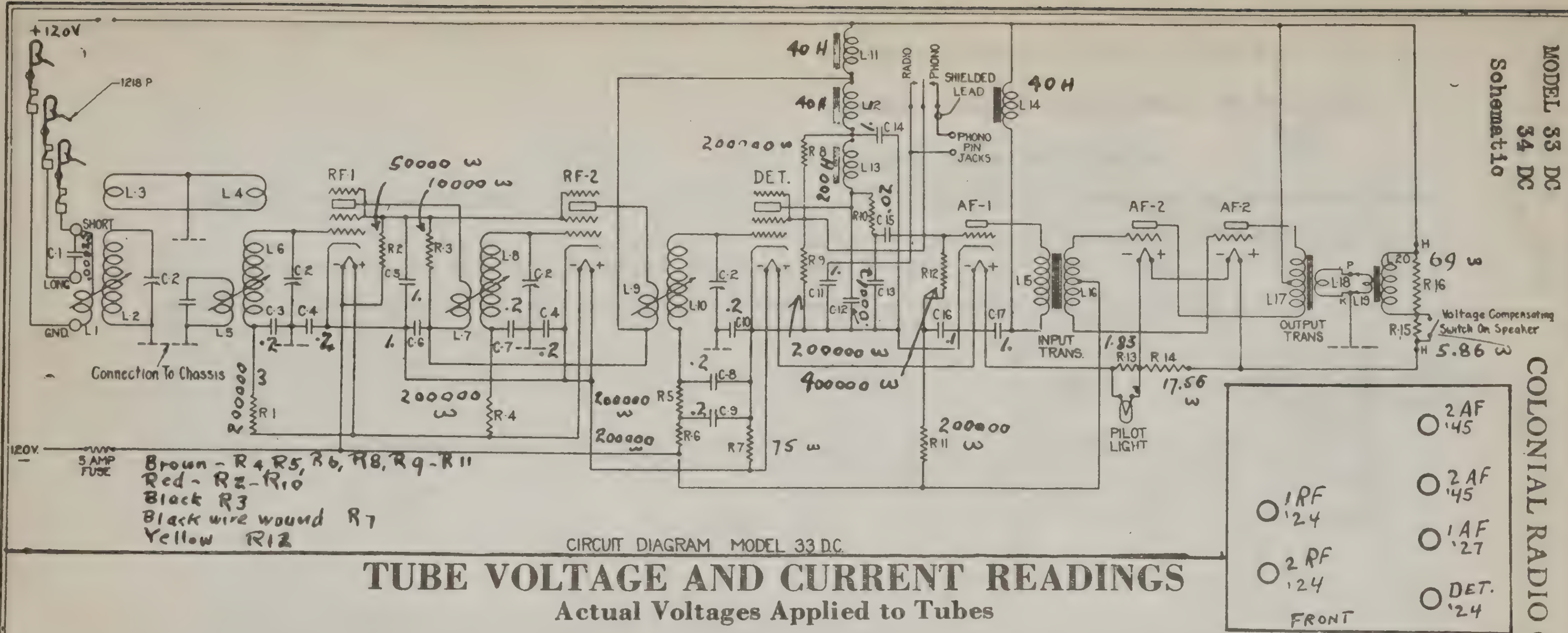
Socket layout on page 560

Remote Control tuning notes on page 560

Remote Control circuit on page 561

MODEL 33 DC
34 DC
Schematic

COLONIAL RADIO CORP.


+120V
1218 P
SHORT
LONG
GND
C-1
L1
L-2
C-2
L-3
L4
L5
L6
C-3
C-4
C2
·2
·2
Connection To Chassis
3
2
R1
RF1
50000 ω
10000 ω
R2
R-3
C5
1.
C6
L-7
L-8
C-7
·2
·2
C4
200000 ω
R-4
RF-2
L-9
L-10
C-2
.2
C10
.2
C-8
.2
C-9
R5
200000 ω
200000
R6
R7
75 ω
40 H
L-11
40 H
L12
C14
1.
L13
200000 ω
R8
200 H
.02
R10
C15
DET.
R9
1.
C11
C12
.0001
C13
R12
C16
.1
200000 ω
400000 ω
200000 ω
R11
RADIO
PHONO
SHIELDED LEAD
PHONO PIN JACKS
40 H
L14
AF-1
C17
1.
L15
L16
INPUT TRANS.
AF-2
AF-2
1.83
R13
R14
17.56 ω
PILOT LIGHT
L17
OUTPUT TRANS
P
L18
K
L19
L20
H
69 ω
R16
R15
Voltage Compensating Switch On Speaker
H
5.86 ω
120V.
5 AMP FUSE
Brown - R4, R5, R6, R8, R9 - R11
Red - R2 - R10
Black R3
Black wire wound R7
Yellow R12
2 AF '45
2 AF '45
1 AF '27
DET. '24
1 RF '24
2 RF '24
FRONT

CIRCUIT DIAGRAM MODEL 33 D.C.

TUBE VOLTAGE AND CURRENT READINGS

Actual Voltages Applied to Tubes

	RF1	RF2	Det.	AF1	AF2
Plate Voltage	110v.	110v.	105v.	110v.	110v.
Control-Grid Voltage	-2.3	-2.3	-4.8	-4.8	-13
Screen-Grid Voltage	72	72	40		
Plate Current	2.5 m.a.	2.5 m.a.	0.8 m.a.	4 m.a.	15 m.a.

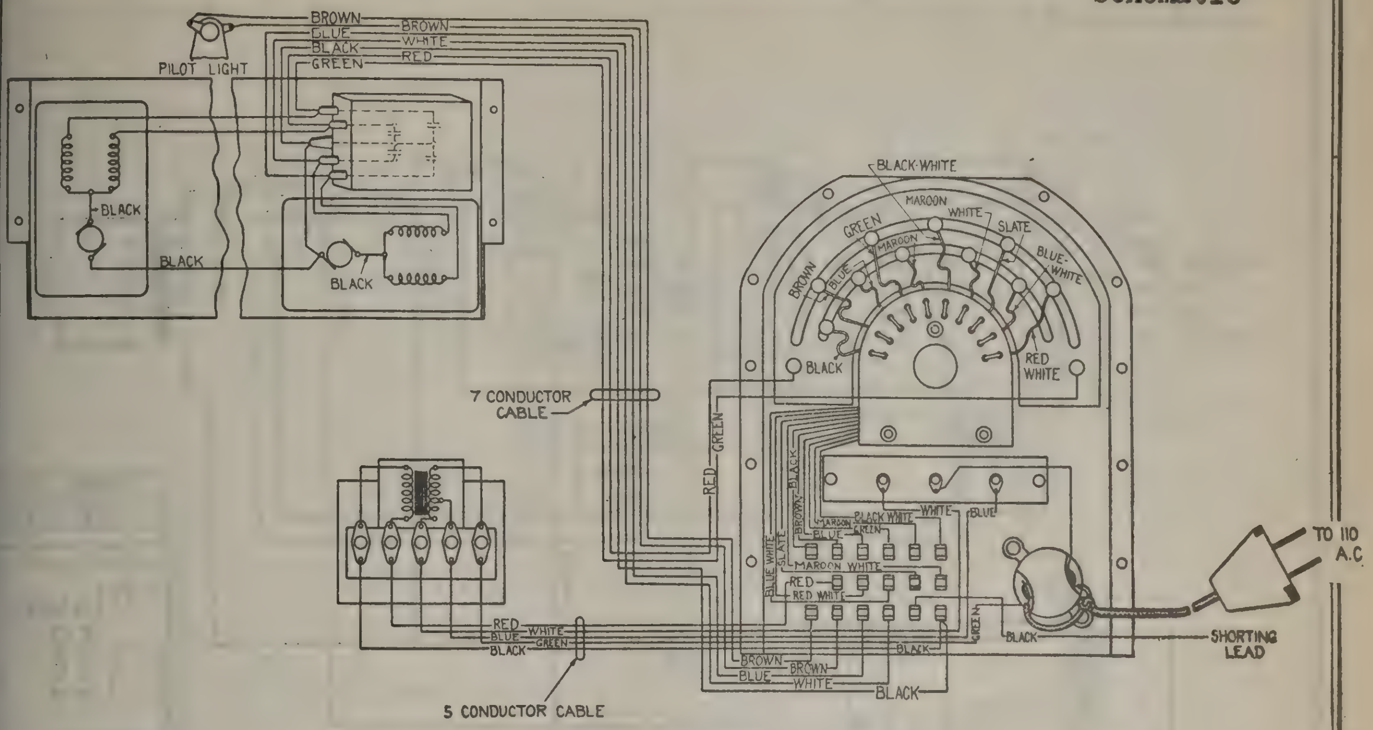
Voltages as Read on a 1000 OHMS Per Volt Meter

Plate Voltages on the 250 v. scale; Control-Grid Voltages on the 50 v. scale; Screen-Grid Voltages on the 100 v. scale

Plate Voltage	100 v.	100 v.	85 v.	100 v	100 v.
Control-Grid Voltage	-0.6	-0.6	-0.5	0.35	12
Screen-Grid Voltage	68	68	10		
Plate Current	2.5 m.a.	2.5 m.a.	0.8 m.a.	4 m.a.	15 m.a.

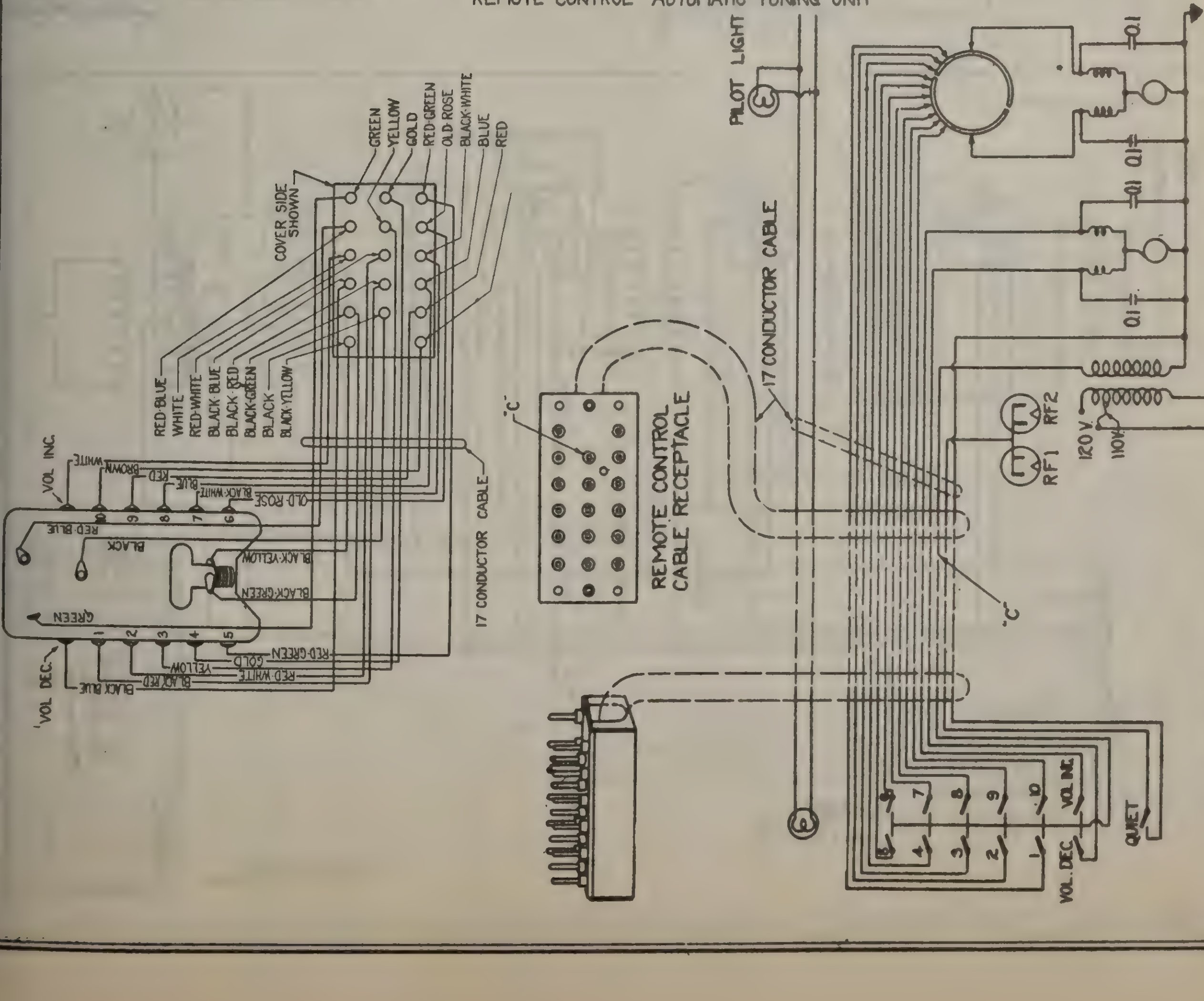
COLONIAL RADIO CORP.

MODEL 33,34,35 AC
Remote Control
Schematic


BROWN
BLUE
BLACK
GREEN
BROWN
WHITE
RED
PILOT LIGHT
BLACK
BLACK
BLACK
7 CONDUCTOR CABLE
BLACK-WHITE
MAROON
WHITE
SLATE
BLUE-WHITE
GREEN
MAROON
BROWN
BLUE
BLACK
RED WHITE
RED GREEN
BLACK
SLATE
BROWN
BLUE
BLUE WHITE
MAROON
BLACK WHITE
WHITE
GREEN
BLUE
MAROON WHITE
RED
RED WHITE
GREEN
BLACK
TO 110 A.C.
SHORTING LEAD
RED
WHITE
BLUE
GREEN
BLACK
BROWN
BLUE
BROWN
WHITE
BLACK
BLACK
5 CONDUCTOR CABLE

WIRING DIAGRAM

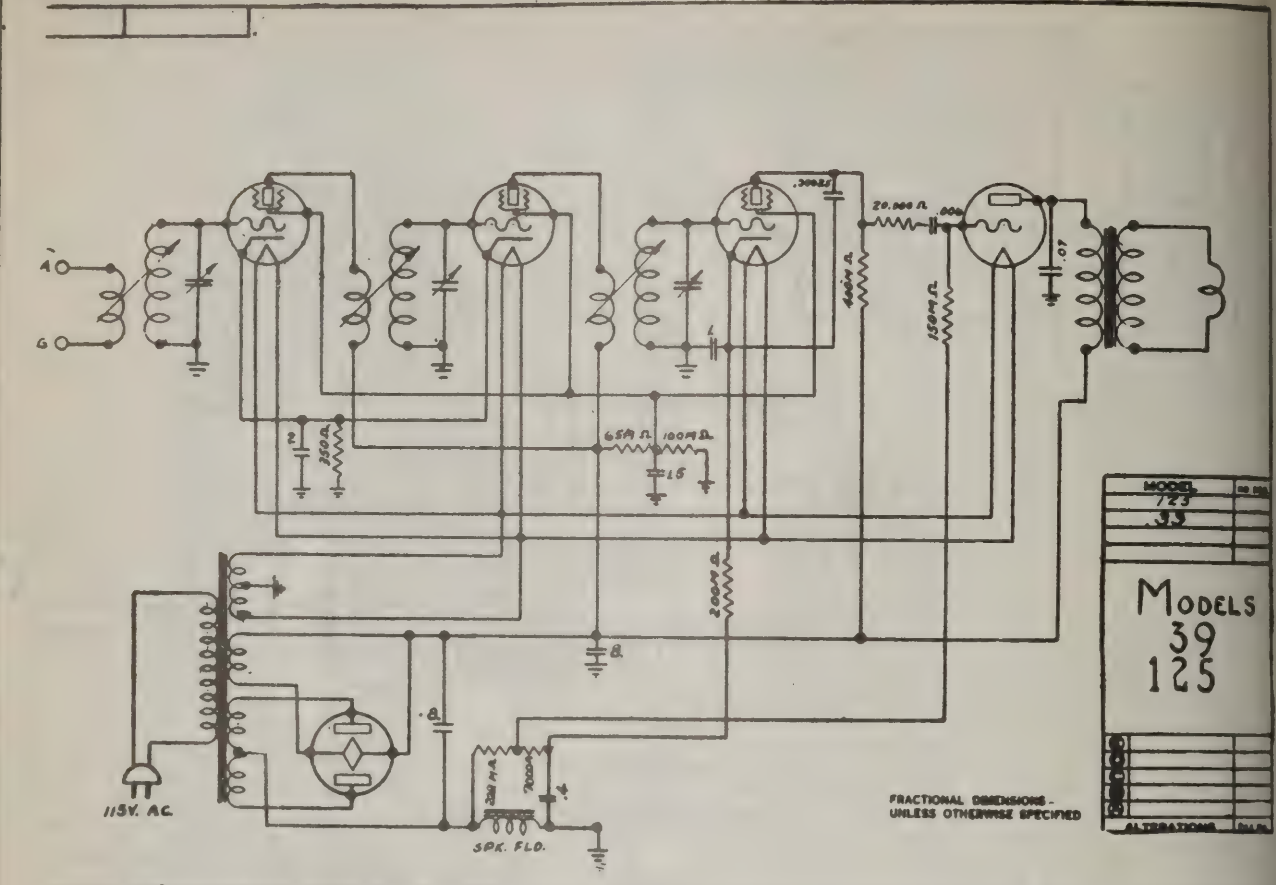
REMOTE-CONTROL AUTOMATIC-TUNING UNIT

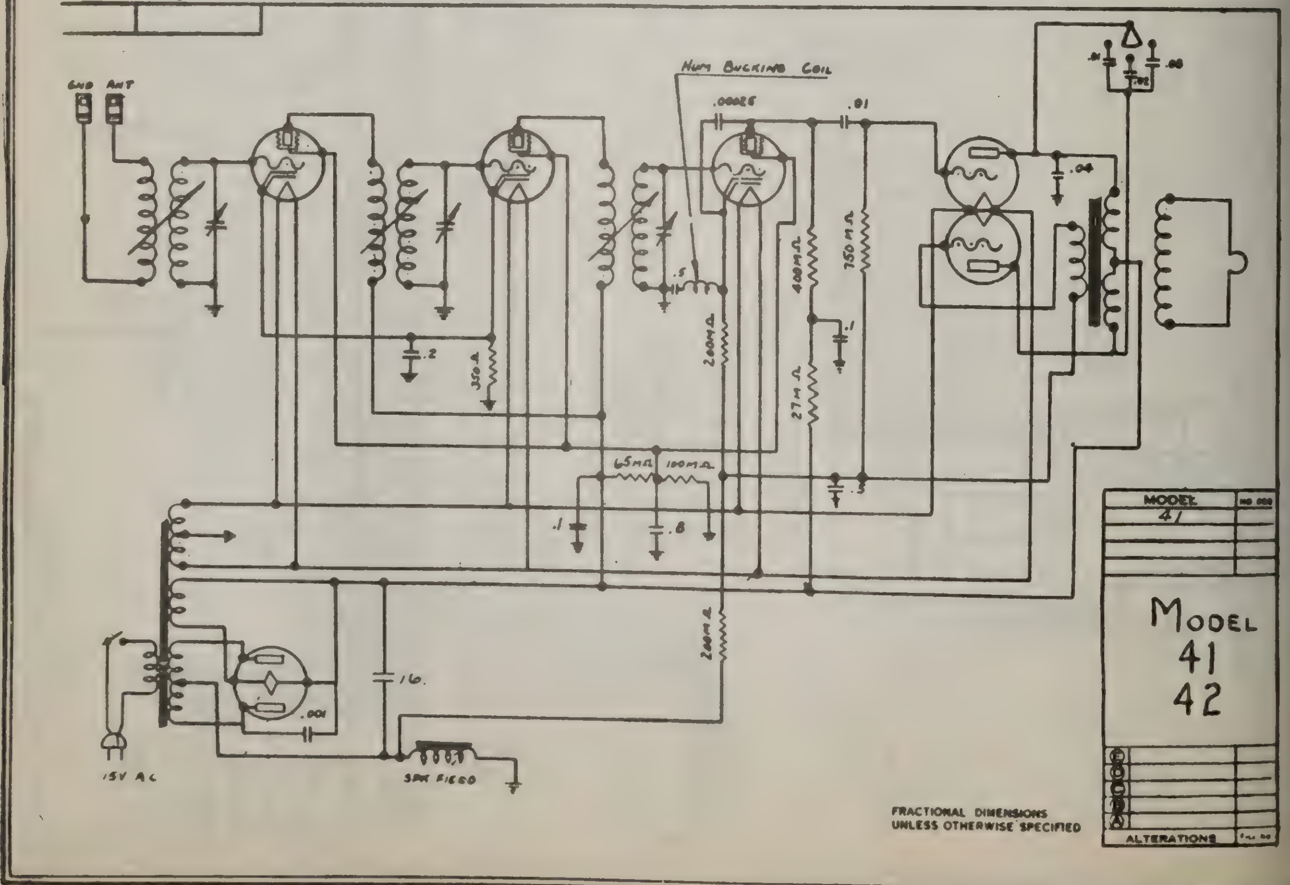

PILOT LIGHT
.01
.01
.01
.01
RF2
RF1
120 V
110 V
17 CONDUCTOR CABLE
'C'
'C'
REMOTE CONTROL CABLE RECEPTACLE
6
7
8
9
10
VOL INC.
QUIET
5
4
3
2
1
VOL DEC.
GREEN
YELLOW
GOLD
RED-GREEN
OLD ROSE
BLACK-WHITE
BLUE
RED
COVER SIDE SHOWN
RED-BLUE
WHITE
RED-WHITE
BLACK BLUE
BLACK RED
BLACK-GREEN
BLACK
BLACK-YELLOW
17 CONDUCTOR CABLE
VOL INC.
WHITE
BROWN
RED
BLUE
BLACK-WHITE
OLD-ROSE
RED BLUE
BLACK
BLACK-YELLOW
BLACK-GREEN
GREEN
1
2
3
4
5
6
7
8
9
10
RED-GREEN
GOLD
YELLOW
RED WHITE
BLACK RED
BLACK BLUE
VOL DEC.

CIRCUIT DIAGRAM
REMOTE-CONTROL AUTOMATIC-TUNING APPARATUS

MODEL 39, 125
MODEL 41,42
Schematics

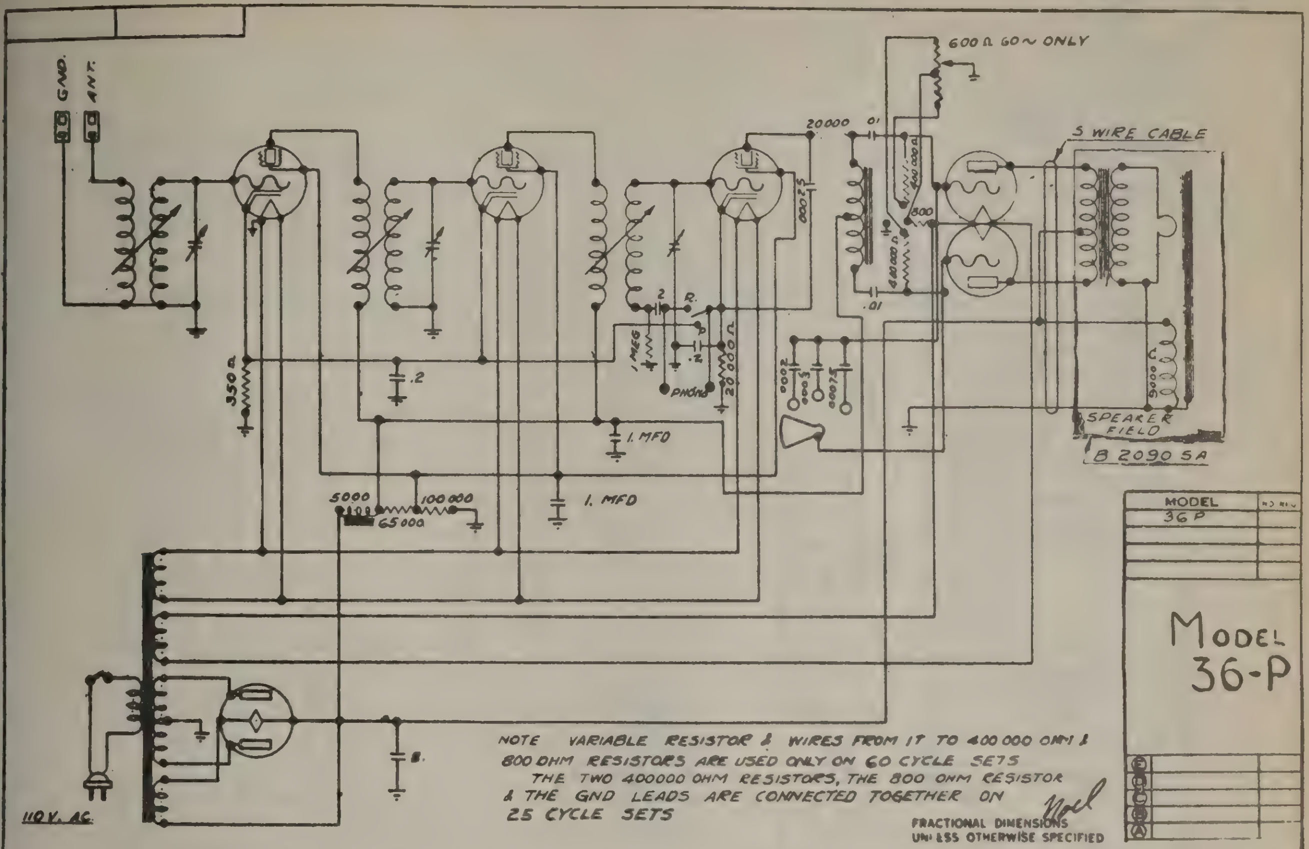
COLONIAL RADIO CORP.


A
G
.00025
20,000 Ω
.006
400MΩ
150MΩ
.07
1
350Ω
65MΩ
100MΩ
.15
200MΩ
.8
.8
250MA
2000Ω
.4
SPK. FLD.
115V. AC.
MODEL
125
39
MODELS
39
125
ALTERATIONS
FRACTIONAL DIMENSIONS -
UNLESS OTHERWISE SPECIFIED


GND
ANT
HUM BUCKING COIL
.00025
.01
.01
.02
.00
.04
.5
400MΩ
150MΩ
.1
200MΩ
27MΩ
.2
350Ω
65MΩ
100MΩ
.1
.8
.5
200MΩ
.16
.001
15V AC
SPK FIELD
MODEL
41
MODEL
41
42
ALTERATIONS
FRACTIONAL DIMENSIONS
UNLESS OTHERWISE SPECIFIED

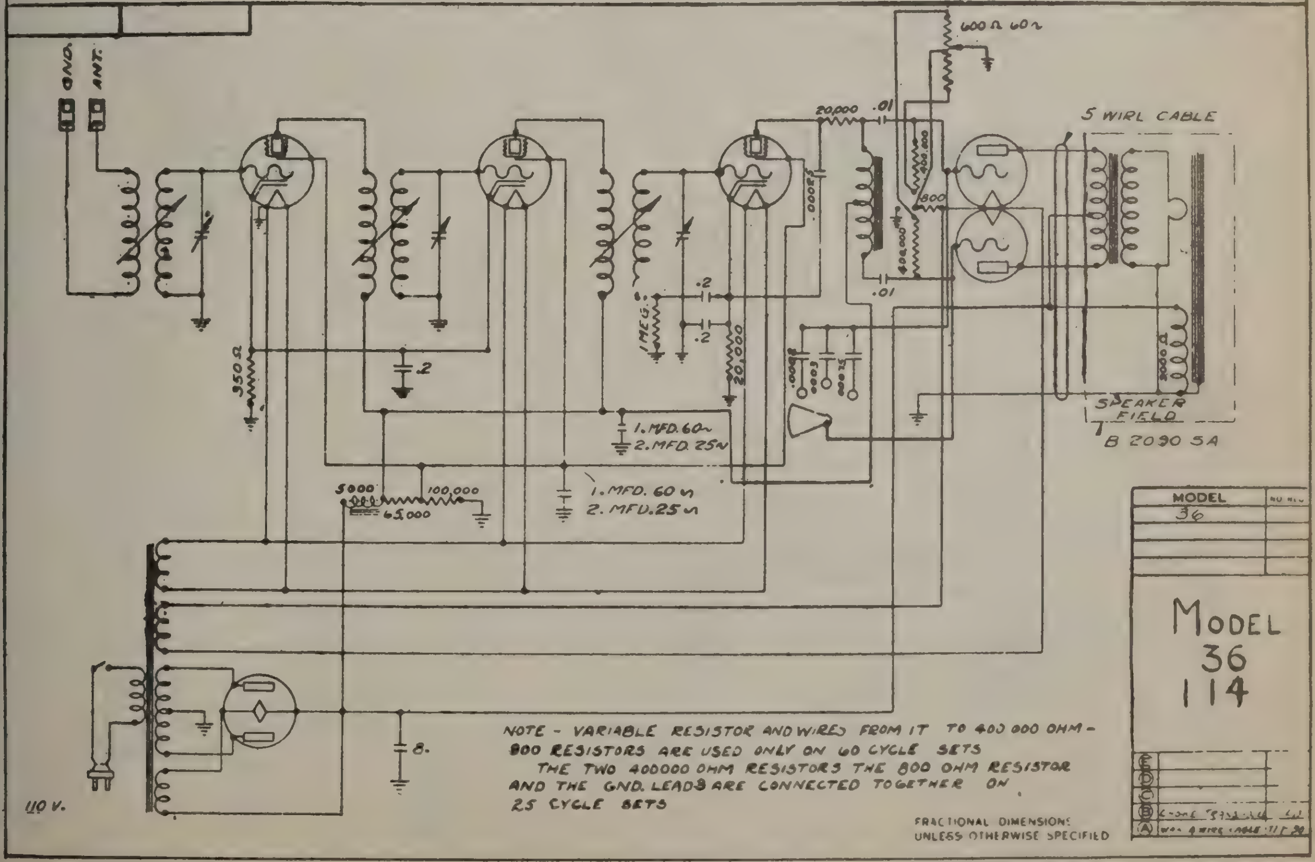
COLONIAL RADIO CORP.

MODEL 36
MODEL 36-P
MODEL 114


GND.
ANT.
600 Ω 60~ ONLY
20,000
.01
5 WIRE CABLE
.00025
400 000 Ω
800
.01
2
R.
1 MEG
PHONO
20 000 Ω
.2
350 Ω
.2
1. MFD
1. MFD
.0002
.0005
.00025
5000 Ω
SPEAKER FIELD
B 2090 5A
5000
100 000
65 000
8.
110 V. AC.
MODEL
36 P
MODEL 36-P
FRACTIONAL DIMENSIONS UNLESS OTHERWISE SPECIFIED

NOTE VARIABLE RESISTOR & WIRES FROM IT TO 400 000 OHM & 800 OHM RESISTORS ARE USED ONLY ON 60 CYCLE SETS
THE TWO 400000 OHM RESISTORS, THE 800 OHM RESISTOR & THE GND LEADS ARE CONNECTED TOGETHER ON 25 CYCLE SETS

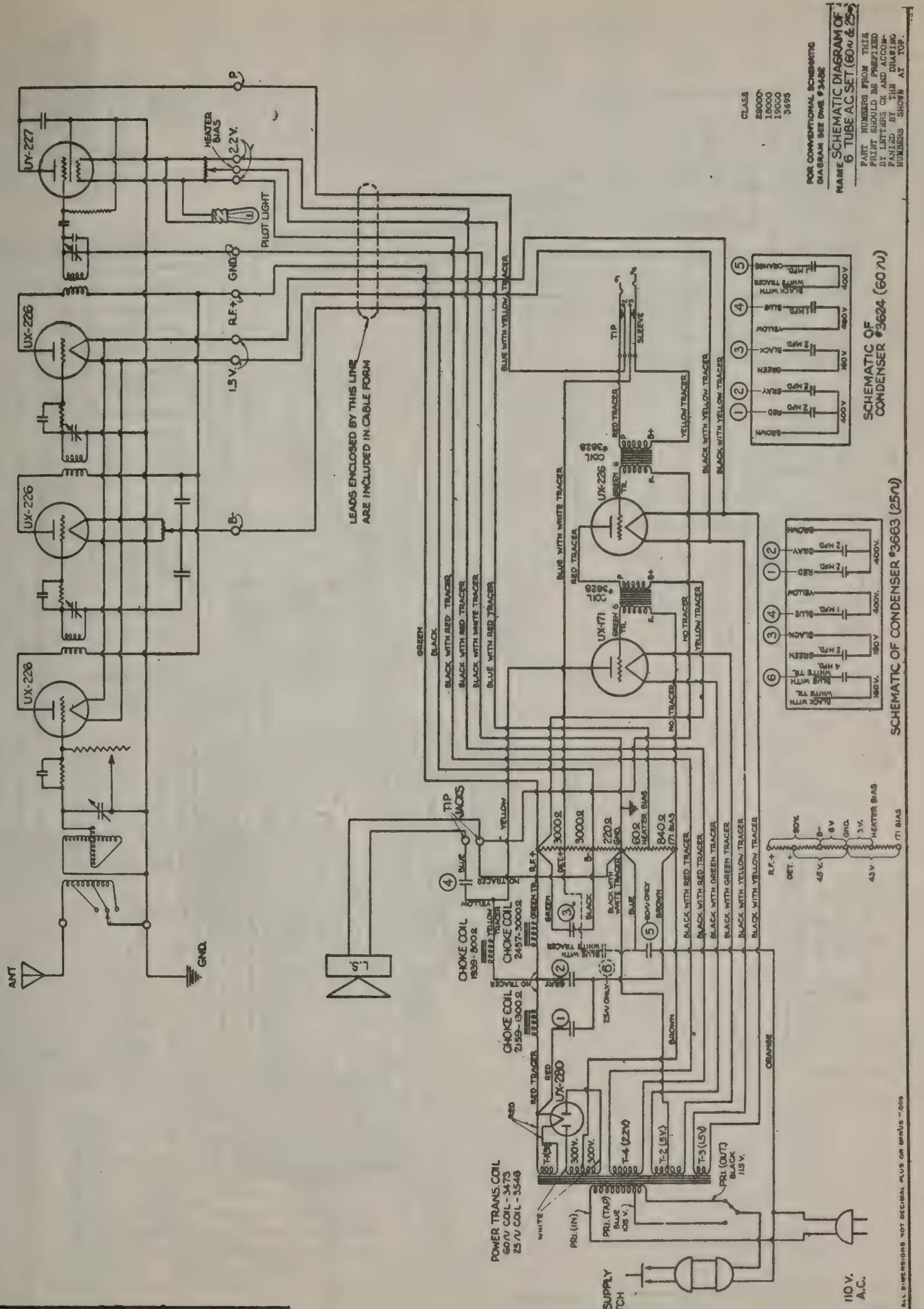
Noel

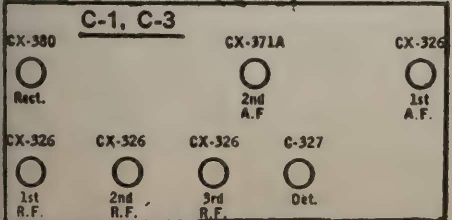

GND.
ANT.
600 Ω 60~
20,000
.01
5 WIRE CABLE
.00025
400 000
800
400 000
.01
.2
.2
1 MEG.
20,000
.0002
.0005
.00025
350 Ω
.2
1. MFD. 60~
2. MFD. 25~
1. MFD. 60~
2. MFD. 25~
5000 Ω
SPEAKER FIELD
B 2090 5A
5000
100,000
65,000
8.
110 V.
MODEL
36
MODEL 36 114
FRACTIONAL DIMENSIONS UNLESS OTHERWISE SPECIFIED

NOTE - VARIABLE RESISTOR AND WIRES FROM IT TO 400 000 OHM - 800 RESISTORS ARE USED ONLY ON 60 CYCLE SETS
THE TWO 400000 OHM RESISTORS THE 800 OHM RESISTOR AND THE GND. LEADS ARE CONNECTED TOGETHER ON 25 CYCLE SETS

COLUMBIA PHONOGRAPH COMPANY

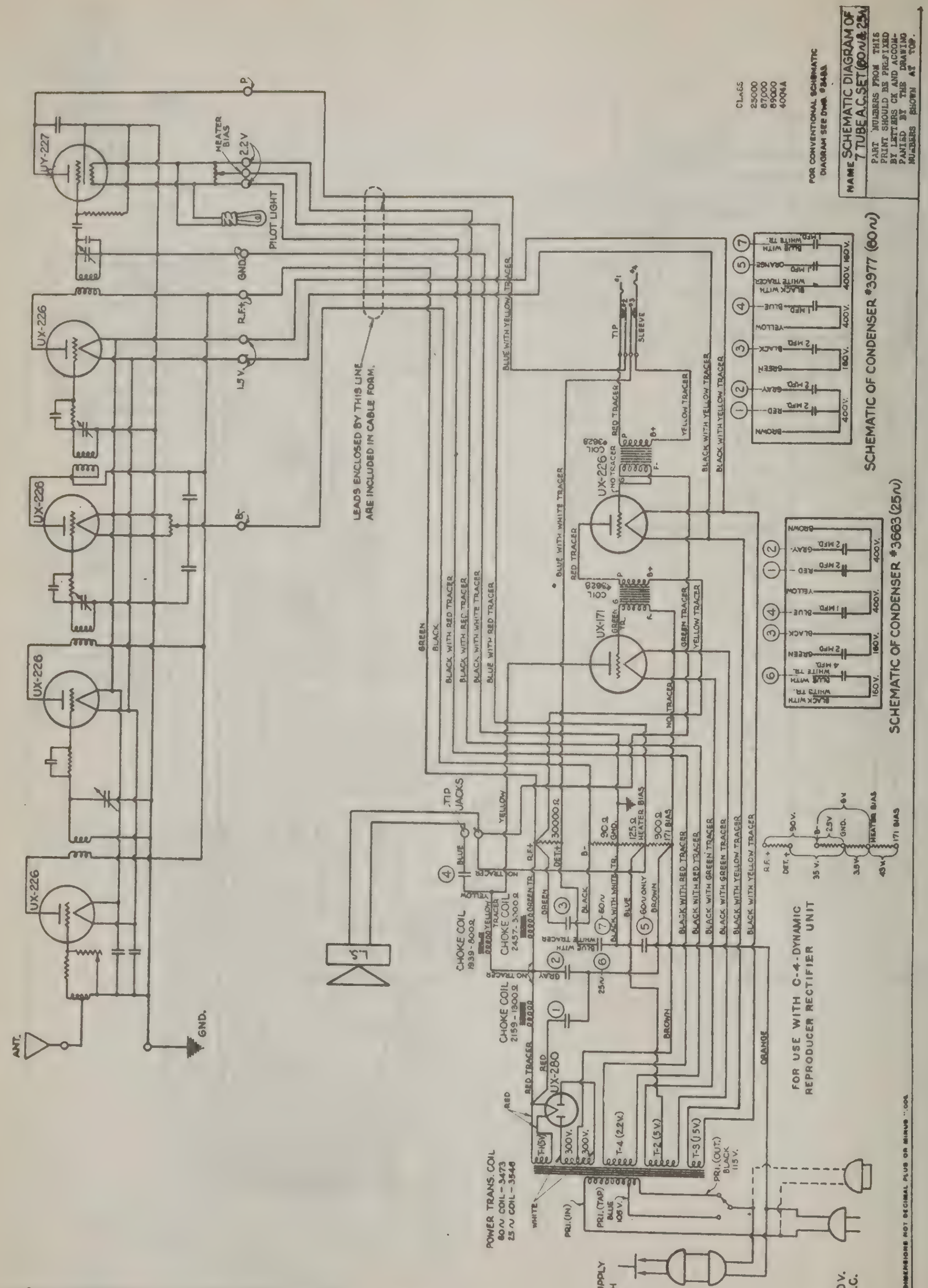
MODEL C-1, C-3
Schematic

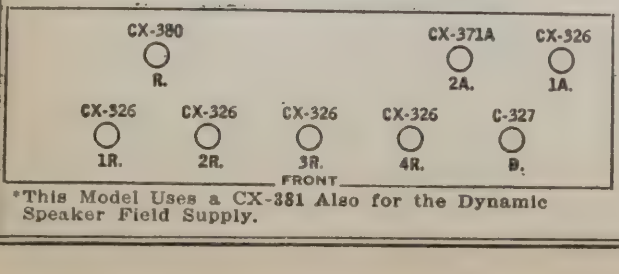

FOR CONVENTIONAL SCHEMATIC DIAGRAM SEE DWG #3482
NAME SCHEMATIC DIAGRAM OF 6 TUBE A.C. SET (60~ & 25~)
CLASS 23000 18000 19000 3693
PART NUMBERS FROM THIS PRINT SHOULD BE PREFIXED BY LETTERS CK AND ACCOMPANIED BY THE DRAWING NUMBERS SHOWN AT TOP.
UY-227
UX-226
UX-226
UX-226
HEATER BIAS
2.2 V.
PILOT LIGHT
GND.
R.F.+
1.5 V.
B-
P
LEADS ENCLOSED BY THIS LINE ARE INCLUDED IN CABLE FORM
ANT
GND.
TIP
SLEEVE
RED TRACER
YELLOW TRACER
#3628 COIL
UX-226
UX-171
GREEN 6
BLUE WITH WHITE TRACER
BLUE WITH YELLOW TRACER
BLACK WITH YELLOW TRACER
NO TRACER
GREEN
BLACK
BLACK WITH RED TRACER
BLACK WITH WHITE TRACER
BLUE WITH RED TRACER
TIP JACKS
YELLOW
BLUE
L.S.
CHOKE COIL 1939-800Ω
CHOKE COIL 2457-3000Ω
CHOKE COIL 2159-1300Ω
3000Ω
3000Ω
220Ω
60Ω HEATER BIAS
840Ω 171 BIAS
DET.+
R.F.+
GRAY
BROWN
ORANGE
60~ ONLY
25~ ONLY
UX-280
RED
RED TRACER
300 V.
300 V.
T-4 (2.2 V)
T-2 (5 V)
T-3 (1.5 V)
PRI. (OUT) BLACK 115 V.
PRI. (TAP) BLUE 105 V.
PRI. (IN)
WHITE
POWER TRANS. COIL 60~ COIL - 3475 25~ COIL - 3548
A.C. SUPPLY SWITCH
110 V. A.C.
SCHEMATIC OF CONDENSER #3624 (60~)
SCHEMATIC OF CONDENSER #3663 (25~)
1 MFD.
2 MFD.
4 MFD.
400 V.
160 V.
BLACK WITH WHITE TRACER
BLUE WITH WHITE TR.
RED
R.F.+
DET.+
B-
GND.
90 V.
45 V.
6 V.
3 V.
43 V.
HEATER BIAS
171 BIAS


C-1, C-3
CX-380
Rect.
CX-371A
2nd A.F.
CX-326
1st A.F.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.

MODEL C-2,C-4
Schematic

COLUMBIA PHONOGRAPH COMPANY

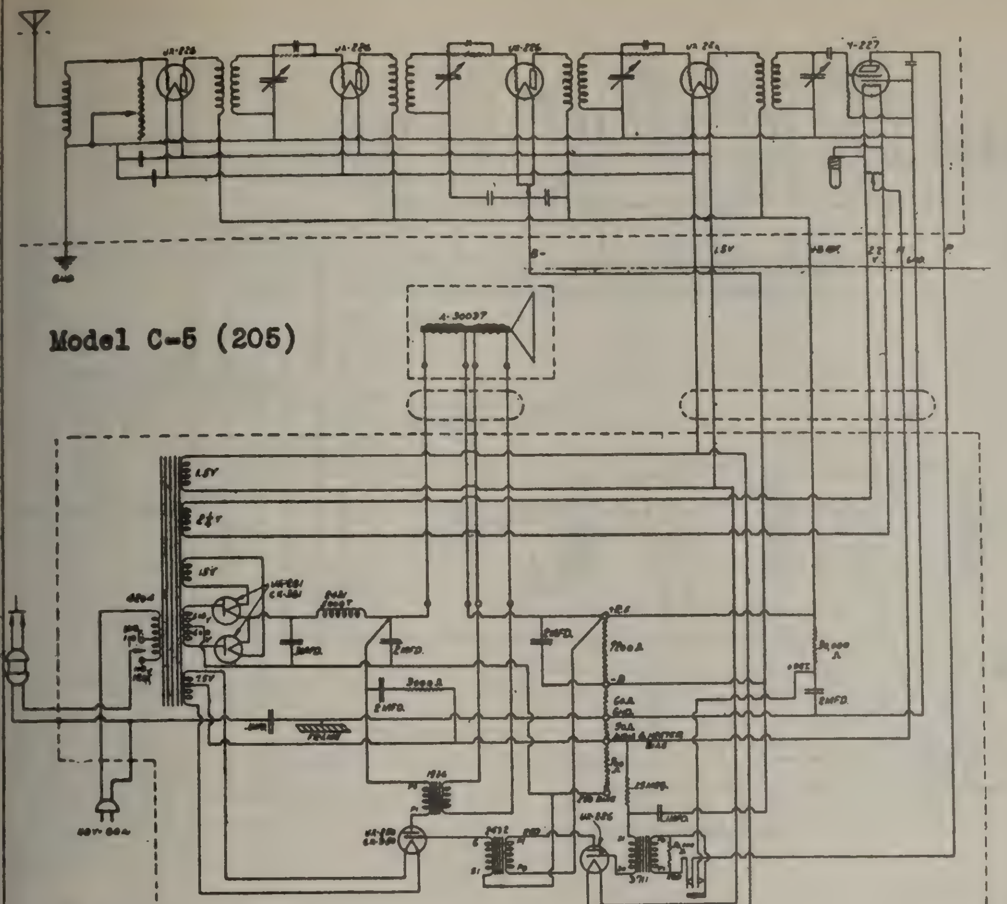

UY-227
UX-226
UX-226
UX-226
UX-226
ANT.
GND.
HEATER BIAS
2.2V
PILOT LIGHT
GND.
R.F.+
1.5V.
B-
P
LEADS ENCLOSED BY THIS LINE ARE INCLUDED IN CABLE FORM.
GREEN
BLACK
BLACK WITH RED TRACER
BLACK WITH RED TRACER
BLACK WITH WHITE TRACER
BLUE WITH RED TRACER
BLUE WITH YELLOW TRACER
BLUE WITH WHITE TRACER
BLACK WITH YELLOW TRACER
YELLOW TRACER
RED TRACER
TIP
SLEEVE
UX-226
COIL #3628
UX-171
GREEN TR.
GREEN TRACER
YELLOW TRACER
NO TRACER
TIP JACKS
YELLOW
BLUE
L.S.
CHOKE COIL 1939-800Ω
CHOKE COIL 2457-3300Ω
CHOKE COIL 2159-1800Ω
GRAY
BROWN
ORANGE
RED TRACER
UX-280
300V.
300V.
T-4 (2.2V)
T-2 (1.5V)
T-3 (1.5V)
POWER TRANS. COIL 60~ COIL-3473 25~ COIL-3548
WHITE
PRI. (IN)
PRI. (TAP) BLUE 108 V.
PRI. (OUT) BLACK 115 V.
A.C. SUPPLY SWITCH
110 V. A.C.
30000Ω
90Ω
125Ω HEATER BIAS
900Ω 171 BIAS
60~ ONLY
25~
DET.+
R.F.+
B-
90V.
35V.
38V.
45V.
GND.
HEATER BIAS
171 BIAS
FOR USE WITH C-4-DYNAMIC REPRODUCER RECTIFIER UNIT
SCHEMATIC OF CONDENSER #3977 (60~)
SCHEMATIC OF CONDENSER #3663 (25~)
2 MFD.
1 MFD.
4 MFD.
400V.
160V.
BROWN
RED
GRAY
GREEN
BLACK
YELLOW
BLUE
ORANGE
BLACK WITH WHITE TR.
BLUE WITH WHITE TR.
FOR CONVENTIONAL SCHEMATIC DIAGRAM SEE DWG.
CLASS 25000 87000 89000 4004A
NAME SCHEMATIC DIAGRAM OF 7 TUBE A.C. SET (60~ & 25~)
PART NUMBERS FROM THIS PRINT SHOULD BE PREFIXED BY LETTERS CK AND ACCOMPANIED BY THE DRAWING NUMBERS SHOWN AT TOP.

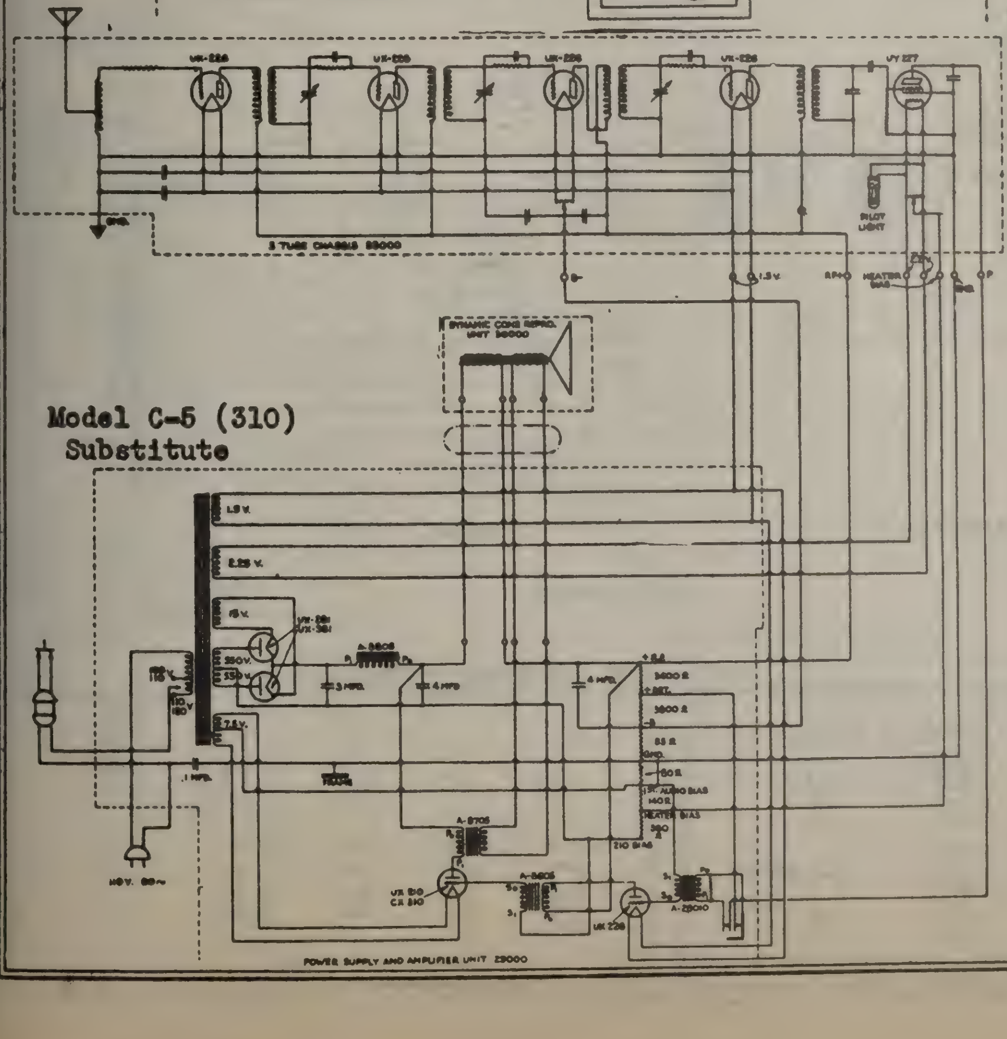

CX-380
R.
CX-371A
2A.
CX-326
1A.
CX-326
1R.
CX-326
2R.
*CX-326
3R.
CX-326
4R.
C-327
D.
FRONT

*This Model Uses a CX-381 Also for the Dynamic Speaker Field Supply.

COLUMBIA PHONOGRAPH COMPANY

MODEL C-5 (205)
MODEL C-5 (310)
Schematic
Voltage
Socket

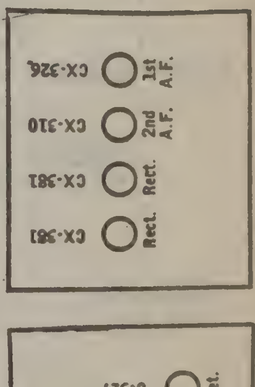

Model C-5 (205)
UX-226
Y-227
A-30037
1.5V
2¼V
15V
UX-281
CX-381
2 MFD
GND
B-
1.5V
P
110V 60~


Model C-5 (310)
Substitute
UX-226
UY-227
5 TUBE CHASSIS 35000
PILOT LIGHT
HEATER BIAS
1.5V
B-
DYNAMIC CONE REPRO. UNIT 30000
1.5V.
2.25V.
15V.
UX-281
CX-381
A-3605
3 MFD.
4 MFD.
7.5V.
110V. 60~
UX-210
CX-310
UX-226
A-2705
A-3605
A-23010
POWER SUPPLY AND AMPLIFIER UNIT 25000

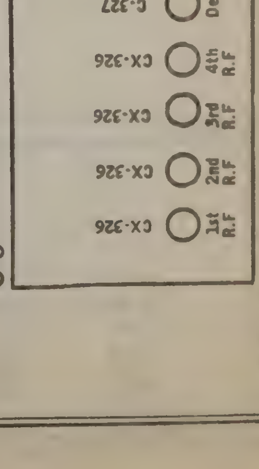
Line Voltage 116

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
2	226	2nd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
3	226	3rd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
4	226	4th. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
5	227	DET.	2.3	44	2.0	36	3.5		1.6	1.6	0
6	226	1st. A.	1.56	88	1.4	72	2.0		4.8	7.8	3.0
7	210	2nd. A.	7.9	512	7.4	430	32.5	-	24.	28.	4.0
8											
9	281	Rect.	-	-	7.0	-	-		28.0	-	-
10	281	Rect.	-	-	7.4	-	-		28.0	-	-

(A.C.)

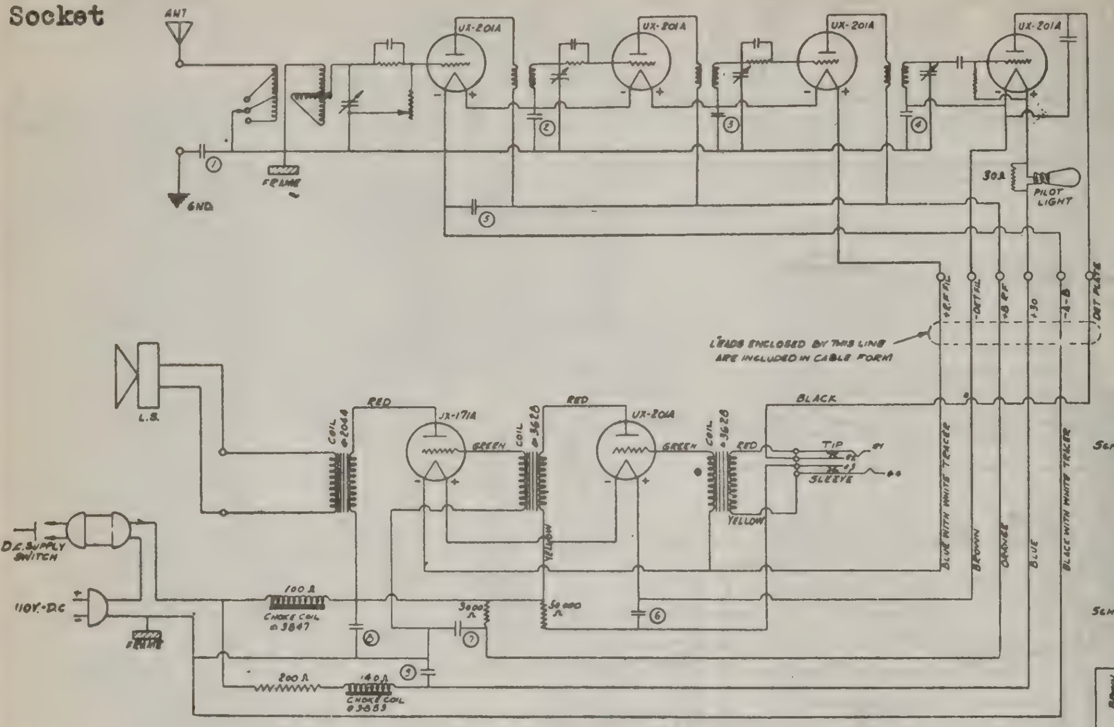

CX-326
1st A.F.
CX-310
2nd A.F.
CX-381
Rect.
CX-381
Rect.

C-5

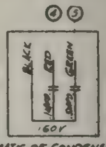

C-327
Det.
CX-326
4th R.F
CX-326
3rd R.F
CX-326
2nd R.F
CX-326
1st R.F

MODEL C-6, C-7
MODEL 900,901
Schematic
Socket

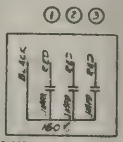
COLUMBIA PHONOGRAPH COMPANY


ANT
GND.
FRAME
UX-201A
UX-201A
UX-201A
UX-201A
①
②
③
④
⑤
30Ω
PILOT LIGHT
+B R.F. FIL
-DET FIL
+B R.F.
+30
-A-B
DET PLATE
LEADS ENCLOSED BY THIS LINE ARE INCLUDED IN CABLE FORM
L.S.
COIL #2048
RED
UX-171A
GREEN
COIL #3628
RED
UX-201A
GREEN
COIL #3628
RED
BLACK
TIP
SLEEVE
YELLOW
YELLOW
BLUE WITH WHITE TRACER
BROWN
ORANGE
BLUE
BLACK WITH WHITE TRACER
D.C. SUPPLY SWITCH
110V-D.C.
FRAME
100Ω
CHOKE COIL #3847
3000Ω
50,000Ω
⑥
⑦
⑧
⑨
200Ω
140Ω
CHOKE COIL #3853

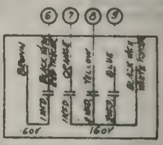
Columbia C6-C7


④ ⑤
BLACK
RED
GREEN
1MFD.
.5MFD.
160V

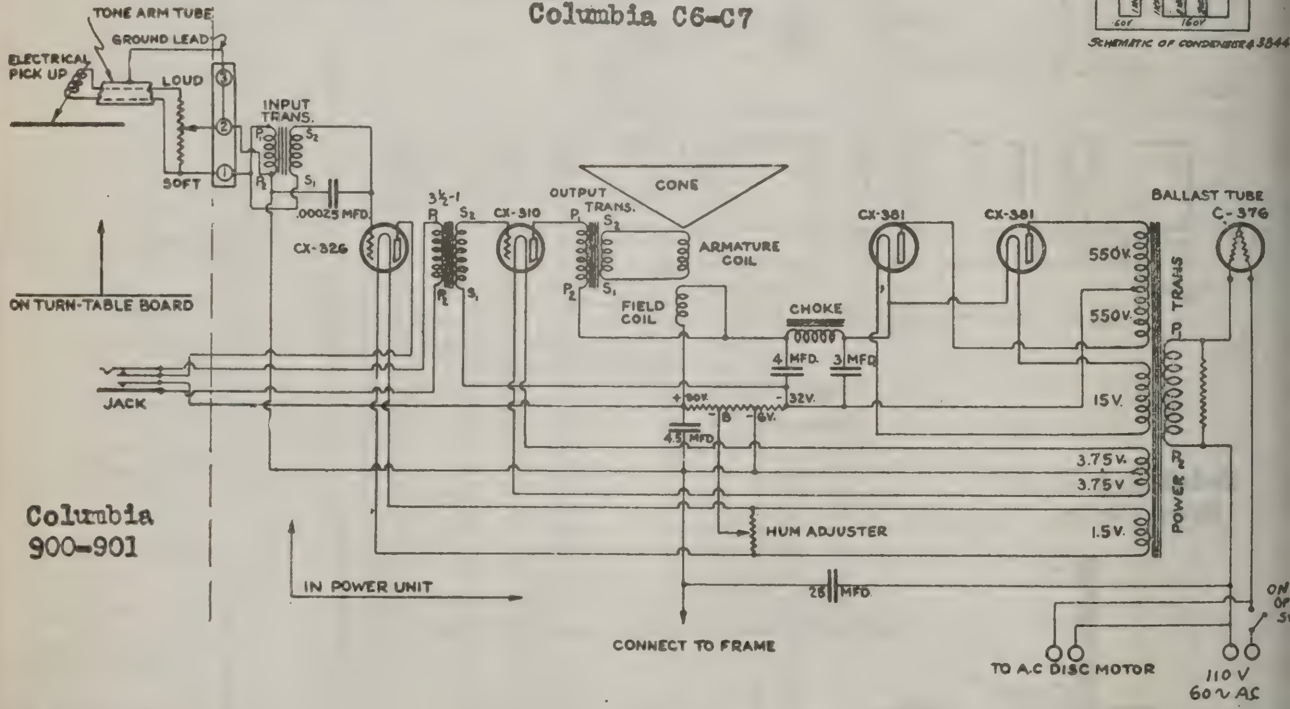
SCHEMATIC OF CONDENSERS 388


① ② ③
BLACK
RED
RED
RED
1MFD
1MFD
1MFD
160V

SCHEMATIC OF CONDENSERS 3968

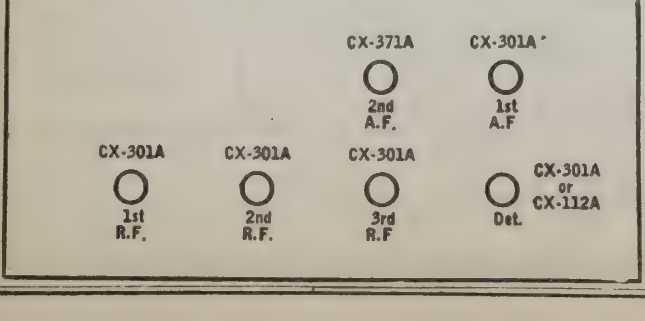

⑥ ⑦ ⑧ ⑨
BROWN
BLACK WITH RED TRACER
ORANGE
YELLOW
BLUE
BLACK WITH WHITE TRACER
1MFD
1MFD
1MFD
.5MFD
60V
160V

SCHEMATIC OF CONDENSERS 3844

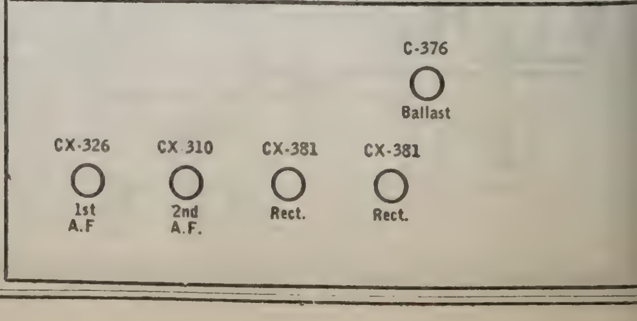

TONE ARM TUBE
GROUND LEAD
ELECTRICAL PICK UP
LOUD
SOFT
③
②
①
INPUT TRANS.
P₁
P₂
S₂
S₁
.00025 MFD.
ON TURN-TABLE BOARD
CX-326
3½-1
P
P₂
S₂
S₁
CX-310
OUTPUT TRANS.
P
P₂
S₂
S₁
CONE
ARMATURE COIL
FIELD COIL
CX-381
CX-381
BALLAST TUBE
C-376
550V.
550V.
TRANS
CHOKE
4 MFD.
3 MFD.
+90V.
-32V.
B
-6V.
4.5 MFD.
15V.
3.75V.
3.75V
1.5V.
POWER
JACK
HUM ADJUSTER
IN POWER UNIT
2 MFD.
CONNECT TO FRAME
TO A.C DISC MOTOR
110 V
60～AC
ON

Columbia
900-901

C-6, C-7 (D.C.)

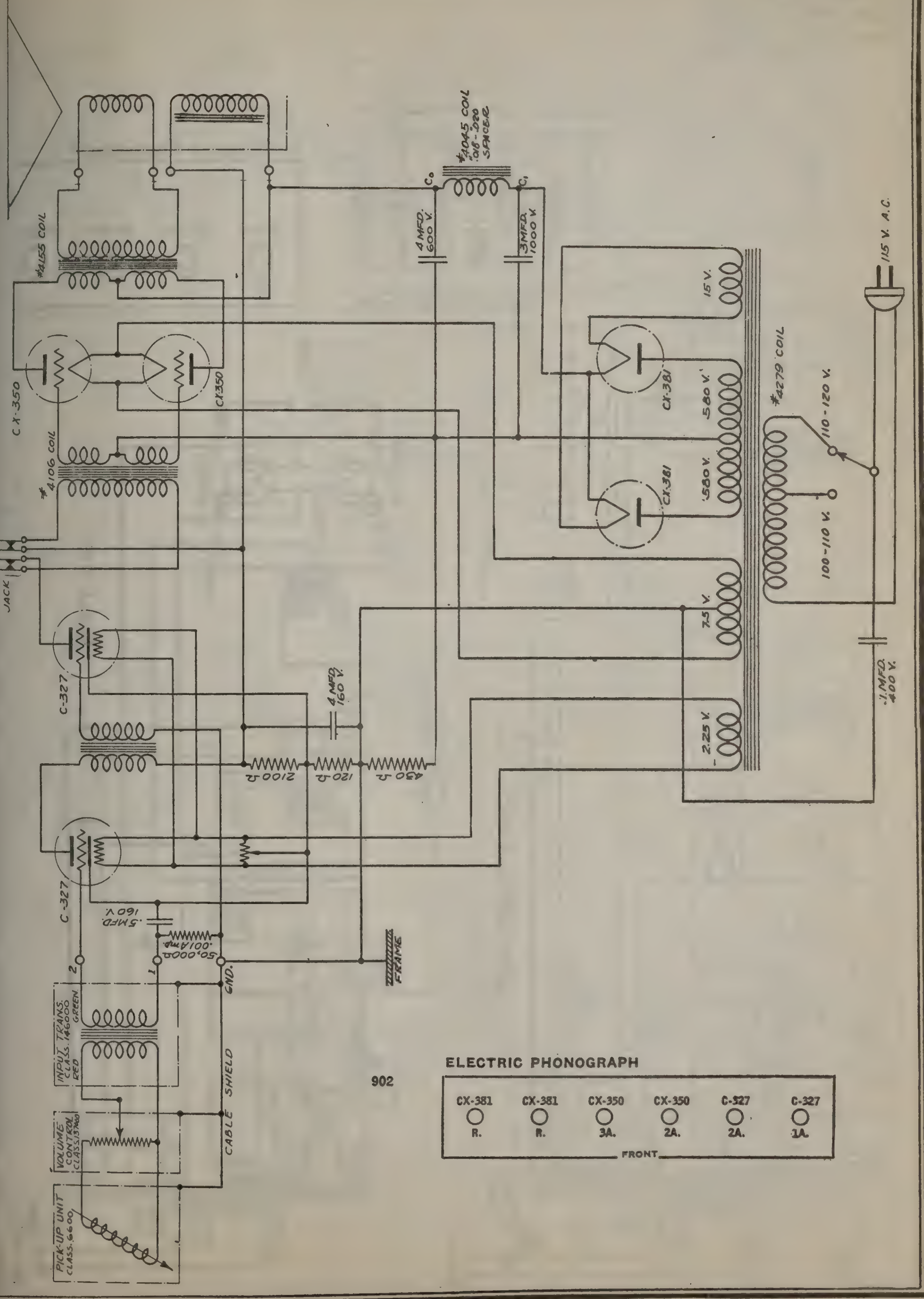

CX-371A
2nd A.F.
CX-301A
1st A.F
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F
CX-301A or CX-112A
Det.

900, 901 Electric Phonograph (A C


C-376
Ballast
CX-326
1st A.F
CX 310
2nd A.F.
CX-381
Rect.
CX-381
Rect.

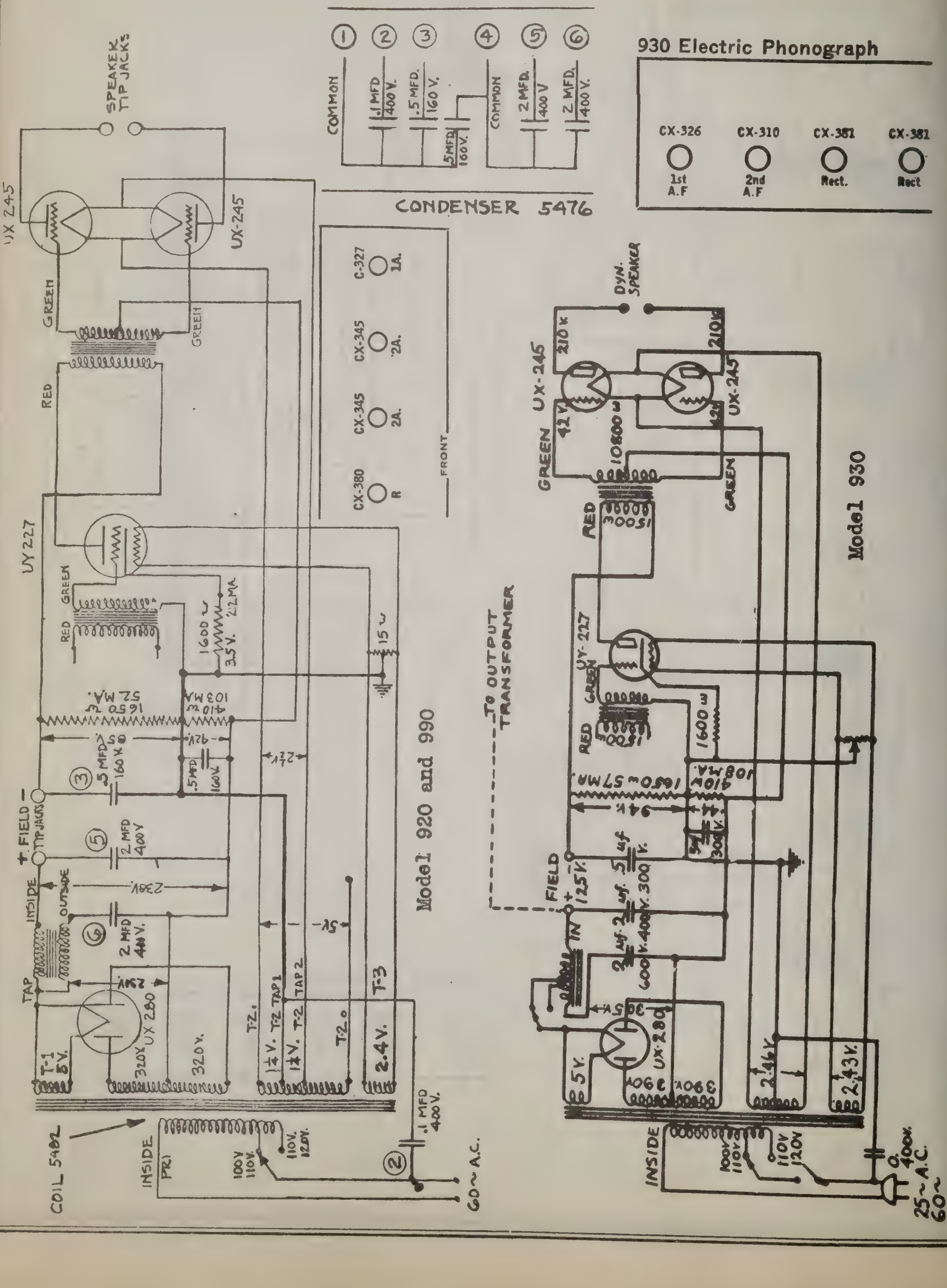
COLUMBIA PHONOGRAPH COMPANY

MODEL 902
Schematic


#4155 COIL
CX-350
CX350
#4106 COIL
JACK
C-327
C-327
#4045 COIL
.016-.020 SPACER
C0
C1
4 MFD. 600 V.
3 MFD. 1000 V.
15 V.
580 V.
580 V.
CX-381
CX-381
#4279 COIL
110-120 V.
100-110 V.
115 V. A.C.
7.5 V.
2.25 V.
.1 MFD. 400 V.
4 MFD. 160 V.
2100 Ω
120 Ω
430 Ω
.5 MFD. 160 V.
50,000 Ω .001 Amp.
FRAME
2
1
GND.
INPUT TRANS. CLASS 14600
GREEN
RED
CABLE SHIELD
VOLUME CONTROL CLASS 13700
PICK-UP UNIT CLASS 6600
902
ELECTRIC PHONOGRAPH
CX-381
R.
CX-381
R.
CX-350
3A.
CX-350
2A.
C-327
2A.
C-327
1A.
FRONT

MODEL 920
MODEL 930
MODEL 990
Schematic

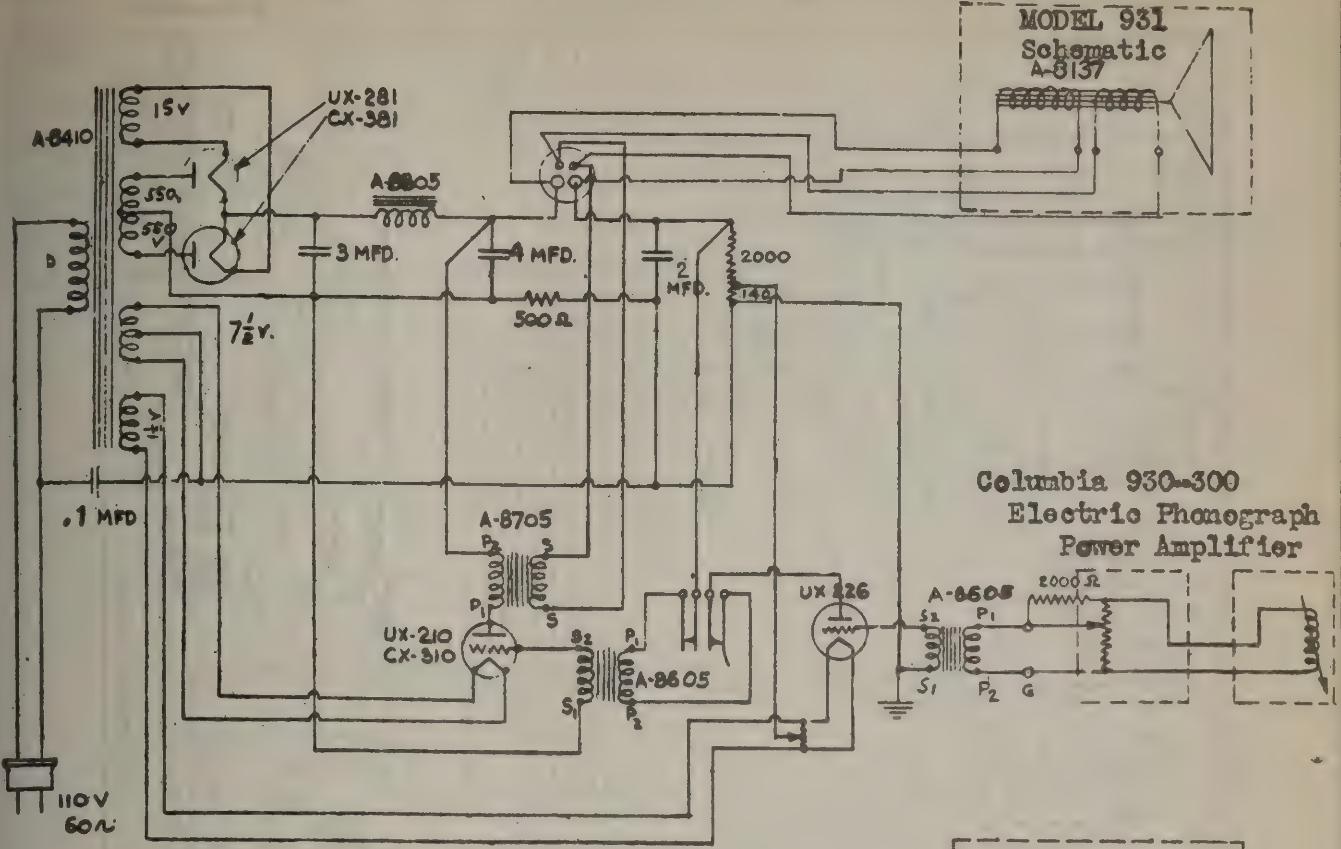
COLUMBIA PHONOGRAPH COMPANY


CONDENSER 5476
① COMMON
② .1 MFD 400 V.
③ .5 MFD. 160 V.
.5 MFD 160 V.
④ COMMON
⑤ 2 MFD. 400 V
⑥ 2 MFD. 400 V.
930 Electric Phonograph
CX-326 1st A.F
CX-310 2nd A.F
CX-381 Rect.
CX-381 Rect
C-327 1A.
CX-345 2A.
CX-345 2A.
CX-380 R
FRONT
SPEAKER TIP JACKS
UX 245
UX-245
GREEN
GREEN
RED
UY 227
GREEN
RED
1600 ω 3.5 V. 2.2 MA.
15 ω
1650 ω 52 MA.
410 ω 103 MA.
85
42 V.
22 V.
③ .5 MFD 160 V.
.5 MFD 160 V.
FIELD TIP JACKS
⑤ 2 MFD 400 V
INSIDE
OUTSIDE
230 V.
⑥ 2 MFD 400 V.
5 V.
TAP
250 V.
UX 280
T-1 5 V.
320 V.
320 V.
T-2
1½ V.
T-2 TAP 1
1½ V.
T-2 TAP 2
T-2
T-3
2.4 V.
COIL 5482
INSIDE
PRI
100 V. 110 V.
110 V. 120 V.
② .1 MFD 400 V.
60 ~ A.C.
Model 920 and 990
TO OUTPUT TRANSFORMER
DYN. SPEAKER
UX-245
UX-245
210 k
210 k
42 V.
42 V.
10800 ω
GREEN
GREEN
RED
1500 ω
UY-227
GREEN
RED
1500 ω
1600 ω
410 ω 108 MA.
1650 ω 57 MA.
94 V.
.5 MF 300 V.
FIELD + 125 V.
.5 MF. 300 V.
2 MF. 400 V.
2 MF. 400 V.
305 V.
UX-280
5 V.
390 V.
390 V.
2.46 V.
2.43 V.
INSIDE
100 V 110 V
110 V 120 V
.1 MF. 400 V.
25 ~ A.C.
60 ~
Model 930

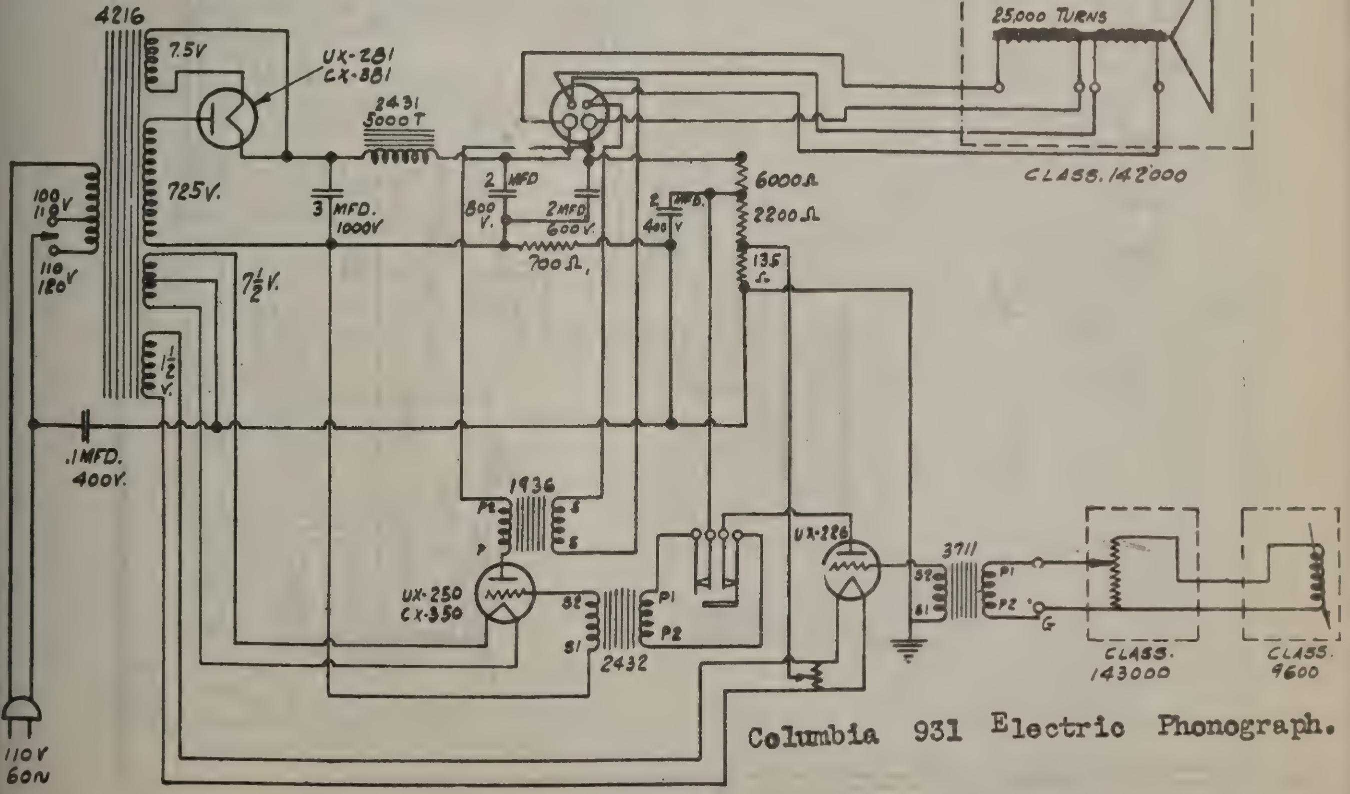
COLUMBIA PHONOGRAPH COMPANY

MODEL 930-300

MODEL 931


Schematic
A-8137
A-8410
15V
55a
550 V
D
7½V.
1½V
UX-281
CX-381
A-8805
3 MFD.
4 MFD.
500Ω
2 MFD.
2000
140
.1 MFD
110V
60~
A-8705
P2
S
P1
S
UX-210
CX-310
S2
P1
A-8605
S1
P2
UX 226
A-8605
S2
P1
S1
P2
G
2000Ω

Columbia 930-300
Electric Phonograph
Power Amplifier


4216
7.5V
UX-281
CX-381
2431
5000T
725V.
100 V
110
110 V
120
3 MFD. 1000V
2 MFD 800 V.
2MFD 600V.
700Ω,
2 MFD. 400V
6000Ω
2200Ω
135 Ω.
7½V.
1½V.
.1MFD. 400V.
110V
60~
25,000 TURNS
CLASS. 142000
1936
P2
S
P
S
UX-250
CX-350
S2
S1
P1
P2
2432
UX-226
3711
S2
S1
P1
P2
G
CLASS. 143000
CLASS. 9600

Columbia 931 Electric Phonograph.

930 Electric Phonograph (A.C.)

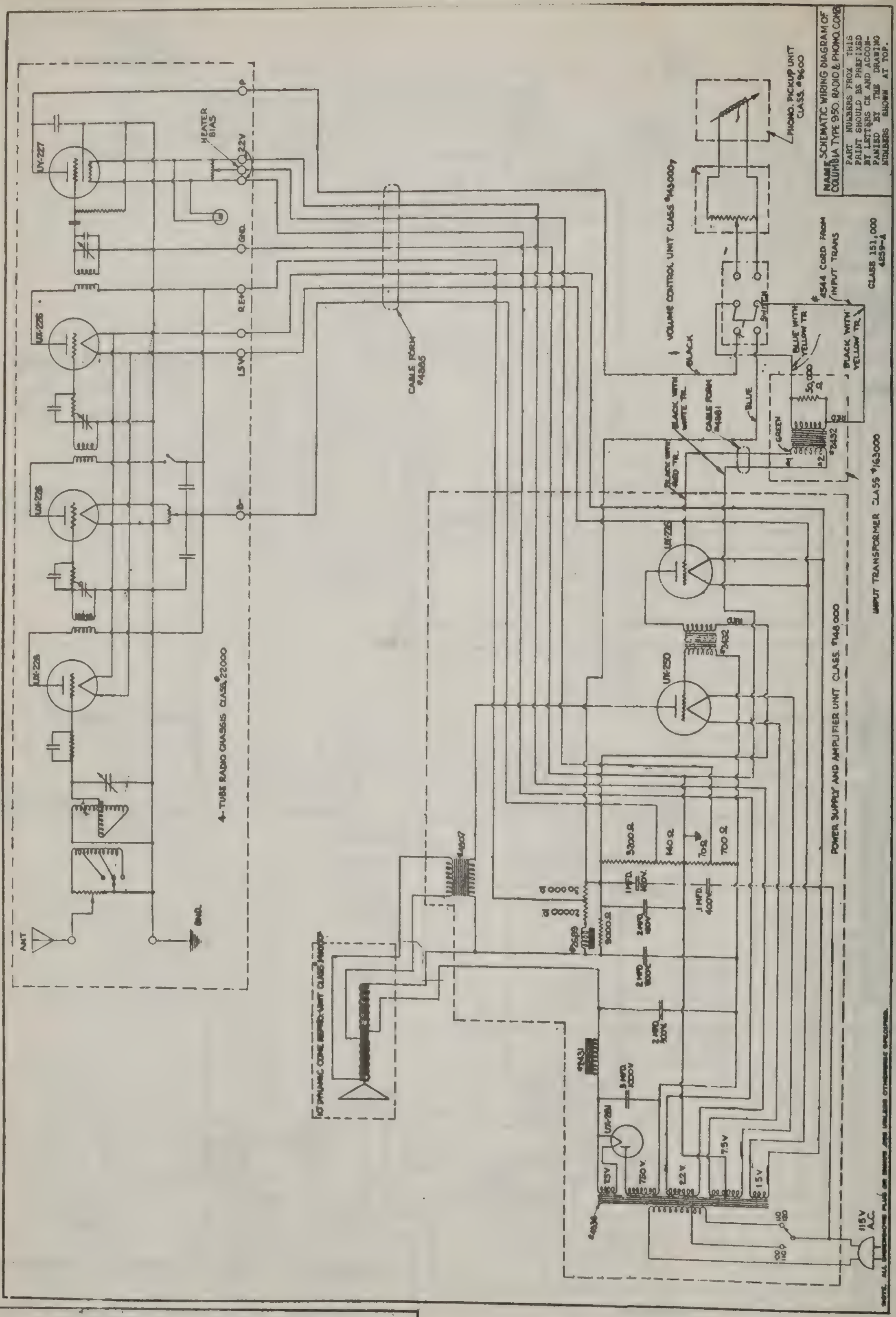
CX-326	CX-310	CX-381	CX-381
○	○	○	○
1st A.F.	2nd A.F.	Rect.	Rect.

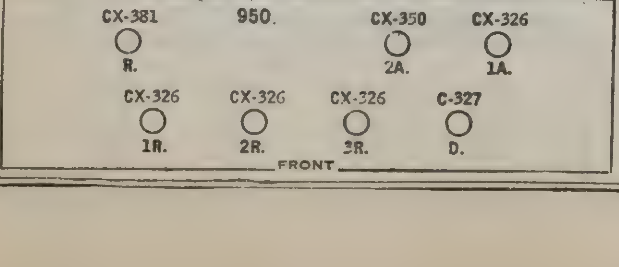
931 Electric Phonograph (A.C.)

CX-381	CX-381	CX-350	CX-326
○	○	○	○
Rect.	Rect.	2nd A.F.	1st A.F.

COLUMBIA PHONOGRAPH COMPANY

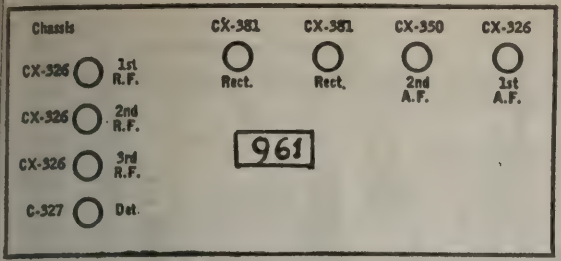
MODEL 950
Schematic

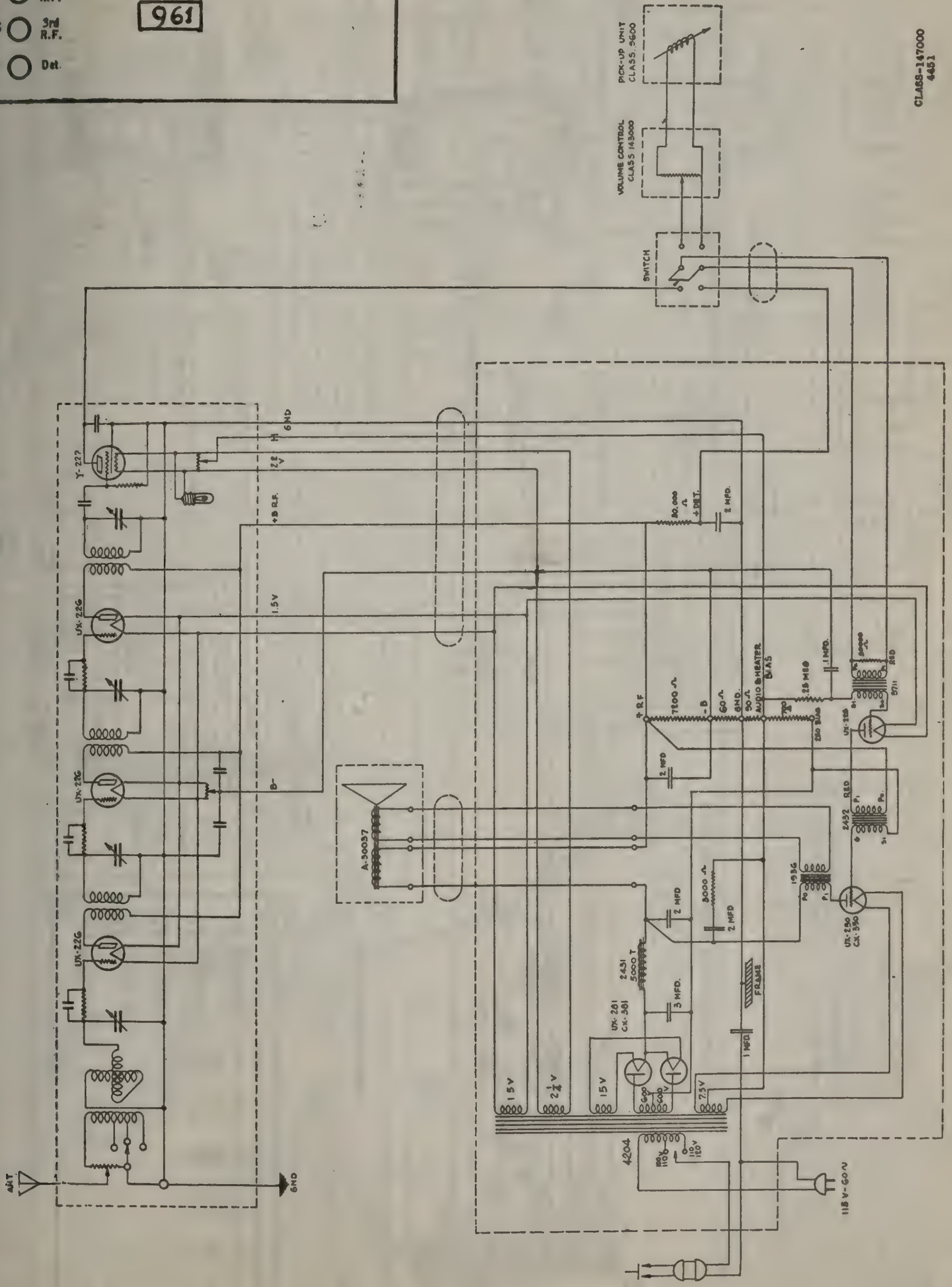

NAME SCHEMATIC WIRING DIAGRAM OF COLUMBIA TYPE 950. RADIO & PHONO COMB.
PART NUMBERS FROM THIS PRINT SHOULD BE PREFIXED BY LETTERS CX AND ACCOMPANIED BY THE DRAWING NUMBERS SHOWN AT TOP.
CLASS 151,000 4259-A
PHONO. PICKUP UNIT CLASS #9600
VOLUME CONTROL UNIT CLASS #143000
SWITCH
BLACK
#4544 CORD FROM INPUT TRANS
BLUE WITH YELLOW TR.
BLACK WITH YELLOW TR.
50,000 Ω
BLACK WITH WHITE TR.
CABLE FORM #4861
BLUE
BLACK WITH RED TR.
GREEN
#2432
INPUT TRANSFORMER CLASS #163000
P
HEATER BIAS
22V
GND.
R.F.+
1.5V
B-
UY-227
UX-226
UX-226
UX-226
4-TUBE RADIO CHASSIS CLASS #22000
ANT
GND.
CABLE FORM #4865
UX-226
UX-250
#2432
POWER SUPPLY AND AMPLIFIER UNIT CLASS #148000
5300 Ω
140 Ω
70 Ω
700 Ω
1 MFD. 400V.
2 MFD. 180V.
.1 MFD. 400V.
9000 Ω
2 MFD. 1000V.
2 MFD. 700V.
3 MFD. 1000V.
#4807
#2431
DYNAMIC CONE REPRO. UNIT CLASS
UX-281
7.5V
750 V.
2.2V
7.5V
1.5V
#4836
110 120
100 110
115V A.C.


CX-381
R.
950.
CX-350
2A.
CX-326
1A.
CX-326
1R.
CX-326
2R.
CX-326
3R.
C-327
D.
FRONT

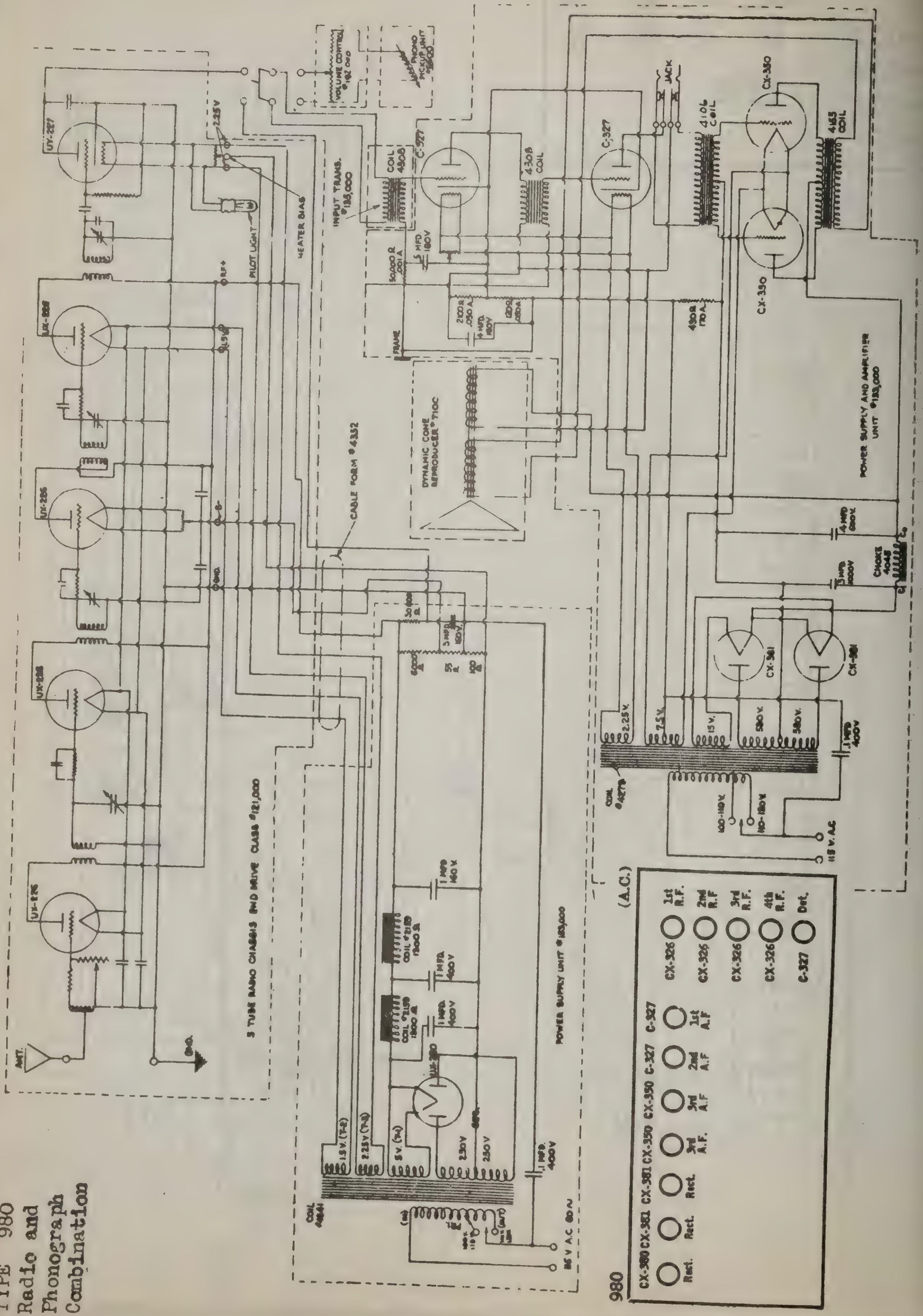
MODEL 961

COLUMBIA PHONOGRAPH COMPANY


Chassis
CX-326 1st R.F.
CX-326 2nd R.F.
CX-326 3rd R.F.
C-327 Det.
CX-381 Rect.
CX-381 Rect.
CX-350 2nd A.F.
CX-326 1st A.F.
961


PICK-UP UNIT CLASS 9600
VOLUME CONTROL CLASS 143000
SWITCH
CLASS-147000 4451
Y-227
UX-226
UX-226
UX-226
GND
H
2½ V
+B R.F.
1.5V
B-
A-30037
20,000 Ω
+DET.
2 MFD
+RF
7200 Ω
-B
60 Ω
GND
90 Ω
AUDIO & HEATER BIAS
.25 MEG
.1 MFD
250 Bias
UX-226
5711
RED
2432 RED
2 MFD
1936
8000 Ω
2 MFD
2 MFD
UX-250 CX-350
2431 5000 T
3 MFD
UX-281 CX-381
FRAME
1 MFD
1.5V
2¼V
1.5V
7.5V
4204
118 V-60~
ANT
GND

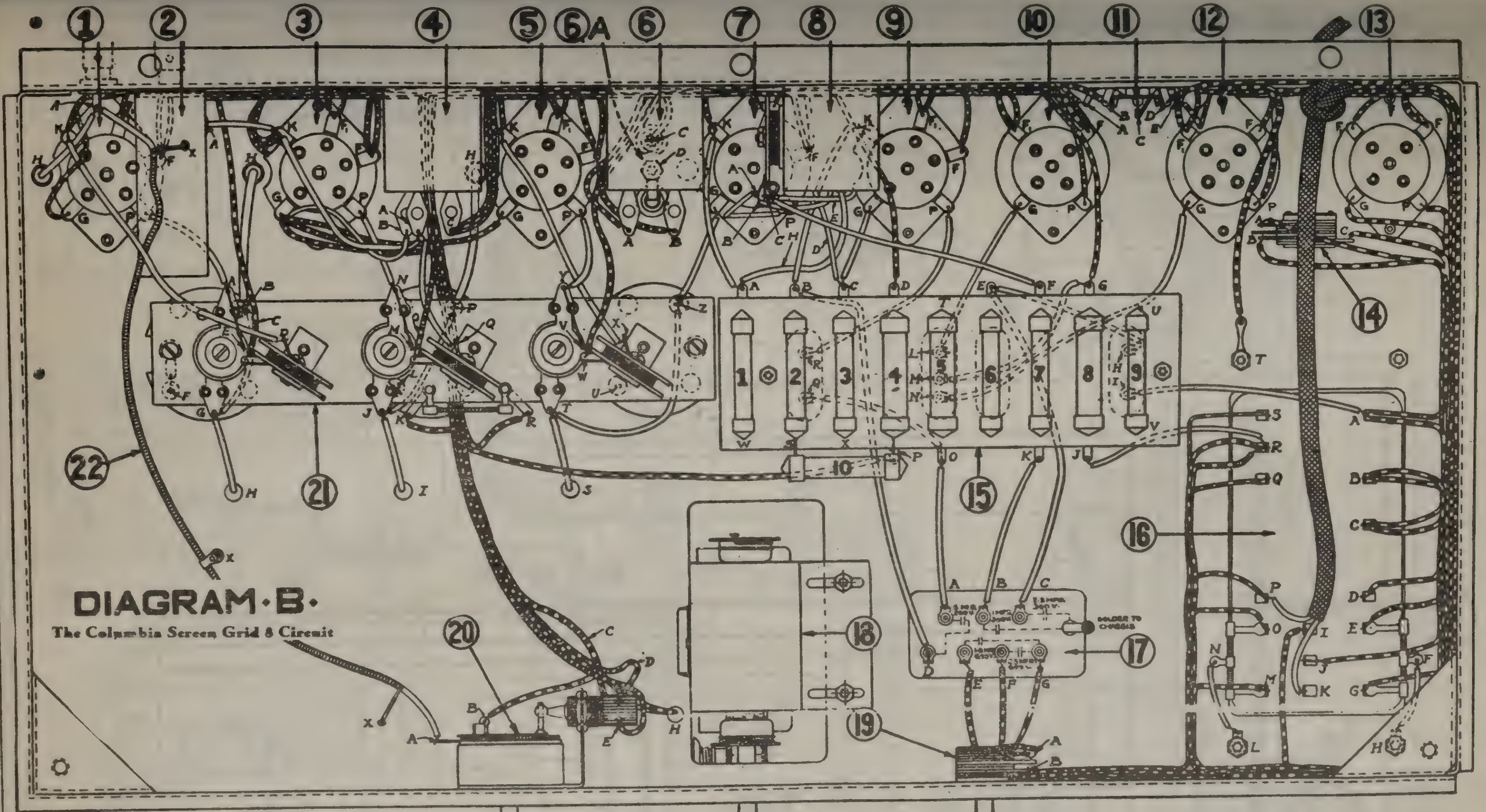
COLUMBIA PHONOGRAPH COMPANY **MODEL 980**


UY-227
UX-226
UX-226
UX-226
UX-226
ANT.
GND.
2.25 V
HEATER BIAS
PILOT LIGHT
RF+
1.5 V
B-
GND.
5 TUBE RADIO CHASSIS 2ND DRIVE CLASS #121,000
CABLE FORM #4332
VOLUME CONTROL
PHONO PICKUP UNIT
INPUT TRANS. #135,000
COIL 4306
C-327
50,000 Ω
.001 A
.5 MFD. 180 V
FRAME
2100 Ω .050 A
4 MFD. 180 V
1200 Ω .050 A
4308 COIL
C-327
JACK
4106 COIL
CX-350
CX-350
4163 COIL
450 Ω .170 A
DYNAMIC CONE REPRODUCER #710C
POWER SUPPLY AND AMPLIFIER UNIT #132,000
4 MFD 600 V
CHOKE 4048
3 MFD 1000 V
CX-381
CX-381
2.25 V
7.5 V
1.5 V
530 V
530 V
.1 MFD 400 V
COIL #4278
100-110 V
110-120 V
115 V. A.C.
30,000 Ω
5 MFD. 180 V
6000 Ω
55 Ω
100 Ω
1 MFD 180 V
COIL #2183 1500 Ω
1 MFD. 400 V
COIL #2183 1500 Ω
1 MFD. 400 V
UX-280
POWER SUPPLY UNIT #123,000
1.5 V. (T-2)
2.25 V (T-4)
5 V. (T-4)
250 V
250 V
.1 MFD. 400 V
COIL 4494
115 V A.C. 60 ~
(A.C.)
980
CX-380 CX-381 CX-381 CX-350 CX-350 C-327 C-327
Rect. Rect. Rect. 3rd A.F. 3rd A.F. 2nd A.F. 1st A.F.
CX-326 1st R.F.
CX-326 2nd R.F.
CX-326 3rd R.F.
CX-326 4th R.F.
C-327 Det.

TYPE 980
Radio and
Phonograph
Combination

COLUMBIA RADIO CORPORATION

MODEL SG-8
Bottom View
#1



DIAGRAM·B·

The Columbia Screen Grid 8 Circuit

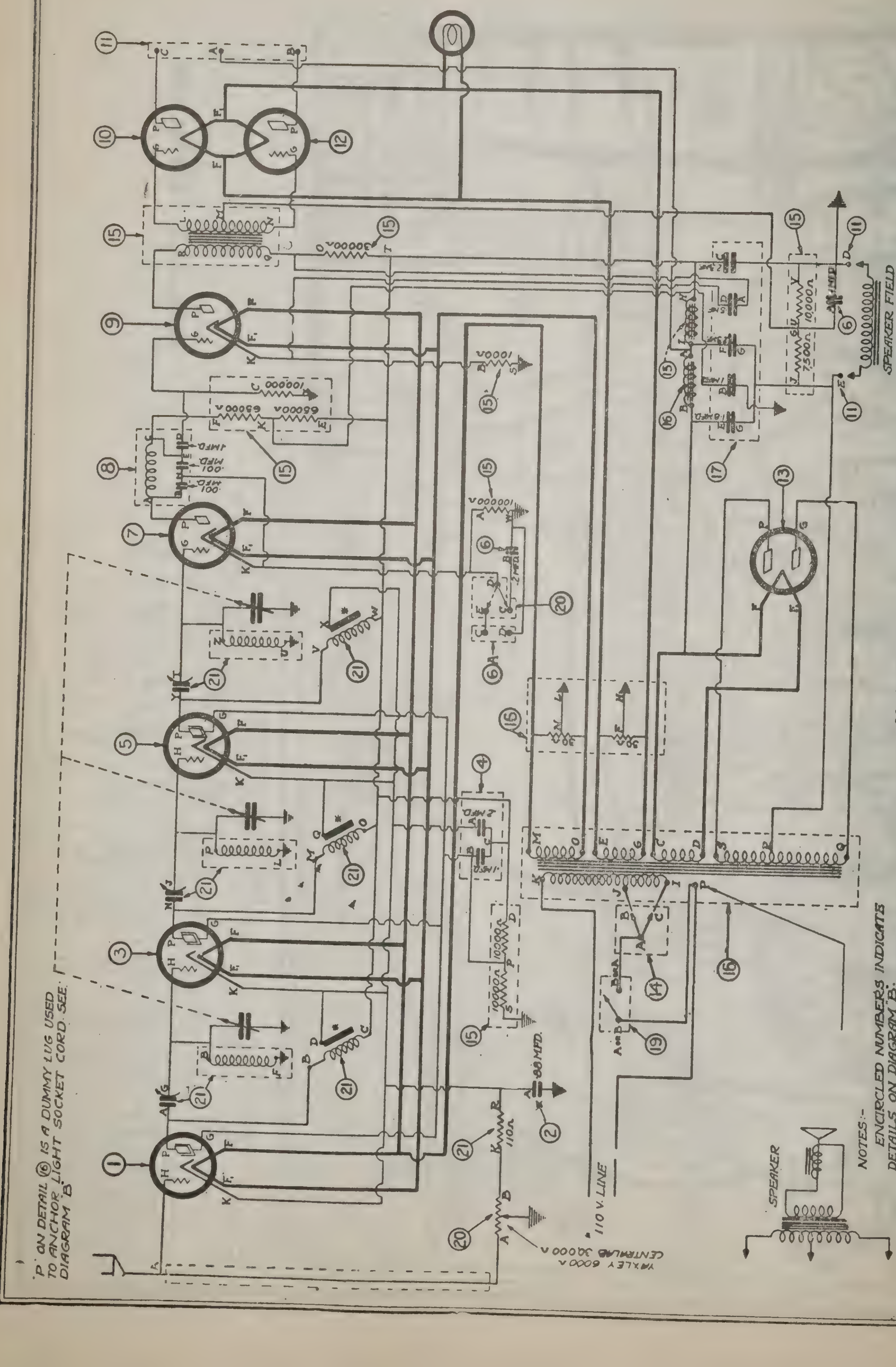
MODEL SG-8 BOTTOM VIEW

Tube No. In Order (1)	Type Of Tube (2)	Position of Tube 1st R F Det, Etc (3)	Readings, Plug In Socket Of Set									
			Tube Out		Tube In Tester							
			A Volts (4)	B Volts (5)	A Volts (6)	B Volts (7)	C Volts (Control (8) Grid)	Cathode —Heater Volts (9)	Normal Plate M.A. (10)	Plate M.A. Grid Test (11)	Plate Change M.A. (12)	Screen Grid Volts (13)
1	224	1st R.F.	2.45	180	2.4	174	—1.5	1.5	4.5	6.7	2.2	80
2	224	2nd R.F.	2.45	180	2.4	174	—1.5	1.5	4.5	6.7	2.2	80
3	224	3rd R.F.	2.45	180	2.4	174	—1.5	1.5	4.5	6.7	2.2	80
4	227	Det.	2.45	106	2.4	106	—14.5	14.5	.2			
5 ●	227	1st A.F.	2.45	162	2.4	68	—3.	3.	3.2	3.8	.6	
6	245	2nd.A.F.	2.35	230	2.2	212	—3.8		20	23	3.	
7	245	2nd A.F.	2.35	230	2.2	212	—3.8		19	22	3.	

Line Voltage 115. Set on Low (1) Volt Tap. Volume Control Position Maximum

MODEL SG-8
Schematic

COLUMBIA RADIO CORPORATION


110 V. LINE
YAXLEY 6000Ω
CENTRALAB 30000Ω
SPEAKER
SPEAKER FIELD
110Ω
.88 MFD.
.1 MFD.
.001 MFD.
2 MFD.
65000Ω
100000Ω
30000Ω
1000Ω
10000Ω
7500Ω
.5 MFD.

MODEL SG-8 (1930)

Detail 11 is the Loud-Speaker Socket.
Terminals D and E are the speaker field winding
(1000 ohms.)

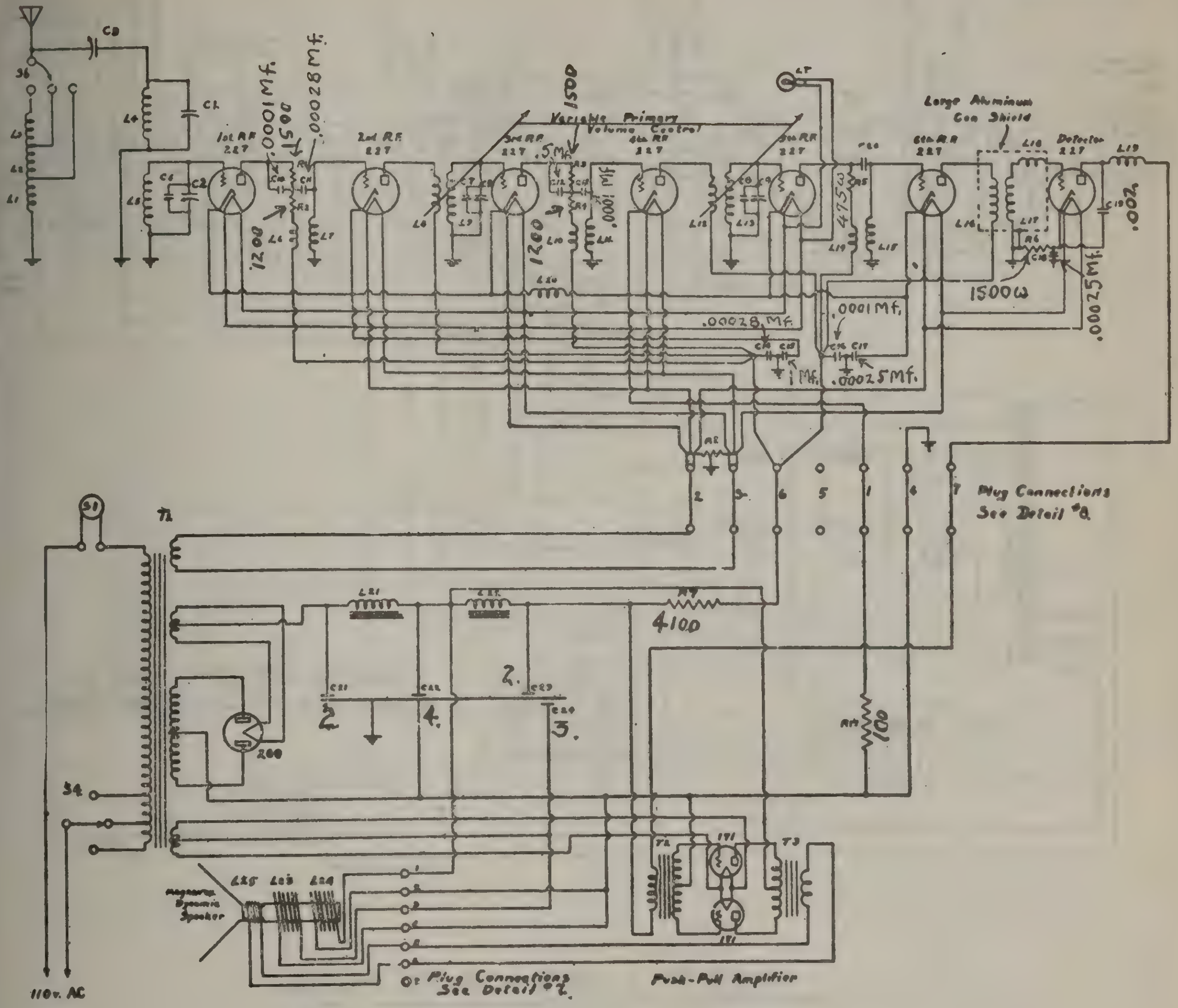
"P" ON DETAIL ⑯ IS A DUMMY LUG USED TO ANCHOR LIGHT SOCKET CORD. SEE DIAGRAM "B".

NOTES:-
ENCIRCLED NUMBERS INDICATE DETAILS ON DIAGRAM "B".
LETTERS INDICATE TERMINALS ON DETAILS.
* INDICATES MOUNTING BRACKETS ON DETAIL-㉑

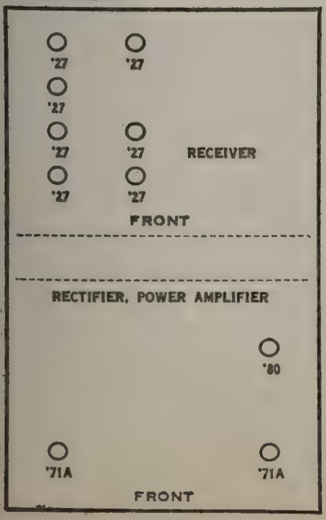
VOLTAGE DATA ON NEXT PAGE

CONTINENTAL RADIO CORPORATION

MODEL "Slagle"
9 with
'71A's
Schematic


1st R.F. 227
2nd R.F. 227
3rd R.F. 227
4th R.F. 227
5th R.F. 227
6th R.F. 227
Detector 227
Variable Primary Volume Control
Large Aluminum Can Shield
.0001 Mf.
1500
.00028 Mf.
1200
.5MA
.0001 Mf.
475ω
1500ω
.002
.00025 Mf.
.0001 Mf.
.00028 Mf.
1 Mf.
.00025 Mf.
Plug Connections See Detail #8.
4100
100
280
171
171
Magnetic Dynamic Speaker
Plug Connections See Detail #7.
Push-Pull Amplifier
110v. AC

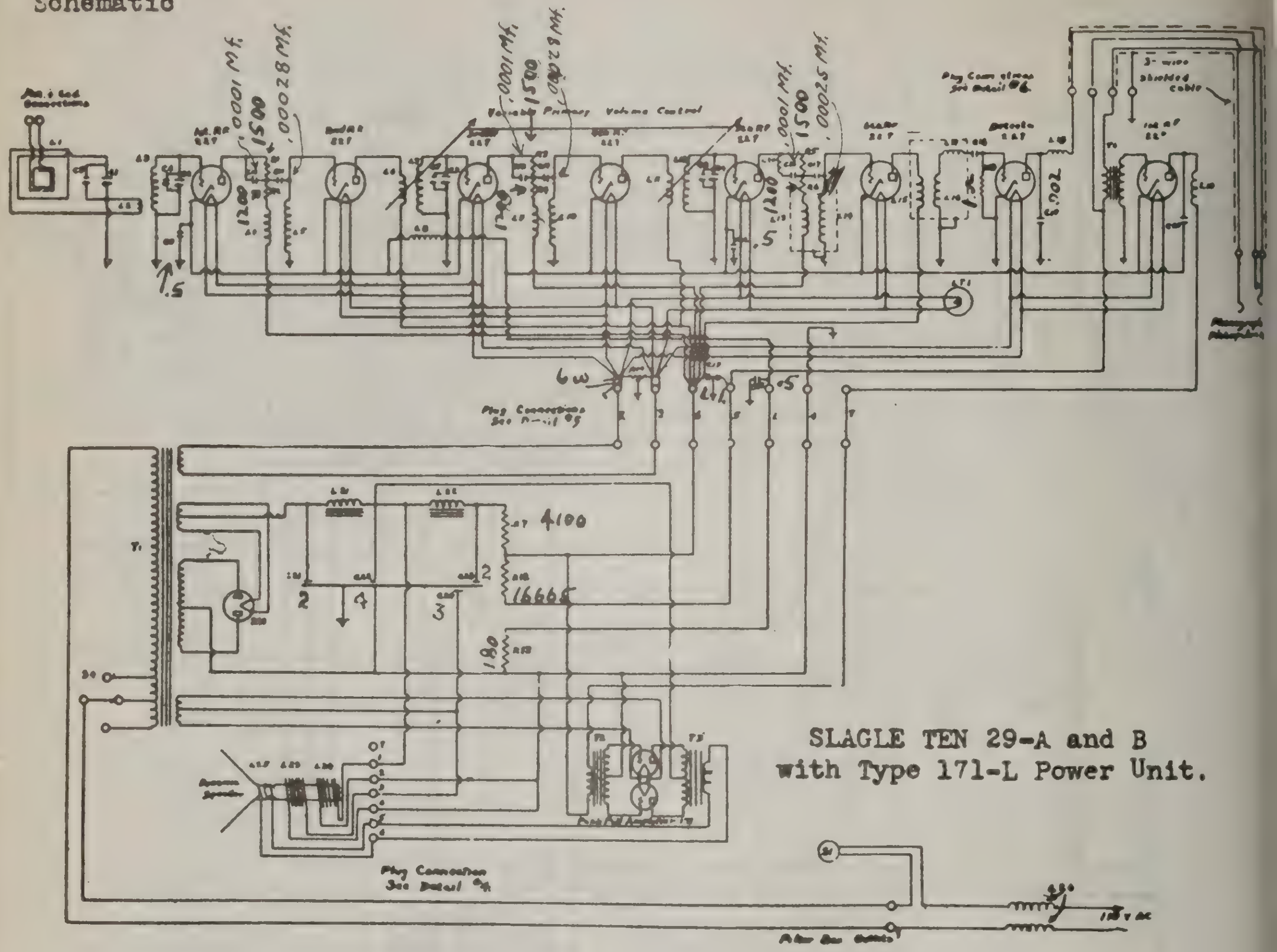
Model Slagel 9


'27
'27
'27
'27
'27
'27
'27
RECEIVER
FRONT
RECTIFIER, POWER AMPLIFIER
'80
'71A
'71A
FRONT

Tube	Fil. Voltage	Plate Voltage	Plate Current	Grid Voltage	Cathode Plus
RF1	2.15	80	4.5ma	3.	3.
RF2	2.15	88	5.3	3.	3.
RF3	2.15	80	4.0	3.	3.
RF4	2.15	88	5.3	3.	3.
RF5	2.15	80	4.5	3.	3.
RF6	2.15	89	4.6	3.	3.
Det	2.15	180	1.	20.	
PP1	4.9	172	17.	37.	
PP2	4.9	172	17	37.	
Rec	4.5				

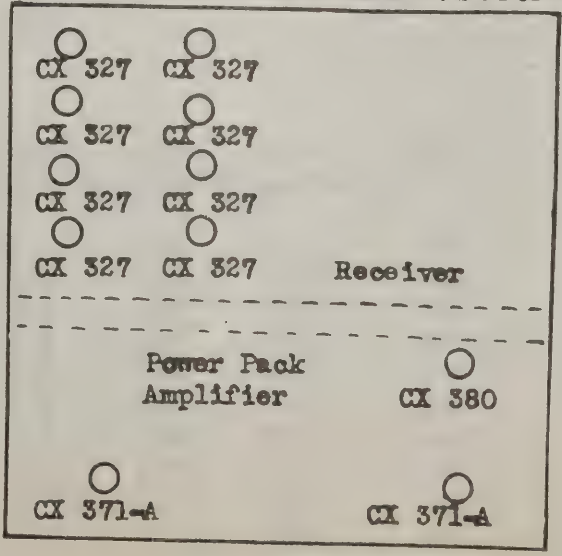
MODEL "Slagle"
10 29-A and
B with '71A
Power Pack.
Schematic

CONTINENTAL RADIO CORPORATION


.0001 Mf.
1500
.00028 Mf.
1200
.5
.0001 Mf.
1500
.00028 Mf.
.0001 Mf.
1500
.00025 Mf.
1200
.5
70.3
6w
.5
4100
2
16666
2
4
3
180

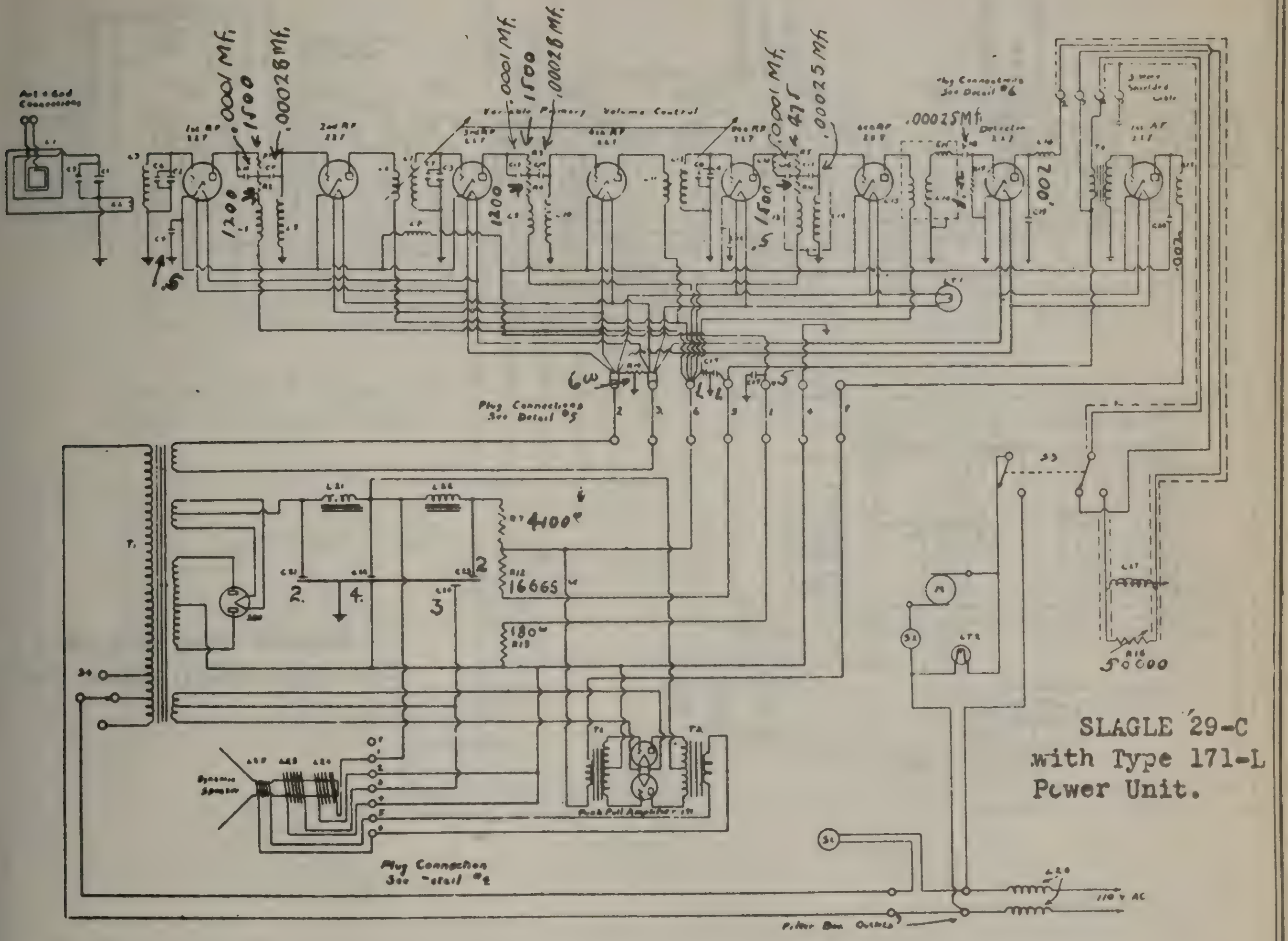
SLAGLE TEN 29-A and B
with Type 171-L Power Unit.

SIAGIE 29 A and B with '71 Pr.Pck.

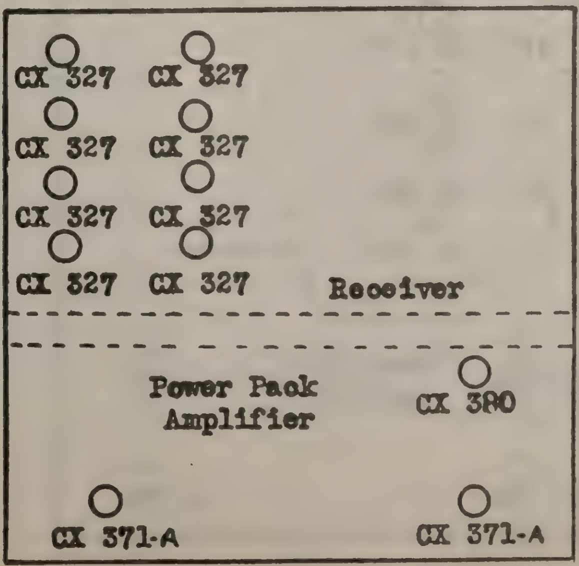

CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
Receiver
Power Pack
Amplifier
CX 380
CX 371-A
CX 371-A

CONTINENTAL RADIO CORPORATION

MODEL "Slagle"
29-C with '71A
Power Pack.
Schematic

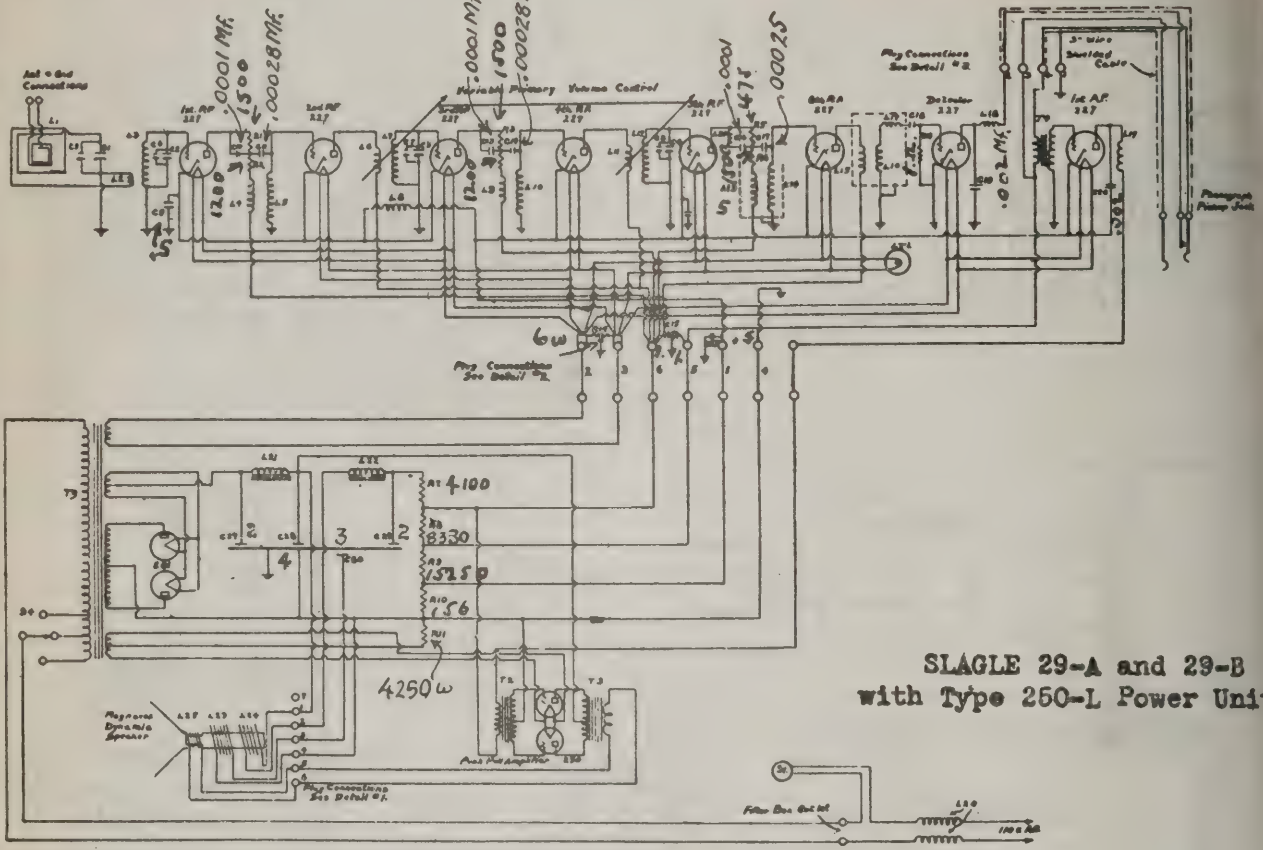

.0001 Mf.
1500
.00028 Mf.
1200
1.5
.0001 Mf.
1500
.00028 Mf.
1200
.0001 Mf.
475
.00025 Mf.
1500
.00025 Mf.
.002
.002
6w
4100
16665
180
2.
4.
3
2
50000
Plug Connections See Detail #5
Plug Connection See Detail #2
Push Pull Amplifier 171
Dynamic Speaker
110 v AC
Power Box Outlets

SLAGLE 29-C
with Type 171-L
Power Unit.


CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
Receiver
Power Pack
Amplifier
CX 380
CX 371-A
CX 371-A

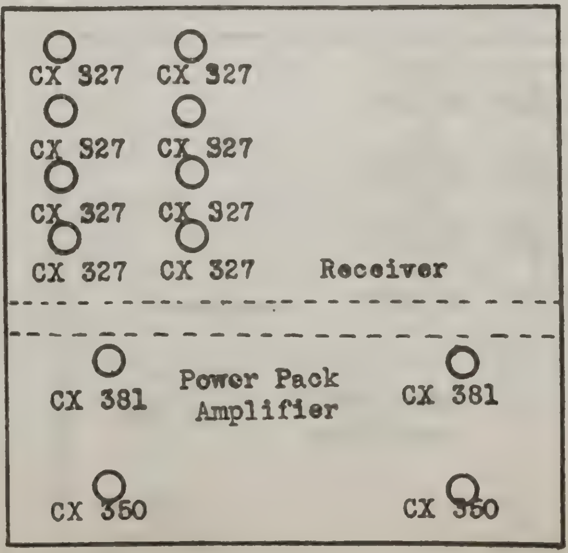
CONTINENTAL RADIO CORPORATION

MODEL "Slagle"
29-A and 29-B
with '50 Power
Pack.
Schematic


Ant + Gnd Connections
.0001 Mf.
1500
.00028 Mf.
1st RF 227
2nd RF 227
3rd RF 227
4th RF 227
5th RF 227
6th RF 227
Detector 227
1st A.F. 227
Variable Primary Volume Control
.0001 Mf.
1500
.00028 Mf.
.0001
475
.00025
1200
1200
5
.5
.002 Mf.
.5
3-wire Shielded Cable
Plug Connections See Detail #2
Phonograph Pickup Jack
6ω
.5
Plug Connections See Detail #2
2
3
6
5
1
4
4100
8330
15150
156
4250ω
2
3
2
4
Magnavox Dynamic Speaker
Plug Connections See Detail #1
Push Pull Amplifier 250
Filter Box Outlet
110 V AC

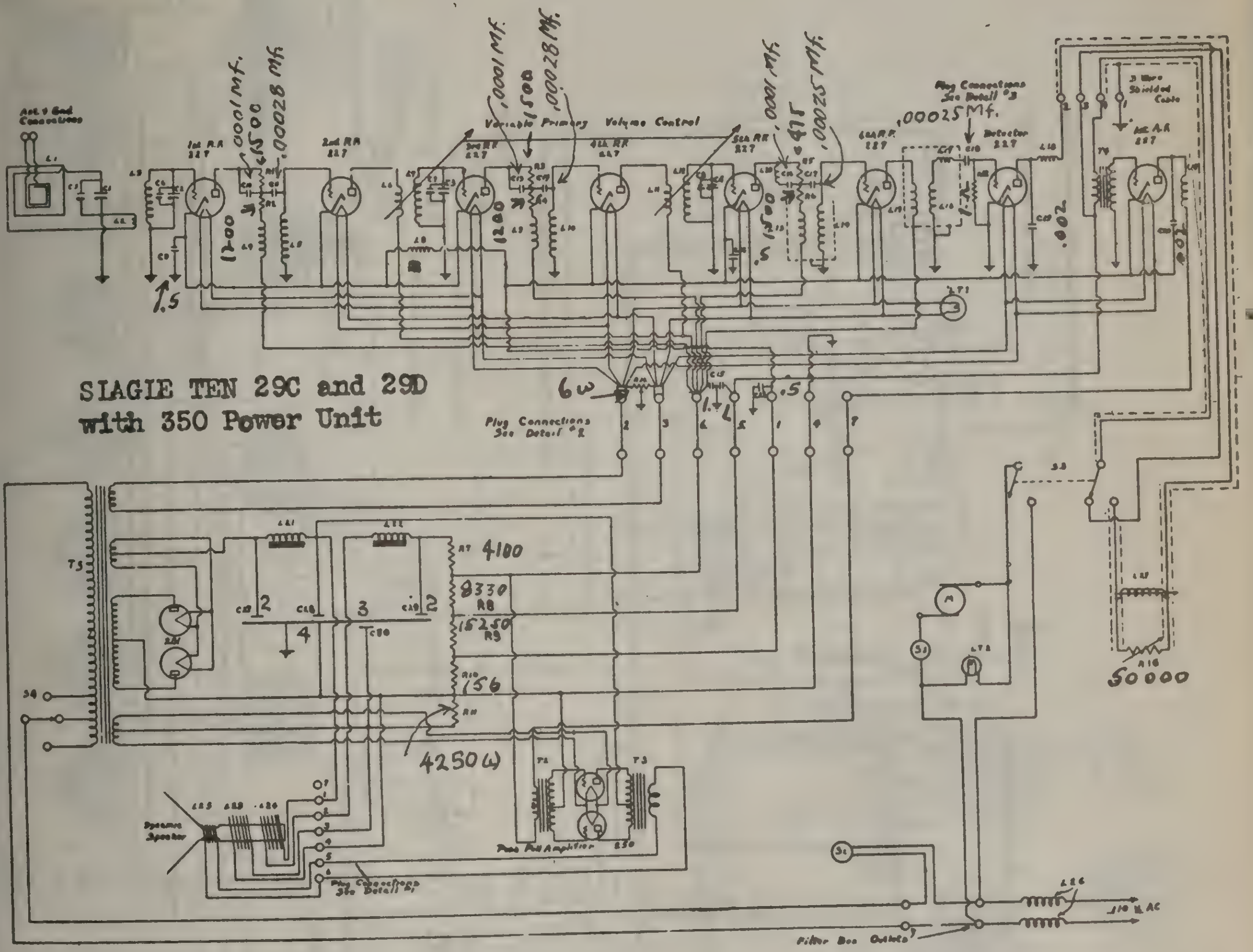
SLAGLE 29-A and 29-B with Type 250-L Power Unit.

SLAGLE 29A and 29B

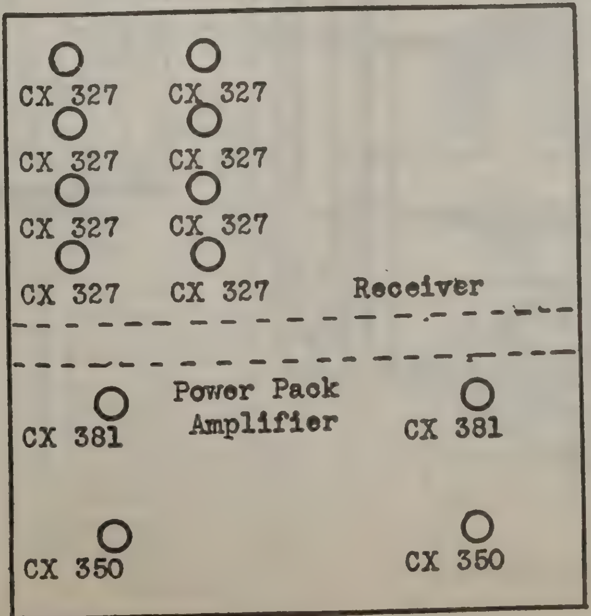

CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
Receiver
CX 381
Power Pack Amplifier
CX 381
CX 350
CX 350

CONTINENTAL RADIO CORPORATION

MODEL "Slagle"
29-C and 29-D
with '50 Power
Pack.
Schematic

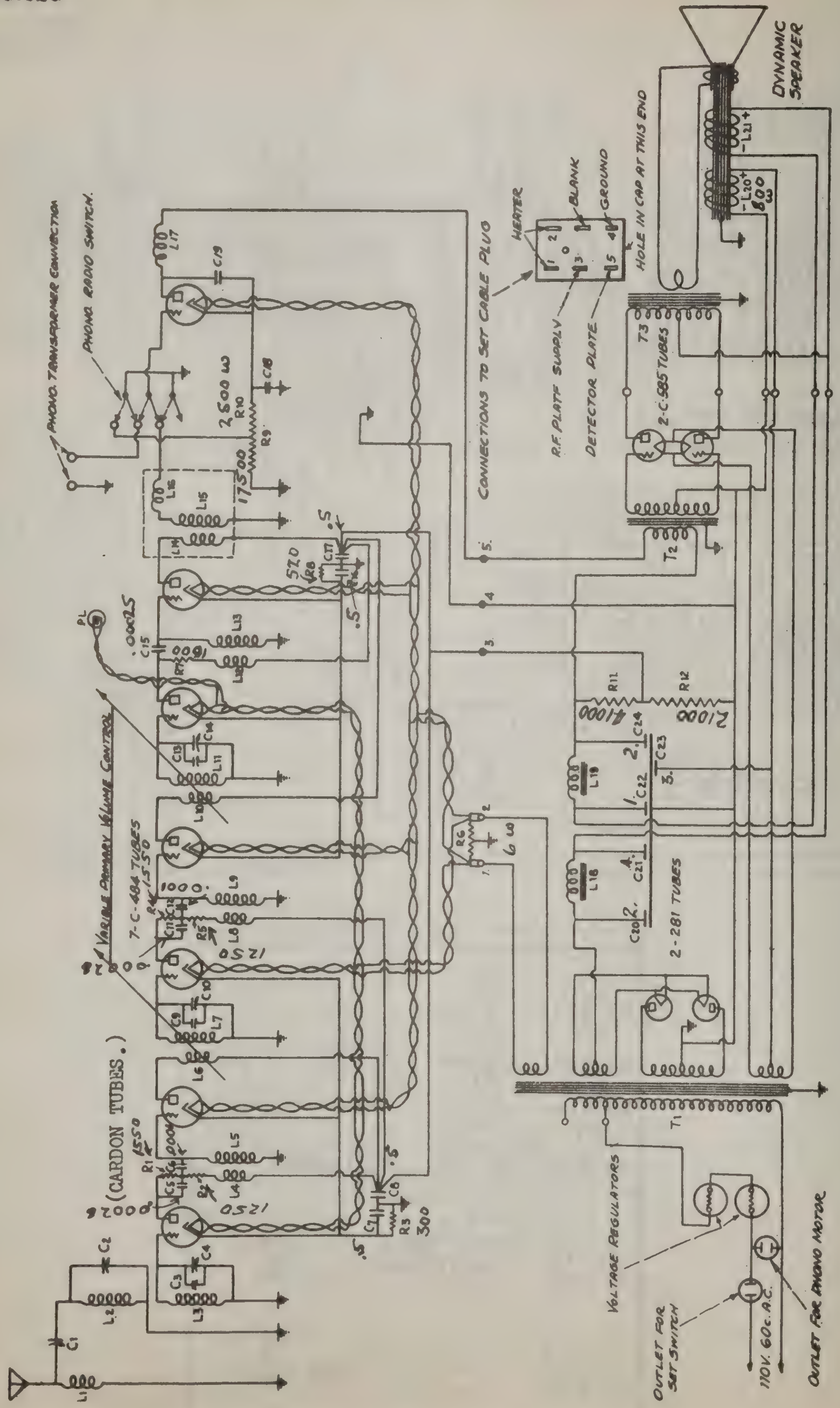

Ant. & Gnd. Connections
L1
1st R.F. 227
2nd R.F. 227
3rd R.F. 227
4th R.F. 227
5th R.F. 227
6th R.F. 227
Detector 227
1st A.F. 227
.0001 Mf.
1500
.00028 Mf.
1200
.5
Variable Primary
Volume Control
.0001 Mf.
1500
.00028 Mf.
1200
.0001 Mf.
415
.00025 Mf.
.5
1500
.00025 Mf.
Plug Connections See Detail #3
1.M
.002
3 Wire Shielded Cable
LT1
6ω
Plug Connections See Detail #2
1.
.5
S3
T5
4100
8330 R8
15250 R9
156 R10
R11
4250ω
2
4
3
2
281
T1
T2
T3
Push Pull Amplifier 250
Dynamic Speaker
Plug Connections See Detail #1
LT2
S1
S2
S4
R16
50000
Filter Box Outlets
110 V AC

SIAGIE TEN 29C and 29D
with 350 Power Unit


CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
CX 327
Receiver
Power Pack
Amplifier
CX 381
CX 381
CX 350
CX 350

MODEL Star Raider
R-20, R-30, R-40
Schematic

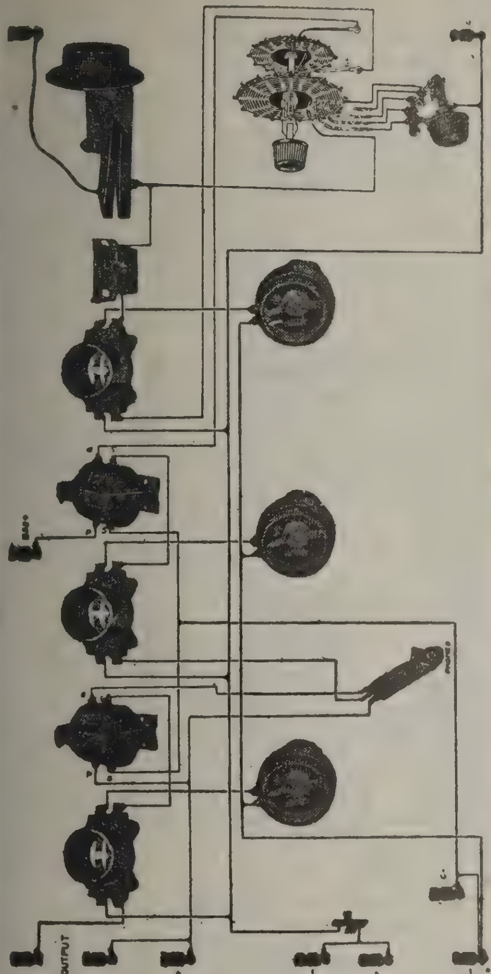
CONTINENTAL RADIO CORPORATION



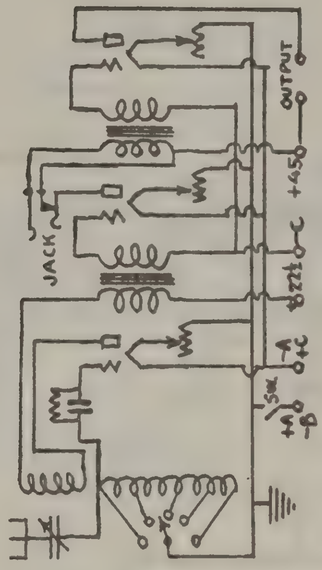
(CARDON TUBES.)
7-C-484 TUBES
VARIABLE PRIMARY VOLUME CONTROL
PHONO TRANSFORMER CONNECTION
PHONO RADIO SWITCH.
CONNECTIONS TO SET CABLE PLUG
HEATER
BLANK
GROUND
R.F. PLATE SUPPLY
DETECTOR PLATE
HOLE IN CAP AT THIS END
DYNAMIC SPEAKER
2-C-585 TUBES
2-281 TUBES
VOLTAGE REGULATORS
OUTLET FOR SET SWITCH
110V. 60c. A.C.
OUTLET FOR PHONO MOTOR
L1
C1
L2
C2
L3
C3
C4
C5
C6
C7
R1
R2
R3
300
L4
L5
L6
L7
C9
C10
C11
C12
R4
R5
L8
L9
L10
L11
C13
C14
R6
6 ω
R7
C15
.00025
L12
L13
1600
L14
L15
L16
C17
R8
520
.5
R9
R10
2500 ω
17500
C18
C19
L17
L18
L19
C20
C21
C22
C23
C24
R11
R12
41000
21000
T1
T2
T3
L20
L21
800 ω
PL
1550
1250
1000
.0002

MODEL XJ,XL
MODEL 3B, 3C
Schematic

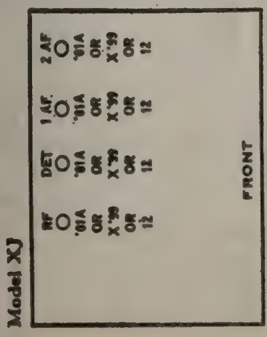
CROSLEY RADIO CORP.

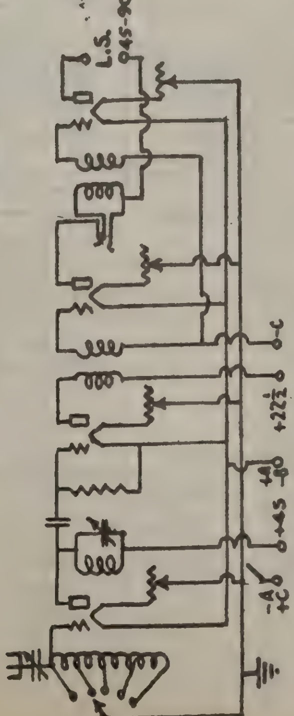

OUTPUT
B+45
B-
A+
A-
C-
B+90

Crosley 3B or 3C Detector and Two-step Amplifier Receiver

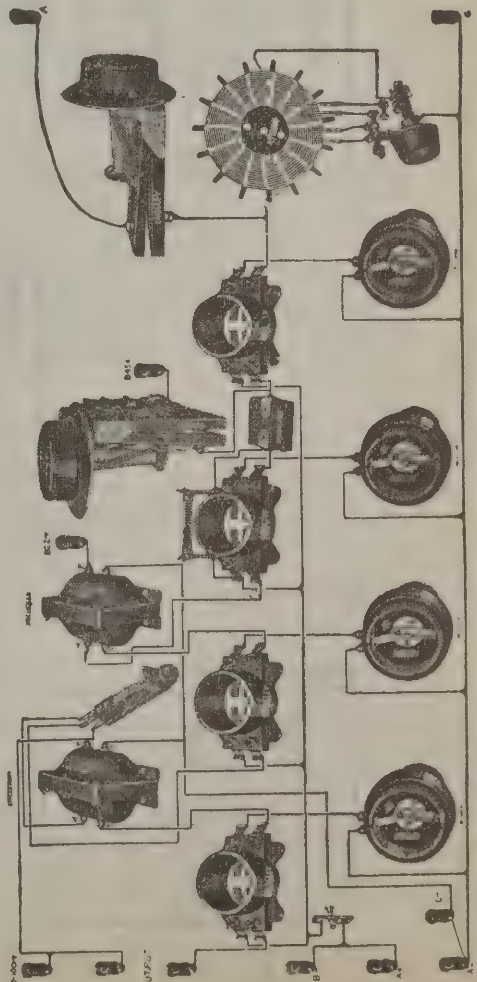

OUTPUT
+45
-C
+22½
-A
+C
+A
-B
SW
JACK

MODEL 3B or 3C


Model XJ
RF
'01A
OR
X'99
OR
12
DET
'01A
OR
X'99
OR
12
1 AF
'01A
OR
X'99
OR
12
2 AF
'01A
OR
X'99
OR
12
FRONT


L.S.
045-90V.
-C
+22½
+A
-B
+45
-A
+C

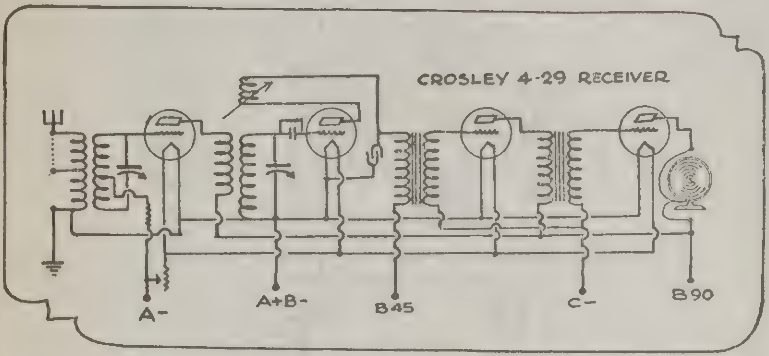
MODELS XJ and XL


OUTPUT
B+45
A+
A-
C-

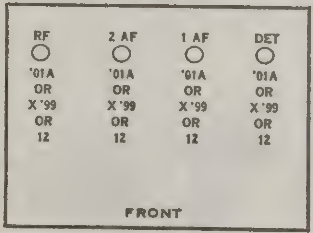
Crosley Models XJ and XL Circuit

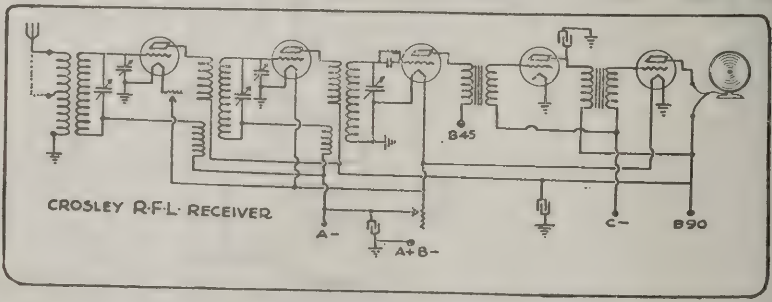
MODEL 4-29
MODEL RFL 60,75
Schematic

CROSLEY RADIO CORP.

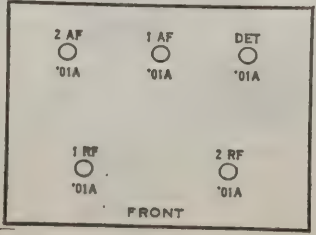

CROSLEY 4·29 RECEIVER
A-
A+B-
B45
C-
B90

Model 4-29


RF
'01A
OR
X'99
OR
12
2 AF
'01A
OR
X'99
OR
12
1 AF
'01A
OR
X'99
OR
12
DET
'01A
OR
X'99
OR
12
FRONT

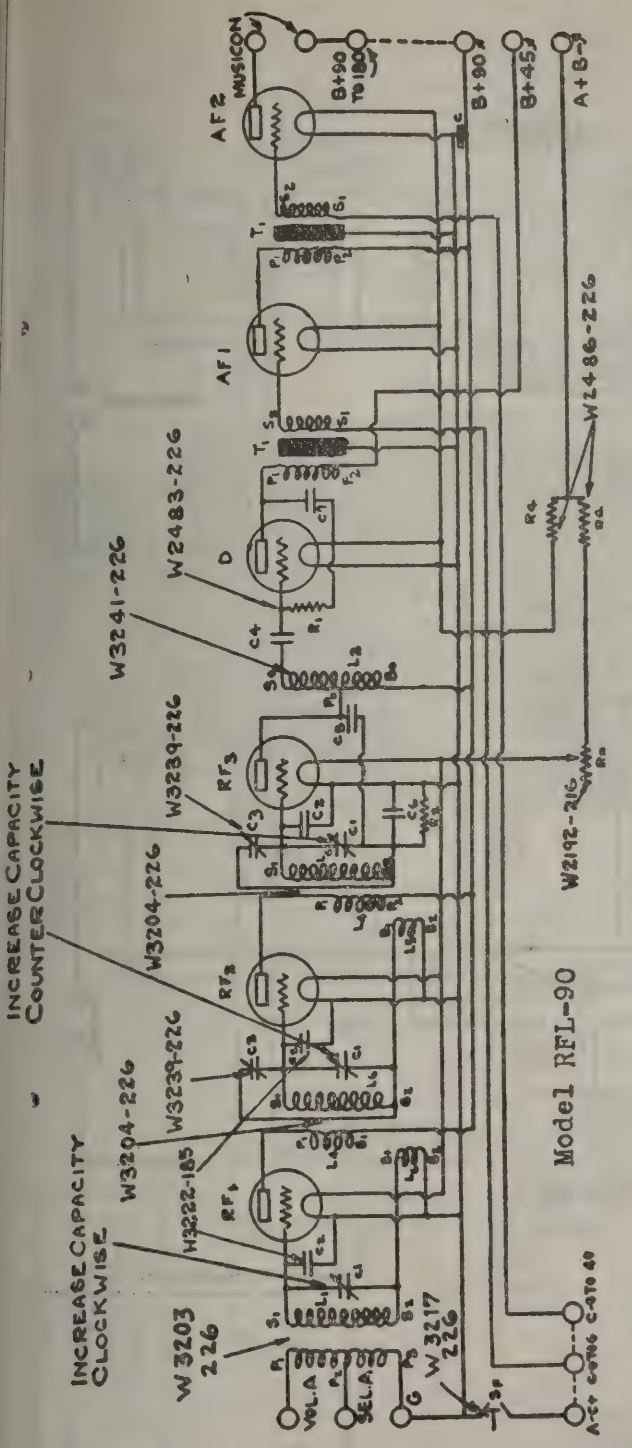

B45
CROSLEY R·F·L· RECEIVER
A-
A+B-
C-
B90

Models RFL60, 75

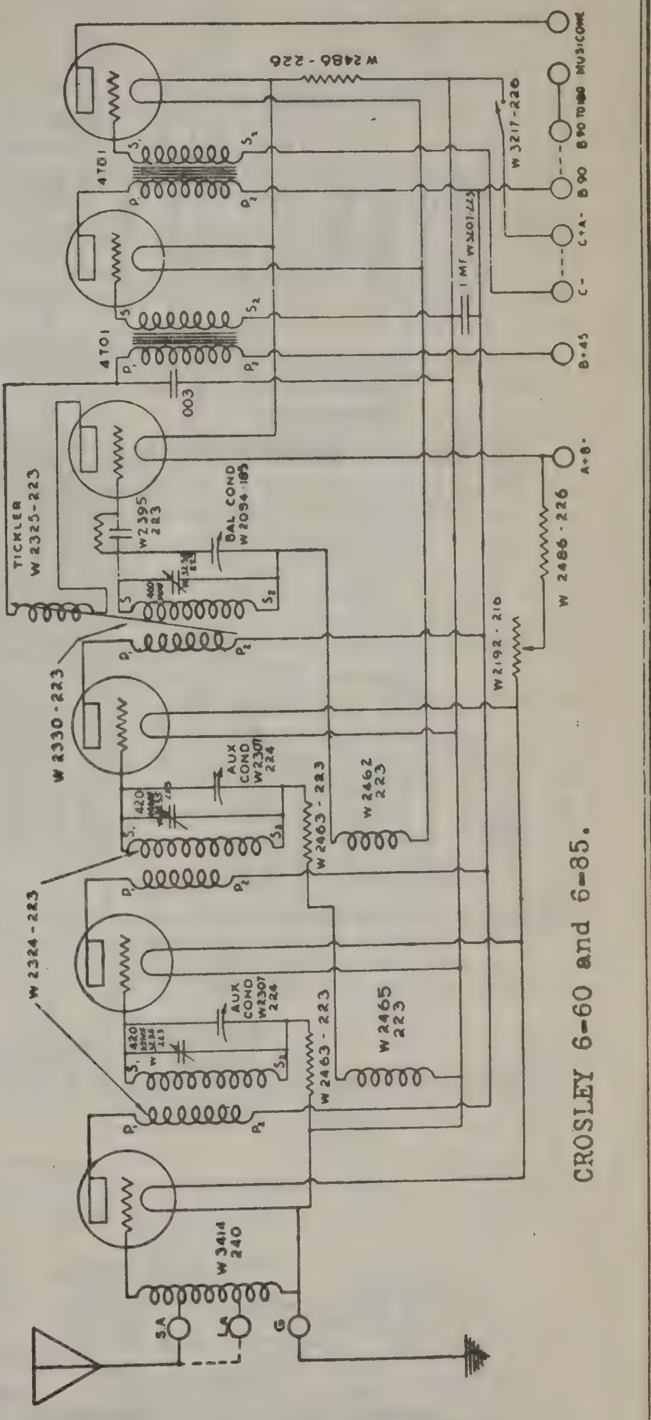

2 AF
'01A
1 AF
'01A
DET
'01A
1 RF
'01A
2 RF
'01A
FRONT

CROSLEY RADIO CORP.

MODEL RFL 90
MODEL 6-60,6-85
Schematic

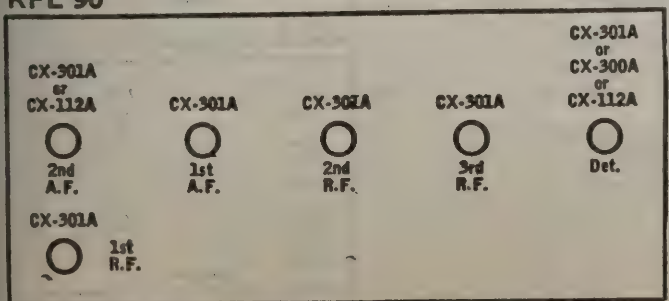

MUSICON
AF2
B+90 TO 180
B+90
B+45
A+B-
T1
AF1
W2483-226
D
W3241-226
C4
R1
R4
Ra
W2486-226
W3239-226
RF3
INCREASE CAPACITY COUNTERCLOCKWISE
W3204-226
RF2
W3239-226
W3204-226
W3222-185
RF1
INCREASE CAPACITY CLOCKWISE
W3203 226
W3217 226
W2192-216
VOL.A
SEL.A
G
Sp
A-C+
C- TO 40
C-4 TO 40

Model RFL-90

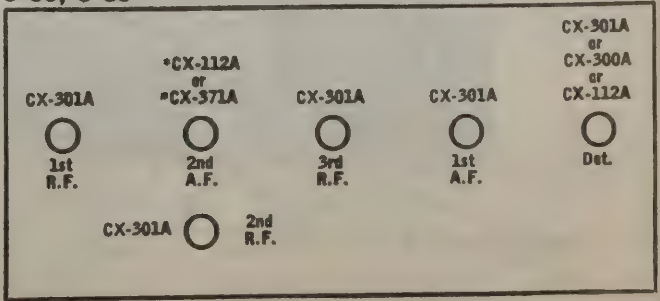

W2486-226
MUSICONE
B90 TO 180
W3217-226
B90
C+A-
C-
B+45
W3107-223
1 MF
4 TO 1
4 TO 1
.003
A+B-
W2486-226
TICKLER W2325-223
W2395 223
BAL COND W2034-185
W2192-216
W2330-223
AUX COND W2307 224
W2463-223
W2462 223
W2324-223
AUX COND W2307 224
W2463-223
W2465 223
W3414 240
SA
S
G

CROSLEY 6-60 and 6-85.

RFL 90 (Batt.)

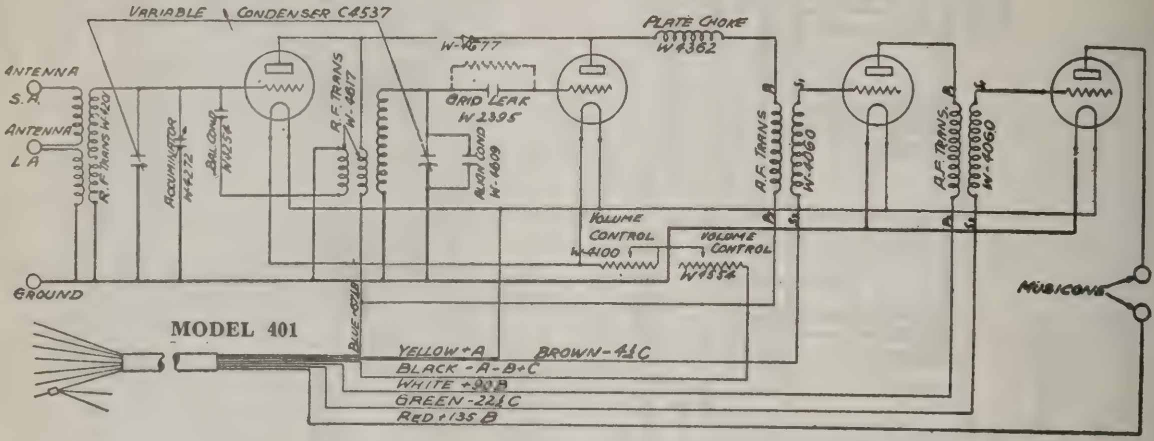

CX-301A or CX-112A
2nd A.F.
CX-301A
1st A.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st R.F.

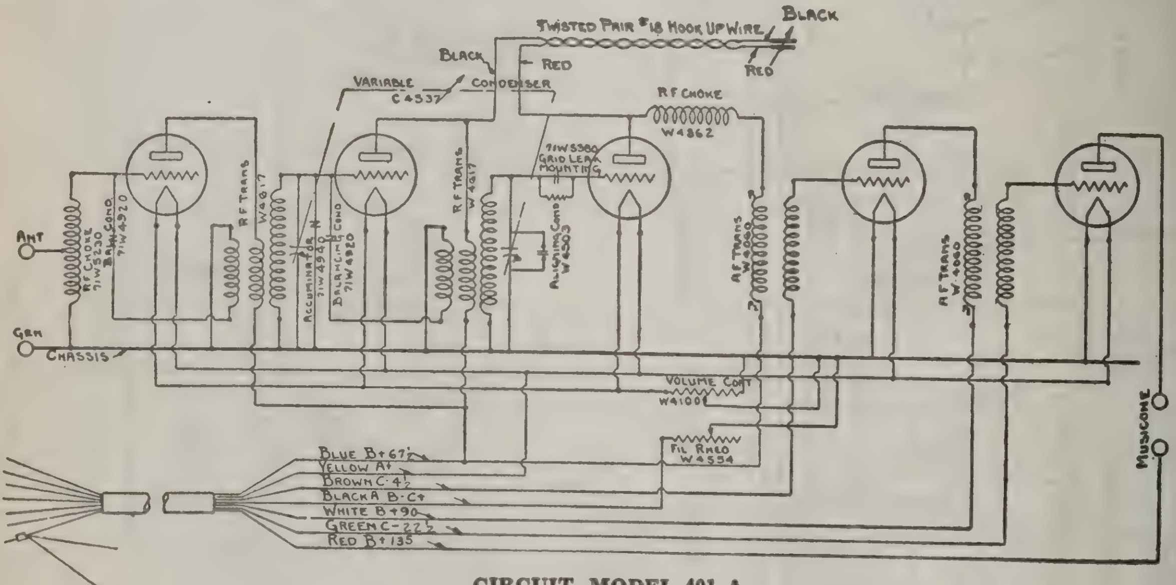
6-60, 6-85 (Batt.)


CX-301A
1st R.F.
*CX-112A or *CX-371A
2nd A.F.
CX-301A
3rd R.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
2nd R.F.

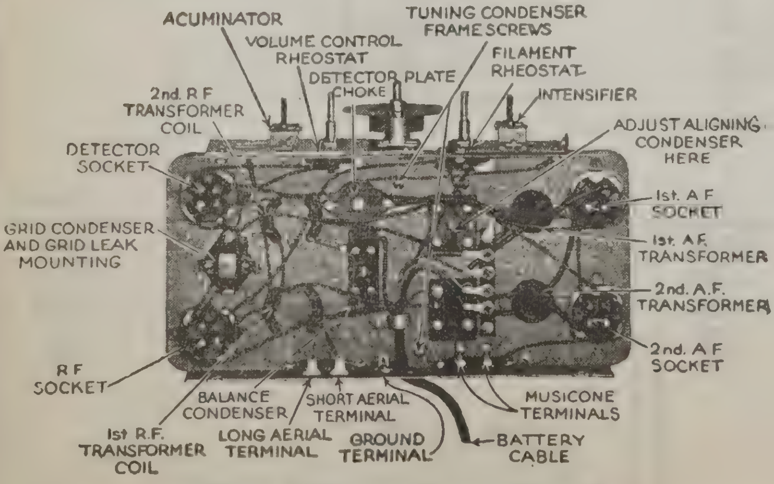
MODEL 401
MODEL 401-A
Schematic

CROSLEY RADIO CORP


VARIABLE CONDENSER C4537
W-4677
PLATE CHOKE W4362
ANTENNA S.A.
ANTENNA L.A.
R.F. TRANS W-4120
ACCUMINATOR W-4272
BAL. COND W4252
R.F. TRANS W-4817
GRID LEAK W 2395
ALIGN COND W-4809
A.F. TRANS W-4060
VOLUME CONTROL W-4100
VOLUME CONTROL W4554
GROUND
MUSICONE
MODEL 401
BLUE +67½B
YELLOW +A
BROWN -4½C
BLACK -A-B+C
WHITE +90B
GREEN -22½C
RED +135 B

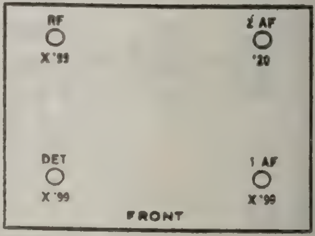

TWISTED PAIR #18 HOOK UP WIRE
BLACK
RED
VARIABLE CONDENSER C4537
RF CHOKE W4362
71W5380 GRID LEAK MOUNTING
ANT
RF CHOKE 71W5230
BAL COND 71W4920
RF TRANS W4817
ACCUMINATOR 71W4940
BALANCING COND 71W4920
ALIGNING COND W4503
AF TRANS W4060
GRN
CHASSIS
VOLUME CONT W4100
FIL RHEO W4554
MUSICONE
BLUE B+67½
YELLOW A+
BROWN C-4½
BLACK A-B-C+
WHITE B+90
GREEN C-22½
RED B+135

CIRCUIT, MODEL 401-A

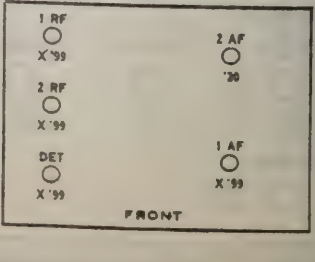

ACUMINATOR
VOLUME CONTROL RHEOSTAT
TUNING CONDENSER FRAME SCREWS
DETECTOR PLATE CHOKE
FILAMENT RHEOSTAT
INTENSIFIER
2nd. R.F TRANSFORMER COIL
DETECTOR SOCKET
ADJUST ALIGNING CONDENSER HERE
1st. A.F SOCKET
GRID CONDENSER AND GRID LEAK MOUNTING
1st. A.F. TRANSFORMER
2nd. A.F. TRANSFORMER
2nd. A.F SOCKET
R.F SOCKET
BALANCE CONDENSER
SHORT AERIAL TERMINAL
MUSICONE TERMINALS
1st R.F. TRANSFORMER COIL
LONG AERIAL TERMINAL
GROUND TERMINAL
BATTERY CABLE

BOTTOM VIEW, MODEL 401 CHASSIS

Model 401 Bandbox Jr.

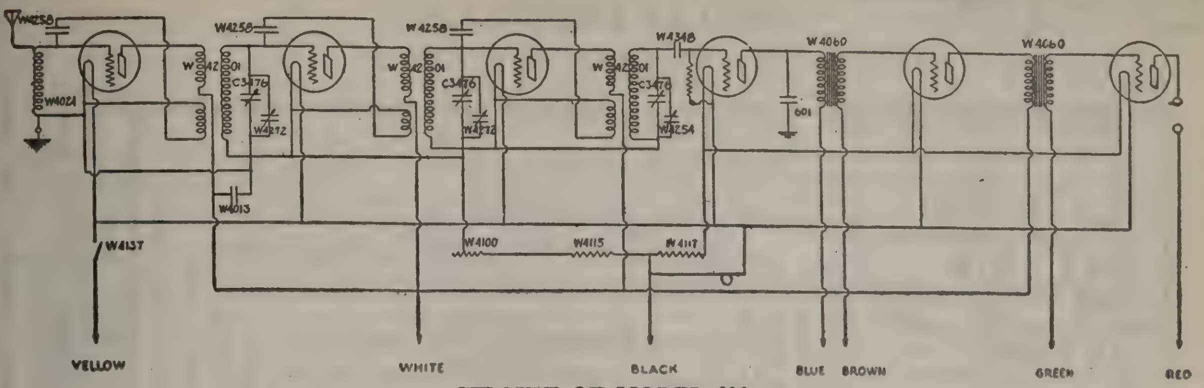

RF
X'99
2 AF
'20
DET
X'99
1 AF
X'99
FRONT

Model 401A Bandbox Jr.

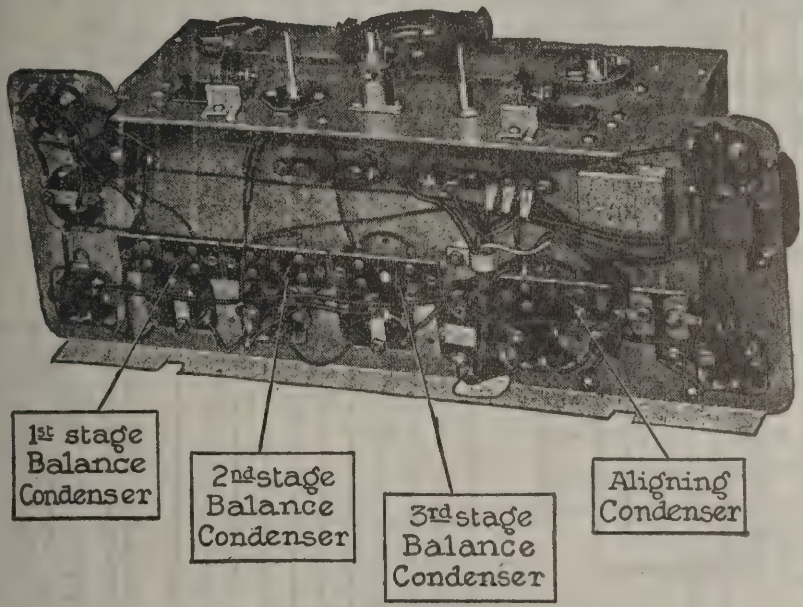

1 RF
X'99
2 AF
'20
2 RF
X'99
DET
X'99
1 AF
X'99
FRONT

CROSLEY RADIO CORP.

MODEL 601
A-C. Power Unit for A.C.7
Schematic


W4258
W4021
W4258
W4201
C3476
W4212
W4013
W4258
W4201
C3476
W4212
W4348
W4201
C3476
W4254
W4060
601
W4060
W4137
W4100
W4115
W4117
YELLOW
WHITE
BLACK
BLUE
BROWN
GREEN
RED

CIRCUIT OF MODEL 601


1st stage Balance Condenser
2nd stage Balance Condenser
3rd stage Balance Condenser
Aligning Condenser

BOTTOM VIEW, MODEL 601 CHASSIS

Loudspeaker.

1. Any model Crosley Musicone may be used with Bandbox, Model 601.

2. If a 171 output tube is used with 180 volts on the plate, Crosley Dynacone, Type E, is recommended for greatest volume and highest quality of reproduction. **Type E. Dynacone must be used—Type F cannot be operated with this set.**

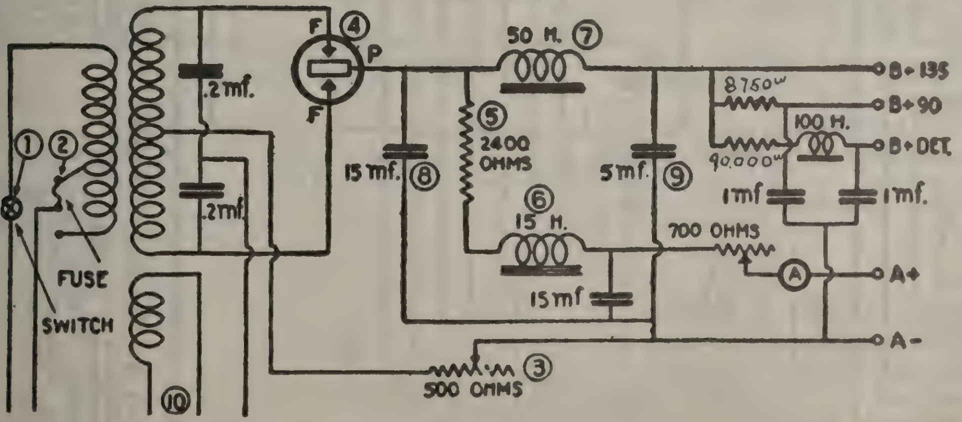
Removing Indicator Dial And Replacing Belts.

1. Take out three screws attaching indicator dial to center pulley and remove dial.

2. Loosen screws which control tension of belts and take off belts. If center tuning condenser is to be replaced, remove also center pulley.

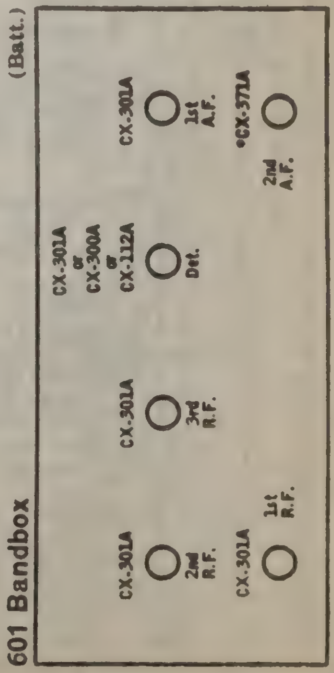
3. Replace in reverse order, being sure to put belts on pulleys with pulley drive pins through belt holes.

A.C.Power Unit
for Model A.C.7 Receiver.


①
②
FUSE
SWITCH
⑩
.2mf.
.2mf.
F
④
P
F
50 H. ⑦
B+135
8750w
B+90
100 H.
B+DET.
90,000w
⑤
2400 OHMS
15 mf. ⑧
5 mf. ⑨
1mf
1mf.
⑥
15 H.
700 OHMS
15mf
A
A+
A-
500 OHMS ③

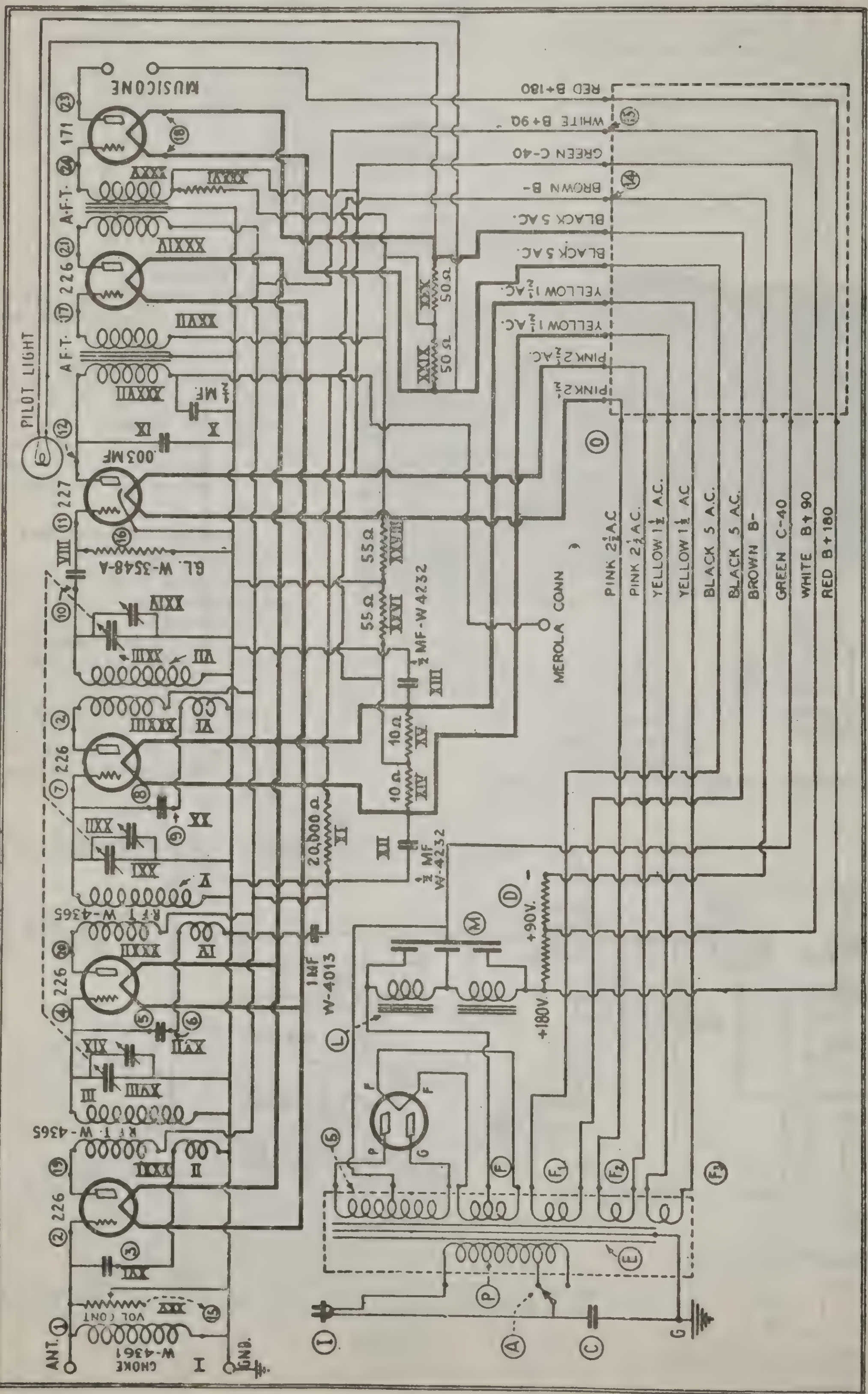
CROSLEY—Model 601

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A. GRID TEST	PLATE M A CHANGE
1	201A	1st.R.F.	5.1	90	5	90	0.0		7.0	11.0	4.0
2	201A	2nd.R.F.	5.1	90	5	90	0.0		7.0	11.0	4.0
3	201	3rd.R.F.	5.1	90	5	90	0.0		7.0	11.0	4.0
4	201A	Detector	5.1	45	5	45	0.0		2.0	5.5	3.5
5	201A	1st.A.F.	5.1	90	5	90	4.5		5.0	7.0	2.0
6	171A	2nd.A.F.	5.1	135	5	135	22.5		20.0	26.0	6.0


(Batt.)
CX-301A
1st A.F.
*CX-371A
2nd A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
3rd R.F.
CX-301A
2nd R.F.
CX-301A
1st R.F.
601 Bandbox

MODEL 602 A.C.
Power Converter for
MODELS 104,105,106
Schematic

CROSLEY RADIO CORP


ANT.
GND.
CHOKE W-4361
VOL CONT
226
R.F.T. W-4365
226
R.F.T. W-4365
226
1 MF W-4013
20,000 Ω
½ MF W-4232
10 Ω
10 Ω
55 Ω
55 Ω
½ MF-W 4232
G.L. W-3548-A
227
.003 MF
½ MF
PILOT LIGHT
A-F-T.
226
A-F-T.
171
MUSICONE
RED B+180
WHITE B+90
GREEN C-40
BROWN B-
BLACK 5 A.C.
BLACK 5 A.C.
YELLOW 1½ A.C.
YELLOW 1½ A.C.
PINK 2¼ A.C.
PINK 2¼
50 Ω
50 Ω
MEROLA CONN
PINK 2¼ A.C.
PINK 2¼ A.C.
YELLOW 1½ A.C.
YELLOW 1½ A.C.
BLACK 5 A.C.
BLACK 5 A.C.
BROWN B-
GREEN C-40
WHITE B+90
RED B+180
+90V.
+180V.
P
G
F
F
F₁
F₂
F₃
A
C
G
P
E
L
M
D
O
I

Circuits of the Crosley Model 602 A. C. Bandbox and Power Converter Models 104, 105 and 106. The dotted square at the lower right represents the plug by which the ten connections are made.

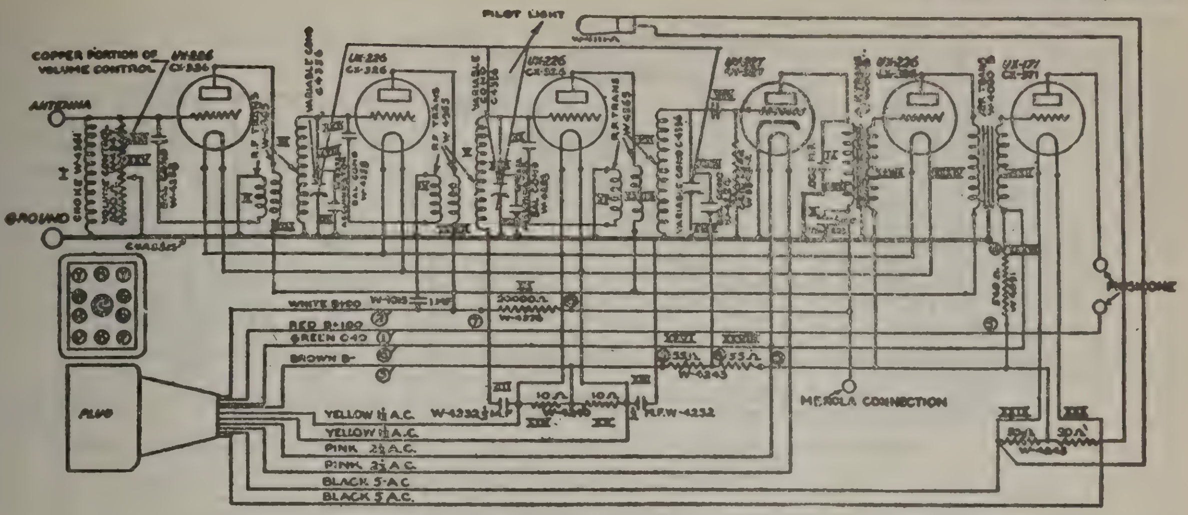
Values and Numbers Not Specified in Diagram.
Grid Leak—2 megohms.
VI-VII—R.F. Transformer, W4365.
X—By-Pass Condenser, W4233.
XI—Detector Plate Resistor, W4376.
XIV-XV—Center-Tap Resistor, W4240.

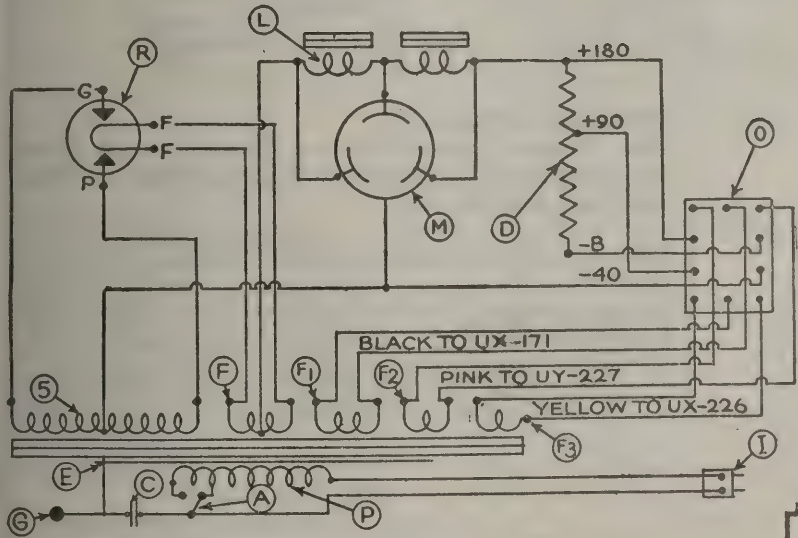
XVI-XVII-XX—Balancing Condensers, W4258.
XIX-XXII—Acuminators, (Compensating Condensers), W4272.
XVIII-XXI-XXIII—Tuning Condensers.
XXIV—Balancing Condenser, W4254.
XXV—Volume Control, 500 ohms, W4247.

XXVII-XXXIV—A.F. Transformers, W4060B (A .0008-mf. by-pass condenser W4512 is shunted across the secondary XXXV).
XXXVI—"C" Biasing Resistor, 540 ohms, W4391.

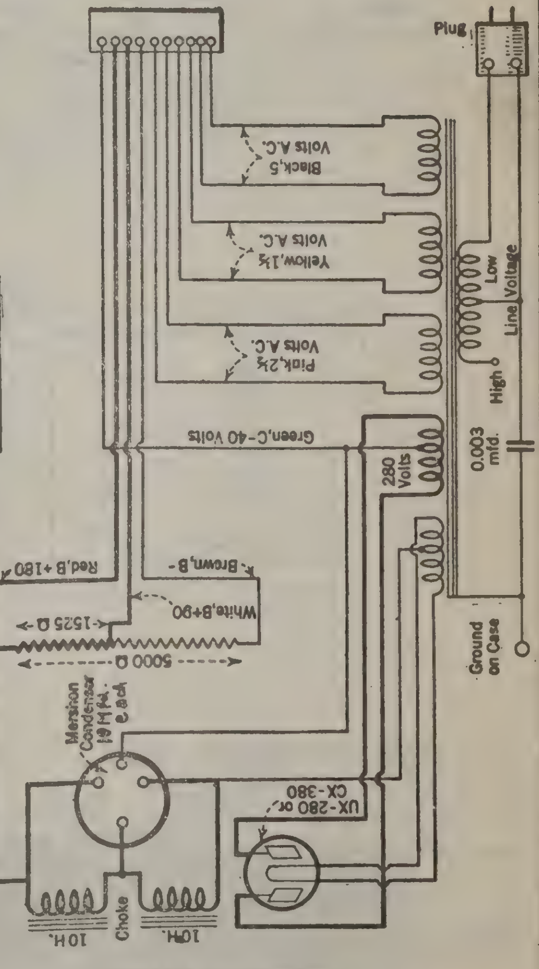
CROSLEY RADIO CORP

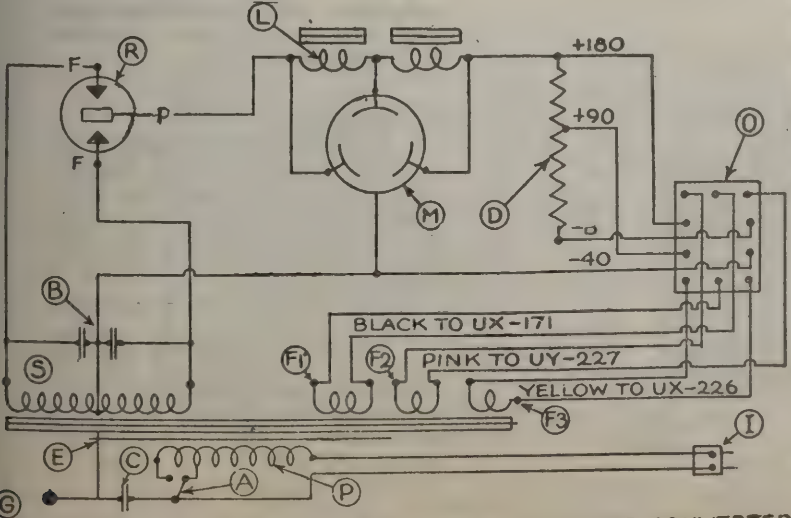
MODEL 602
MODEL 602 Power Unit
MODELS 104,105,106
MODELS 104R,105R


PILOT LIGHT
COPPER PORTION OF VOLUME CONTROL
UY-224 CX-324
ANTENNA
GROUND
CHASSIS
UX-226 CX-326
UY-227 CX-327
UX-171 CX-371
PHONE
WHITE B+90
RED B+180
GREEN C-40
BROWN B-
PLUG
YELLOW 1½ A.C.
YELLOW 1½ A.C.
PINK 2½ A.C.
PINK 2½ A.C.
BLACK 5 A.C.
BLACK 5 A.C.
MERSOLA CONNECTION


R
G
F
F
P
L
M
D
O
+180
+90
-8
-40
BLACK TO UX-171
PINK TO UY-227
YELLOW TO UX-226
S
F
F1
F2
F3
E
C
A
P
I
G

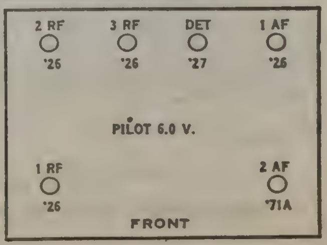
CIRCUIT DIAGRAM OF MODELS 104, 105, AND 106 POWER CONVERTER


Plug
Black, 5 Volts A.C.
Yellow, 1½ Volts A.C.
Pink, 2½ Volts A.C.
Low
Line Voltage
High
Green, C-40 Volts
280 Volts
0.003 mfd.
Red, B+180
Brown, B-
White, B+90
1525 Ω
5000 Ω
Mersion Condenser 18 Mfd. each
Ground on Case
UX-280 or CX-380
10H.
Choke
10H.


F
R
P
F
L
M
D
O
+180
+90
-8
-40
B
S
BLACK TO UX-171
PINK TO UY-227
YELLOW TO UX-226
F1
F2
F3
E
C
A
P
I
G

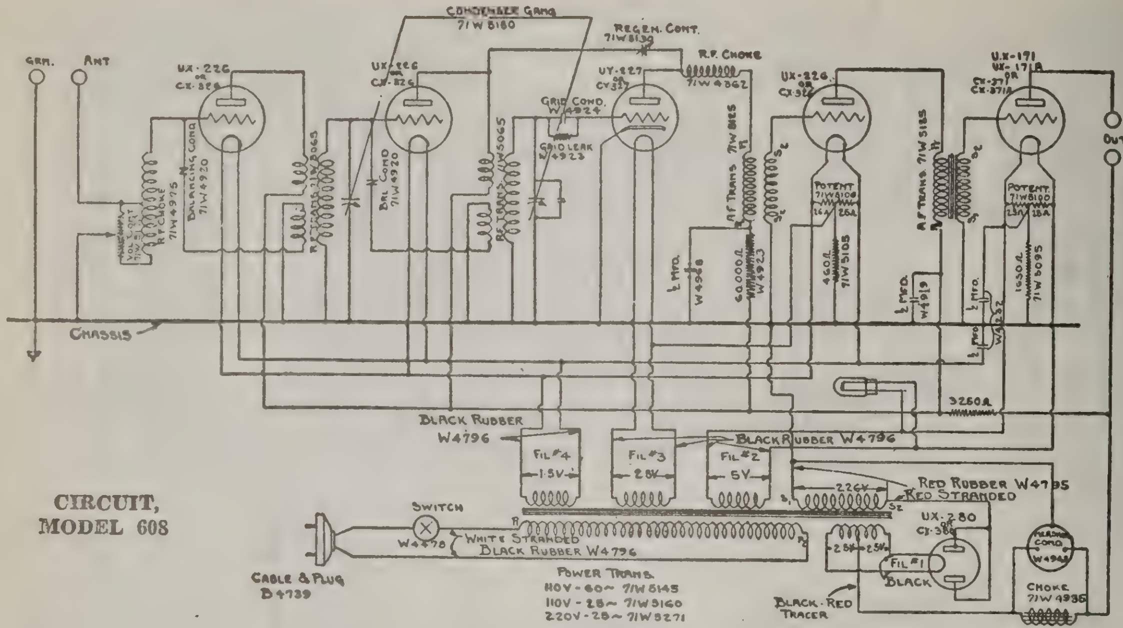
CIRCUIT DIAGRAM OF MODELS 104R AND 105R POWER CONVERTER

Model 602 (AC) Bandbox


2 RF '26
3 RF '26
DET '27
1 AF '26
PILOT 6.0 V.
1 RF '26
2 AF '71A
FRONT

MODEL 608
Schematic
Voltage,Bottom View

CROSLEY RADIO CORP.


CONDENSER GANG 71W 8180
REGEN. CONT. 71W 8139
R.F. CHOKE 71W 4362
GRD.
ANT
UX-226 OR CX-326
UY-227 OR CY-327
UX-171 UX-171A OR CX-371 CX-371A
OUTPUT
BALANCING COND 71W 4920
BAL COND 71W 4920
RF CHOKE 71W 4975
RF TRANS 71W 5065
GRID COND. W4924
GRID LEAK W4923
AF TRANS 71W 5185
POTENT 71W 5100
26Ω 26Ω
460Ω 71W 5105
1630Ω 71W 5095
½ MFD. W4968
60,000Ω W4923
½ MFD. W4919
½ MFD. W4282
CHASSIS
3250Ω
BLACK RUBBER W4796
FIL #4 1.5V
FIL #3 2.5V
FIL #2 5V
226V
RED RUBBER W4795
RED STRANDED
SWITCH W4478
WHITE STRANDED
UX-280 OR CX-380
FIL #1
BLACK
MERSHON COND. W4948
CHOKE 71W 4936
CABLE & PLUG B4739
POWER TRANS. 110V-60~ 71W 5145 110V-25~ 71W 5160 220V-25~ 71W 5271
BLACK-RED TRACER

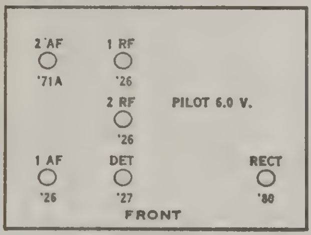
CIRCUIT,
MODEL 608

CROSLEY—Model 608

Line Voltage 115—227 Emitter Biased 7 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

Tube No. in Order	Type of Tube	Position of Tube 1st R.F., Det., Etc.	Readings Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.55	120	1.45	115	7		5.5	9.0	3.5
2	226	2nd.R.F.	1.55	120	1.45	115	7		5.5	9.0	3.5
3	227	Detector	2.40	100	2.20	30	0		1.5	1.8	.3
4	226	1st.A.F.	1.55	120	1.45	110	7		5.0	8.5	3.5
5	171A	2nd.A.F.	5.2	210	5.00	135	25		15.0	17.0	2.0
6	280	Rectifier	5.3		5.00						

Model 608 Gembox


2 AF
'71A
1 RF
'26
2 RF
'26
PILOT 6.0 V.
1 AF
'26
DET
'27
RECT
'80
FRONT

Tuning Condensers.

1. The complete condenser gang should be removed and replaced as a unit.

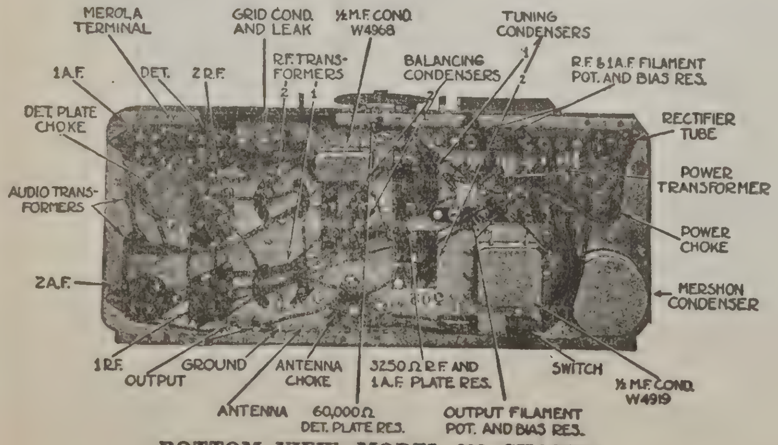
2. Take off station selector knob and remove leads from pilot light socket first. Then unsolder condenser leads and remove gang. Replace in reverse order.

Regeneration.

1. Regeneration is secured by means of a small variable condenser connecting the detector plate to the plate of the second r. f. tube. The amount of regeneration may be controlled by adjusting this condenser.

Alignment of Tuning Condensers

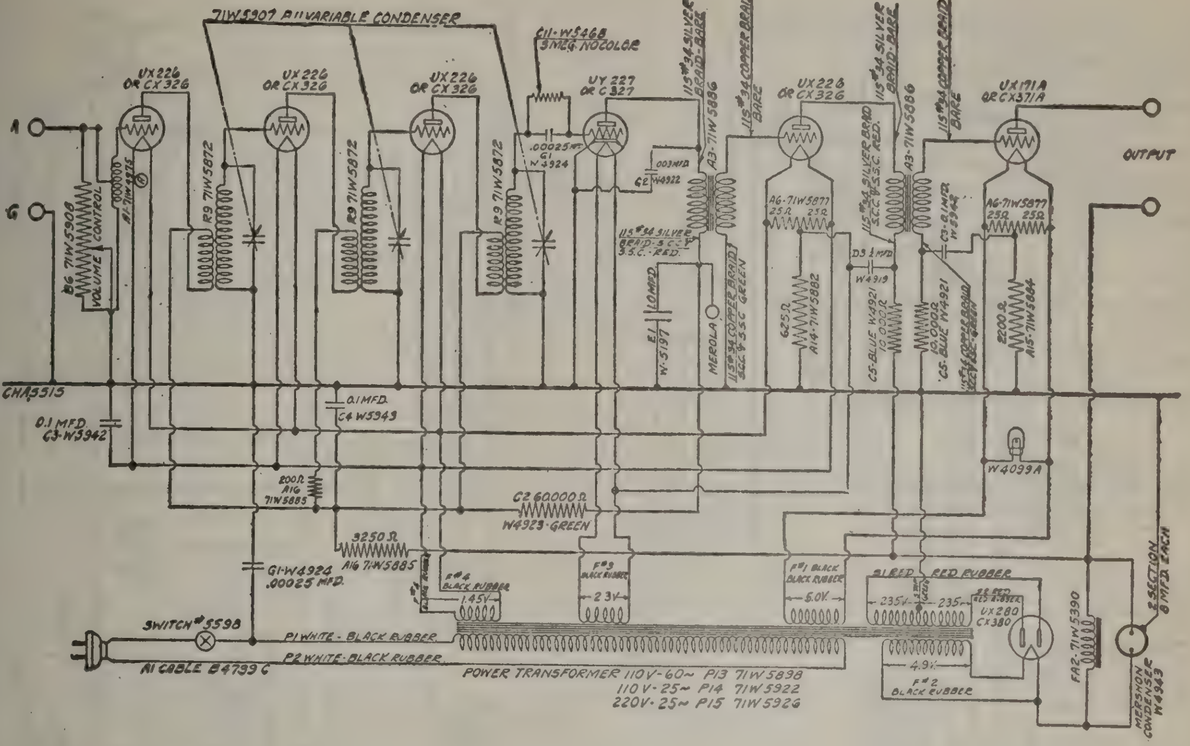
1. A small adjustable aligning condenser shunted across the detector-stage tuning condenser serves as a means of aligning the tuning condensers so that they track together properly.


MEROLA TERMINAL
GRID COND. AND LEAK
½ M.F. COND. W4968
TUNING CONDENSERS
1
2
R.F. TRANSFORMERS
2
1
BALANCING CONDENSERS
R.F. & 1 A.F. FILAMENT POT. AND BIAS RES.
1 A.F.
DET.
2 R.F.
DET. PLATE CHOKE
RECTIFIER TUBE
POWER TRANSFORMER
AUDIO TRANSFORMERS
POWER CHOKE
2 A.F.
MERSHON CONDENSER
1 R.F.
OUTPUT
GROUND
ANTENNA CHOKE
3250 Ω R.F. AND 1 A.F. PLATE RES.
SWITCH
½ M.F. COND. W4919
ANTENNA
60,000 Ω DET. PLATE RES.
OUTPUT FILAMENT POT. AND BIAS RES.

BOTTOM VIEW, MODEL 608 CHASSIS

CROSLEY RADIO CORP.

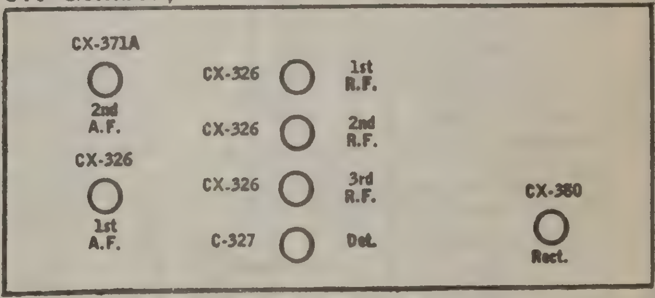
MODEL 610
Schematic
Voltage, Bottom View

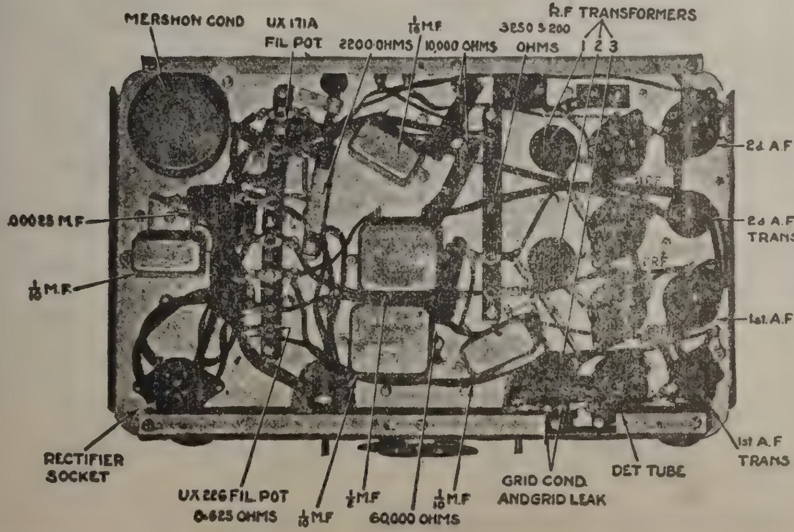

71W5907 A11 VARIABLE CONDENSER
UX226 OR CX326
UX226 OR CX326
UX226 OR CX326
UY227 OR C327
UX226 OR CX326
UX171A OR CX371A
C11-W5468 3MEG. NOCOLOR
.00025 MF G1 W4924
A
G
B6 71W5908 VOLUME CONTROL
A1-71W5874
R9 71W5872
R9 71W5872
R9 71W5872
.003 MFD G2 W4922
A3-71W5886
115 #34 SILVER BRAID-BARE
115 #34 COPPER BRAID BARE
115 #34 SILVER BRAID-S.C.C. 3.S.C.-RED
E1 1.0 MFD W-5197
MEROLA
115 #34 COPPER BRAID S.C.C. 3S.C. GREEN
A6-71W5877 25Ω 25Ω
625Ω A14-71W5882
D3 1 MFD W4919
C5-BLUE W4921 10,000Ω
C5-BLUE W4921 6,000Ω
C3-.1 MFD W5942
A3-71W5886
2200Ω A15-71W5884
A6-71W5877 25Ω 25Ω
OUTPUT
CHAS515
0.1 MFD C3-W5942
0.1 MFD C4 W5343
200Ω A16 71W5885
C2 60,000Ω W4923-GREEN
3250Ω A16 71W5885
G1-W4924 .00025 MFD
W4099A
SWITCH #5598
A1 CABLE 84799C
P1 WHITE-BLACK RUBBER
P2 WHITE-BLACK RUBBER
F#4 BLACK RUBBER 1.45V
F#3 BLACK RUBBER 2.3V
F#1 BLACK BLACK RUBBER 5.0V
S1 RED RED RUBBER 235V 235V
UX280 CX380
4.9V
F#2 BLACK RUBBER
FA2-71W5390
MERSHON CONDENSER W4943
2 SECTION 8 MFD EACH
POWER TRANSFORMER 110V-60~ P13 71W5898
110V-25~ P14 71W5922
220V-25~ P15 71W5926

CROSLEY—Models 610-
Line Voltage 115—Volume Control Position Max

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1 ST. R.F DET., ETC	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL GRID)	CATHODE-HEATER VOLTS	NORMAL PLATE ⑩ M.A.	PLATE M.A. GRID ⑪ TEST	PLATE CHANGE ⑫ M.A.	SCREEN GRID ⑬ VOLTS
1	226	1st RF	1.55	165	1.45	160	13.0	-	5.0	8.0	3.0	-
2	226	2nd RF	1.55	165	1.45	160	13.0	-	5.0	8.0	3.0	-
3	226	3rd RF	1.55	165	1.45	160	13.0	-	5.0	8.0	3.0	-
4	227	Det.	2.50	150	2.30	30	-	13.0	2.5	2.9	0.4	-
5	226	1st AF	1.55	180	1.45	175	13.0	-	5.0	8.0	3.0	-
6	171A	2nd AF	5.3	165	5.00	170	40.0	-	20.0	23.0	3.0	-
7	280	Rect.	5.4	-	5.00	-	-	-	30	-	-	-

610 Gembox, (A.C.)


CX-371A
2nd A.F.
CX-326
1st A.F.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.
CX-380
Rect.


MERSHON COND
UX 171A FIL POT
2200 OHMS
1/10 M.F
10,000 OHMS
3250 & 200 OHMS
R.F TRANSFORMERS 1 2 3
.00025 M.F
1/10 M.F
2d A.F
2d A.F TRANS
1st A.F
1st A.F TRANS
RECTIFIER SOCKET
UX 226 FIL POT 6.625 OHMS
1/10 M.F
1/2 M.F
1/10 M.F
60,000 OHMS
GRID COND AND GRID LEAK
DET TUBE

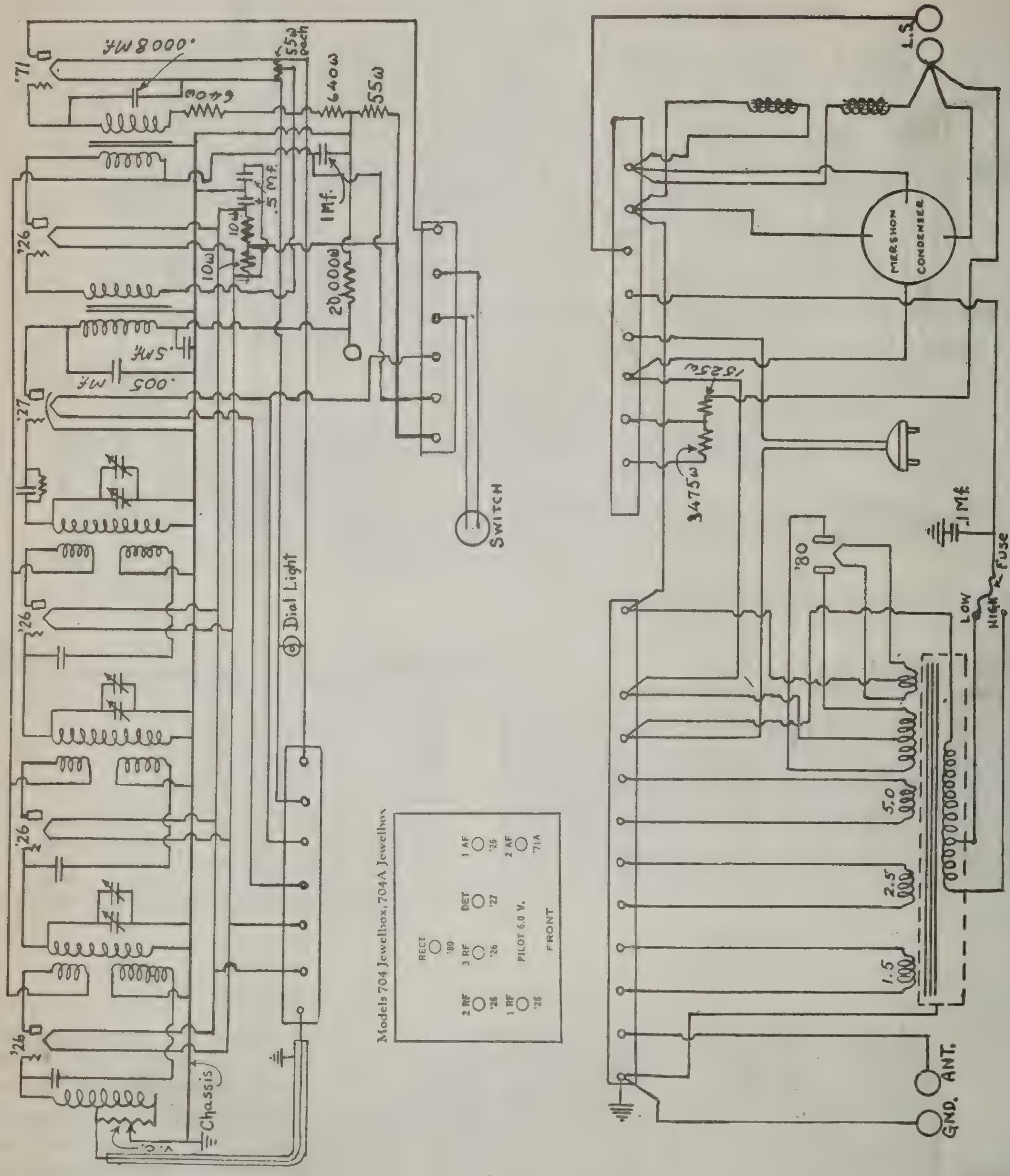
Balancing.

With the set in operation, slightly adjust the angles of the radio-frequency coils until the set does not oscillate at any point in its wave length range or until the sensitivity is improved. The first coil toward the front of the set is the most critical to this adjusting operation, the second coil next,, while the third coil seldom needs to be touched.

In making these adjustments, always replace the lid before checking the operation.

MODEL 704
MODEL 704 Power Unit
Schematic
MODEL 704-A Voltage

CROSLEY RADIO CORP.

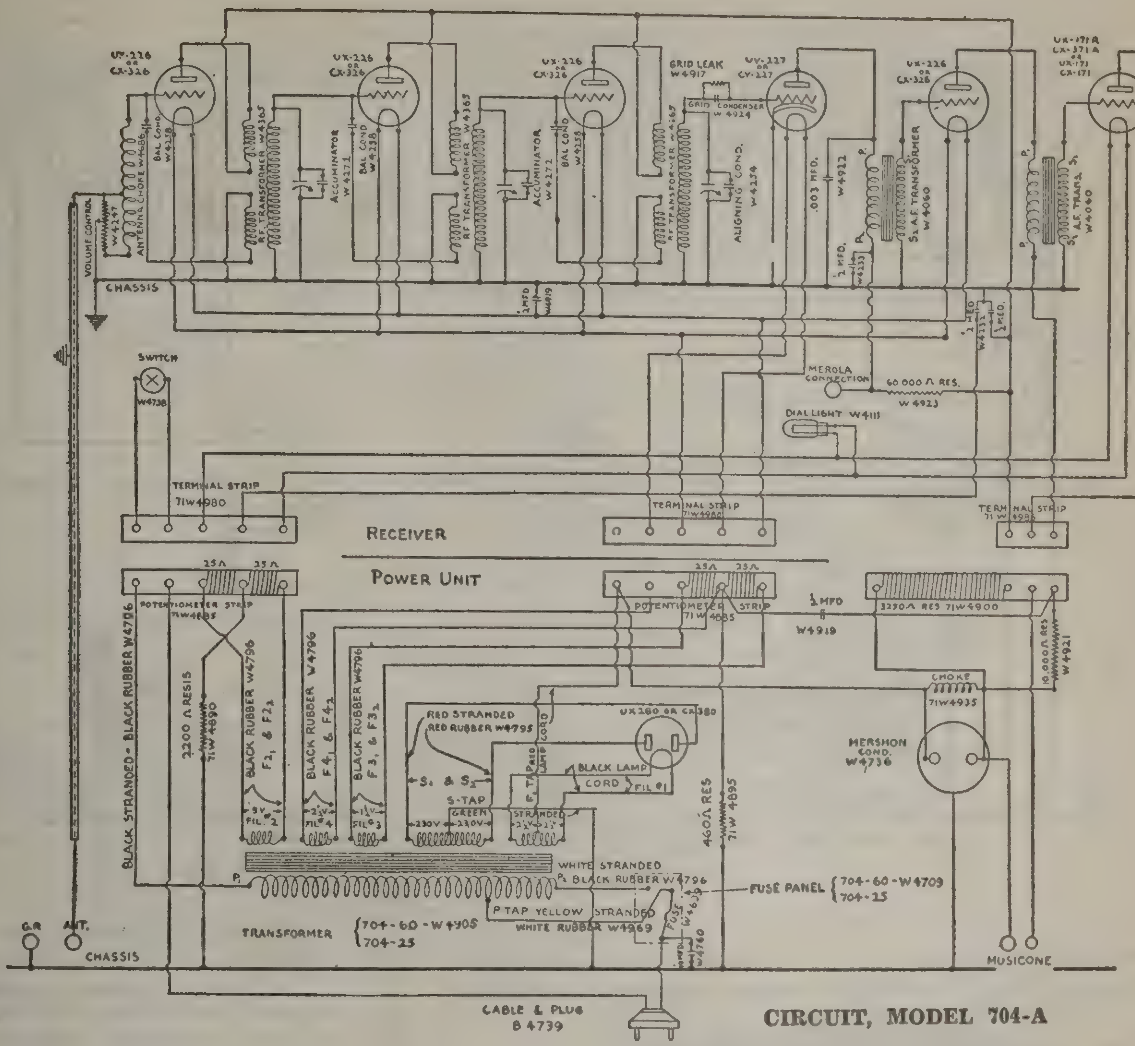

'71
.0008 MF
640ω
55ω each
640ω
55ω
.5 Mf.
1 Mf.
10ω
10ω
20,000ω
'26
.5 Mf
.005 MF
'27
'26
'26
'26
Dial Light
Chassis
V.C.
SWITCH
L.S.
MERSHON CONDENSER
1525ω
3475ω
'80
.1 Mf
FUSE
LOW
HIGH
5.0
2.5
1.5
ANT.
GND.
Models 704 Jewelbox, 704A Jewelbox
RECT '80
2 RF '26
3 RF '26
DET '27
1 AF '26
2 AF '71A
1 RF '26
PILOT 6.0 V.
FRONT

Tube	Fil. Vol.	Plate Vol.	Grid Bias.	Plate Cur.
RF1	1.3	98	3.	7. ma
RF2	1.3	98	3.	7.
RF3	1.3	98	3.	7.
Det	1.7	42	-	2.5
AF1	1.3	95	5.	3.2
AF2	4.8	159	35.	17.
Rec.	4.5			

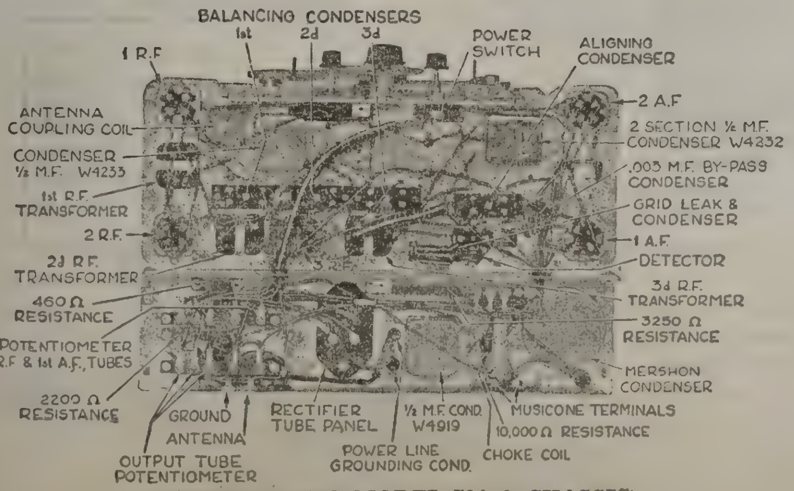
Voltage Data For Crosley 704-A

CROSLEY RADIO CORP

MODEL 704-A
Schematic, Bottom View


UX-226 OR CX-326
UX-226 OR CX-326
UX-226 OR CX-326
GRID LEAK W4917
UY-227 OR CY-227
GRID CONDENSER W4924
UX-226 OR CX-326
UX-171A CX-371A OR UX-171 CX-171
BAL COND W4258
ANTENNA CHOKE W4686
W4247
VOLUME CONTROL
RF TRANSFORMER W4365
ACCUMINATOR W4271
BAL COND W4258
RF TRANSFORMER W4365
ACCUMINATOR W4272
BAL COND W4258
RF TRANSFORMER W4365
ALIGNING COND. W4254
.003 MFD.
W4922
S₂ A.F. TRANSFORMER W4060
A.F. TRANS. W4060
CHASSIS
.2 MFD W4919
½ MFD. W4233
½ MFD W4232 ½ MFD.
MEROLA CONNECTION
60 000 Ω RES. W 4923
DIAL LIGHT W4111
SWITCH W4738
TERMINAL STRIP 71W4980
TERMINAL STRIP 71W4980
TERMINAL STRIP 71 W 4995
RECEIVER
POWER UNIT
25Ω 25Ω
POTENTIOMETER STRIP 71W4885
POTENTIOMETER STRIP 71 W 4885
½ MFD W4919
3250 Ω RES 71W4900
10,000 Ω RES W4921
CHOKE 71W4935
MERSHON COND. W4736
BLACK STRANDED - BLACK RUBBER W4796
2200 Ω RESIS 71W4890
BLACK RUBBER W4796 F2₁ & F2₂
BLACK RUBBER W4796 F4₁ & F4₂
BLACK RUBBER W4796 F3₁ & F3₂
RED STRANDED RED RUBBER W4795
UX280 OR CX380
S₁ & S₂
S-TAP
F. TAP RED LAMP CORD
BLACK LAMP CORD
FIL #1
5V FIL #2
2½V FIL #4
1½V FIL #3
230V GREEN 230V
STRANDED 2½V 2½V
460 Ω RES 71W 4895
WHITE STRANDED
P₂ BLACK RUBBER W4796
P TAP YELLOW STRANDED
WHITE RUBBER W4969
FUSE W4639
W4760
FUSE PANEL {704-60-W4709 704-25
TRANSFORMER {704-60-W4905 704-25
P₁
GR
ANT.
CHASSIS
MUSICONE
CABLE & PLUG B 4739

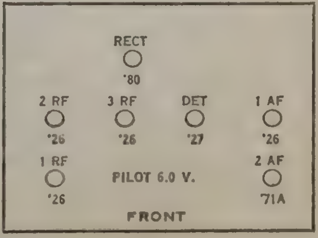
CIRCUIT, MODEL 704-A


BALANCING CONDENSERS
1st
2d
3d
POWER SWITCH
ALIGNING CONDENSER
1 R.F.
ANTENNA COUPLING COIL
CONDENSER ½ M.F. W4233
1st R.F. TRANSFORMER
2 R.F.
2d R.F. TRANSFORMER
460 Ω RESISTANCE
POTENTIOMETER R.F. & 1st A.F. TUBES
2200 Ω RESISTANCE
GROUND
ANTENNA
OUTPUT TUBE POTENTIOMETER
RECTIFIER TUBE PANEL
POWER LINE GROUNDING COND.
½ M.F. COND. W4919
MUSICONE TERMINALS
10,000 Ω RESISTANCE
CHOKE COIL
2 A.F.
2 SECTION ½ M.F. CONDENSER W4232
.003 M.F. BY-PASS CONDENSER
GRID LEAK & CONDENSER
1 A.F.
DETECTOR
3d R.F. TRANSFORMER
3250 Ω RESISTANCE
MERSHON CONDENSER

BOTTOM VIEW, MODEL 704-A CHASSIS

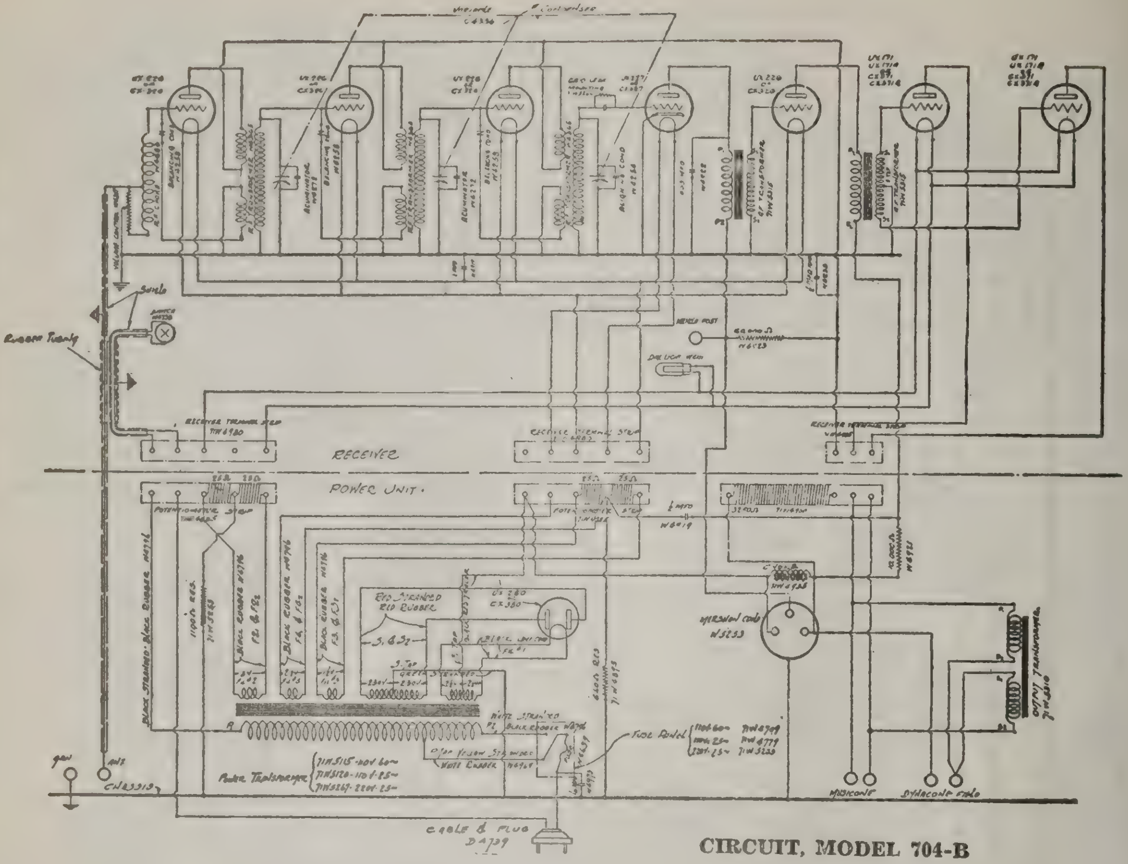
NOTE:—This service sheet applies to all Jewelbox Model 704 sets having seven tubes, including rectifier (single output tube only) numbered from GJD 16,000 to 21,000.

Models 704 Jewelbox, 704A Jewelbox

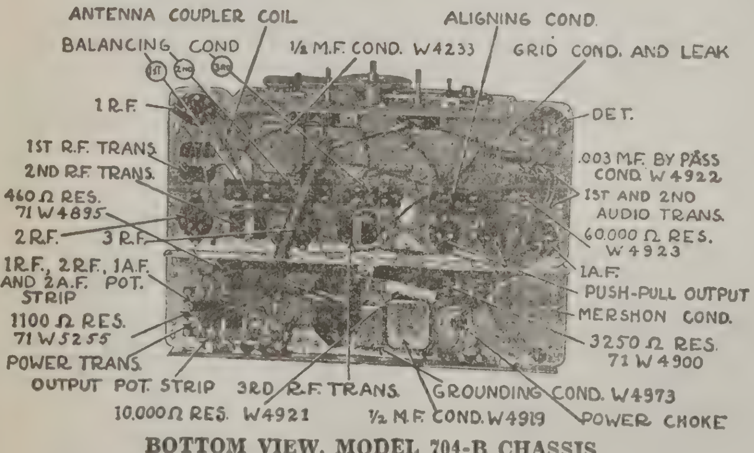

RECT
'80
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
1 RF
'26
PILOT 6.0 V.
2 AF
'71A
FRONT

MODEL 704-B
Schematic, Bottom View
Voltage

CROSLEY RADIO CORP.


RECEIVER
POWER UNIT
CHASSIS
MUSICONE
DYNACONE FIELD
CABLE & PLUG DA739
POWER TRANSFORMER

CIRCUIT, MODEL 704-B

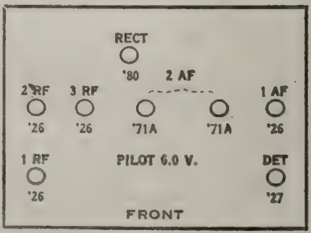

ANTENNA COUPLER COIL
BALANCING COND
½ M.F. COND. W4233
ALIGNING COND.
GRID COND. AND LEAK
1 R.F.
DET.
1ST R.F. TRANS.
2ND R.F. TRANS.
.003 M.F. BY PASS COND. W 4922
460 Ω RES. 71 W 4895
1ST AND 2ND AUDIO TRANS.
2 R.F.
3 R.F.
60.000 Ω RES. W 4923
1R.F., 2R.F., 1A.F. AND 2A.F. POT. STRIP
1A.F.
PUSH-PULL OUTPUT
MERSHON COND.
1100 Ω RES. 71 W 5255
3250 Ω RES. 71 W 4900
POWER TRANS.
OUTPUT POT. STRIP
3RD R.F. TRANS.
GROUNDING COND. W4973
10.000 Ω RES. W4921
½ M.F. COND. W4919
POWER CHOKE

BOTTOM VIEW, MODEL 704-B CHASSIS

Alignment of Tuning Condensers.

1. A small auxiliary variable condenser shunted across the detector tuning condenser serves as a means of aligning the tuning condensers so that they "track" together.

Model 704B Jewelbox

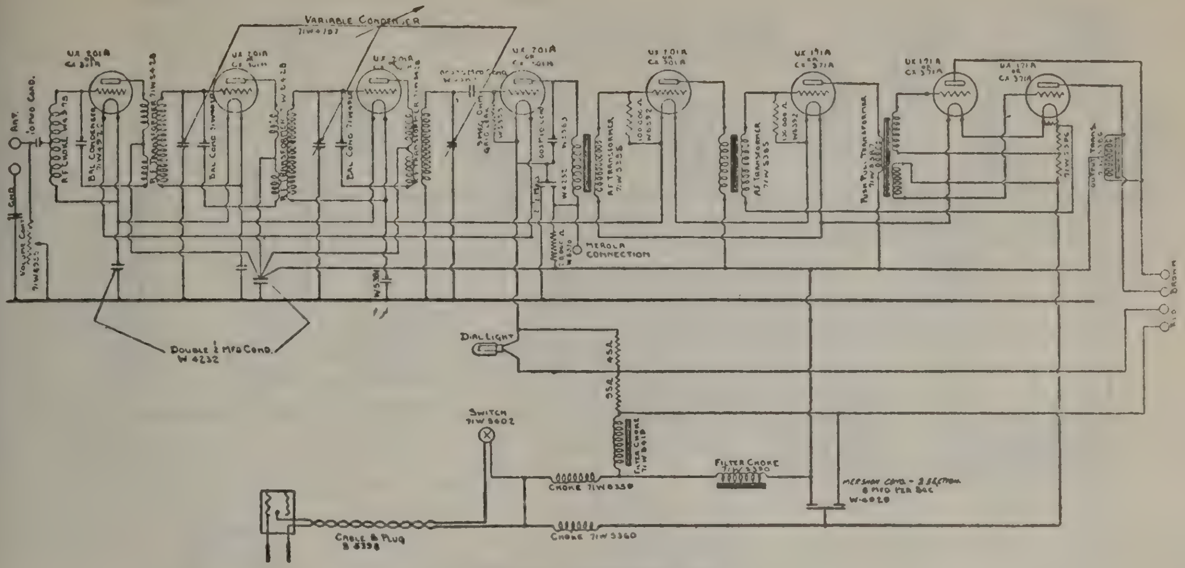

RECT
'80
2 AF
2 RF
'26
3 RF
'26
'71A
'71A
1 AF
'26
1 RF
'26
PILOT 6.0 V.
DET
'27
FRONT

Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

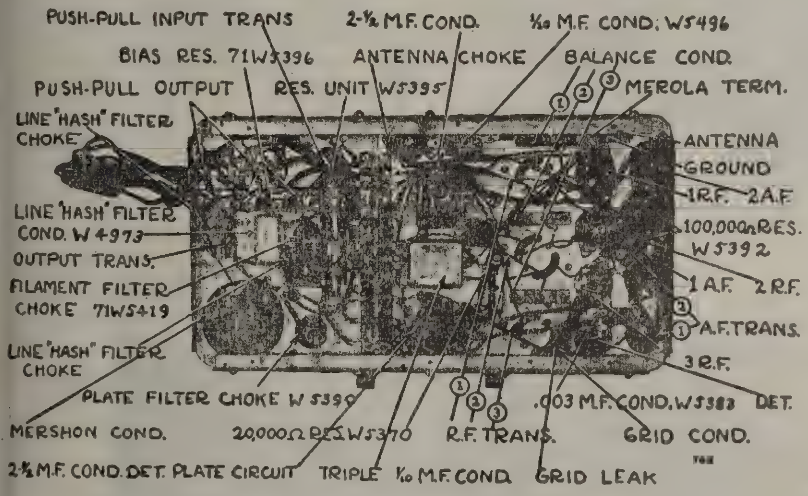
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. RF, DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st.R.F.	1.6	160	1.5	150	11.0		5.5	12.0	5.5
2	226	2nd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
3	226	3rd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
4	227	Detector	2.50	150	2.25	30	0.0		2.2	2.75	.55
5	226	1st.A.F.	1.6	220	1.5	120	9.0		6.2	8.0	1.8
6	171A	2nd.A.F.	5.3	185	5.0	170	37.5		20.6	23.0	3.0
7	171A	2nd.A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
8	280	Rectifier	5.3		4.9						

CROSLEY RADIO CORP.

MODEL 705
Schematic,
Bottom and Rear View

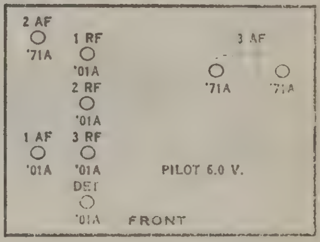

VARIABLE CONDENSER
ANT.
GND.
DOUBLE ½ MFD COND. W 4232
MEROLA CONNECTION
DIAL LIGHT
SWITCH 71W5602
FILTER CHOKE
CHOKE 71W5350
CABLE & PLUG
CHOKE 71W5360
MERSHON COND. - 2 SECTION 8 MFD PER SEC W-6020

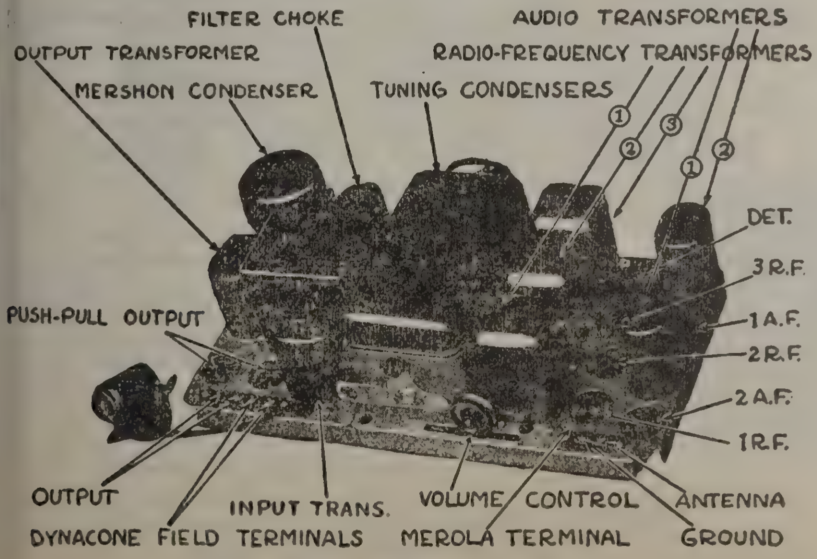
CIRCUIT, MODEL 705


PUSH-PULL INPUT TRANS
2-½ M.F. COND.
1/10 M.F. COND. W5496
BIAS RES. 71W5396
ANTENNA CHOKE
BALANCE COND.
PUSH-PULL OUTPUT
RES. UNIT W5395
①
②
③
MEROLA TERM.
LINE "HASH" FILTER CHOKE
ANTENNA
GROUND
1R.F.
2A.F.
LINE "HASH" FILTER COND. W 4973
100,000Ω RES. W5392
OUTPUT TRANS.
FILAMENT FILTER CHOKE 71W5419
1A.F.
2R.F.
②
①
A.F. TRANS.
LINE "HASH" FILTER CHOKE
3R.F.
PLATE FILTER CHOKE W 5399
①
②
③
.003 M.F. COND. W5383
DET.
MERSHON COND.
20,000Ω RES. W5370
R.F. TRANS.
GRID COND.
2½ M.F. COND. DET. PLATE CIRCUIT
TRIPLE 1/10 M.F. COND.
GRID LEAK

BOTTOM VIEW, MODEL 705 CHASSIS

Models 705 Showbox (DC), 61, 62


2 AF
'71A
1 RF
'01A
2 RF
'01A
3 AF
'71A
'71A
1 AF
'01A
3 RF
'01A
DET
'01A
PILOT 6.0 V.
FRONT


FILTER CHOKE
AUDIO TRANSFORMERS
OUTPUT TRANSFORMER
RADIO-FREQUENCY TRANSFORMERS
MERSHON CONDENSER
TUNING CONDENSERS
①
②
③
①
②
DET.
3 R.F.
PUSH-PULL OUTPUT
1 A.F.
2 R.F.
2 A.F.
1 R.F.
OUTPUT
INPUT TRANS.
VOLUME CONTROL
ANTENNA
DYNACONE FIELD TERMINALS
MEROLA TERMINAL
GROUND

REAR VIEW, MODEL 705 CHASSIS

Repairing and Replacing Parts

Replacing Parts.

1. In replacing parts on Model 705 the bottom must be removed.

Tuning Condensers.

1. The complete condenser gang should be removed and replaced as a unit.

2. Take off knobs and remove leads from pilot light socket and volume control first. Next remove switch from holder. Then unsolder condenser leads and remove assembly. Replace in reverse order.

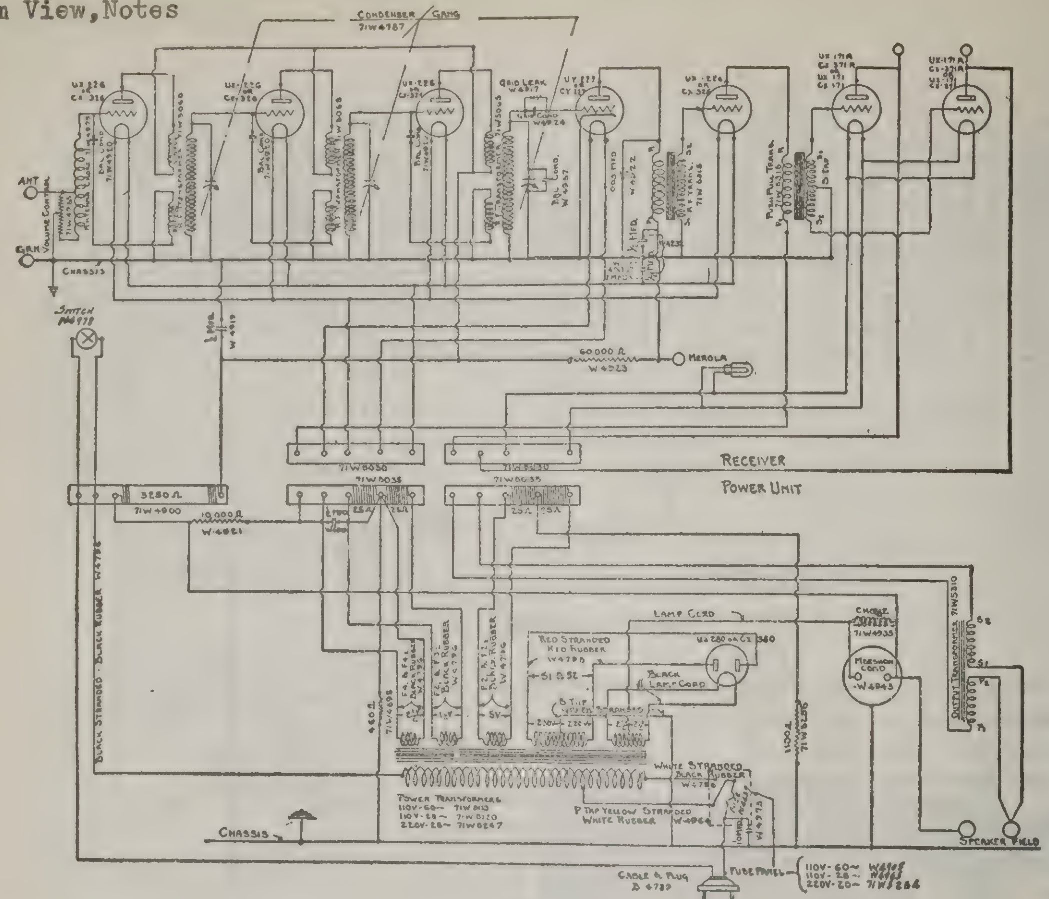
Radio-Frequency Transformers.

1. Unsolder leads first. Then remove shield can. Finally take off transformer coils. Replace in reverse order.

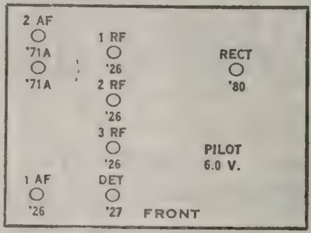
2. **Mark all leads and terminals.**

MODEL 706
Schematic, Voltage
Bottom View, Notes

CROSLEY RADIO CORP.


CONDENSER GANG 71W4787
UX-226 or CX-326
UX-226 or CX-326
UX-226 or CX-326
GRID LEAK W4917
UY-227 or CY-327
UX-226 or CX-326
UX-171A or CX-371A
UX-171A or CX-371A
ANT
GRN
VOLUME CONTROL
CHASSIS
SWITCH W4978
60,000 Ω W4923
MEROLA
71W5030
71W5035
RECEIVER
POWER UNIT
3250 Ω 71W4900
10,000 Ω W4921
LAMP CORD
UX-280 or CX-380
RED STRANDED RIO RUBBER W4786
BLACK LAMP CORD
CHOKE 71W4935
MERSHON COND. W4943
OUTPUT TRANSFORMER 71W5310
POWER TRANSFORMERS 110V-60~ 71W5113 110V-25~ 71W5120 220V-25~ 71W5247
P TAP YELLOW STRANDED WHITE RUBBER W4964
WHITE STRANDED BLACK RUBBER W4780
CHASSIS
SPEAKER FIELD
CABLE & PLUG D 4787
FUSE PANEL 110V-60~ W4905 110V-25~ W4963 220V-25~ 71W5268

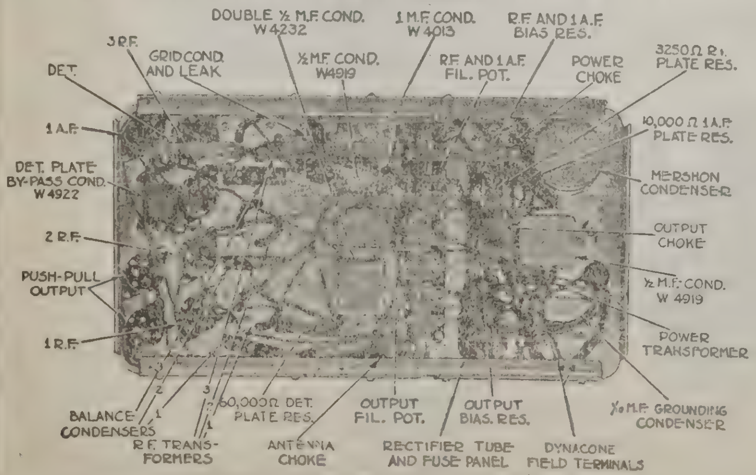
Models 706 Showbox,


2 AF
'71A
'71A
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
RECT
'80
PILOT
6.0 V.
FRONT

CROSLEY- 706

Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st.R.F.	1.6	160	1.5	150	11.0		6.5	17.0	5.5
2	226	2nd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
3	226	3rd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
4	227	Detector	2.50	150	2.25	30	0.0		2.2	2.75	.55
5	226	1st.A.F.	1.6	220	1.5	120	9.0		6.2	8.0	1.8
6	171A	2nd.A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
7	171A	2nd.A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
8	280	Rectifier	5.3		4.9						


DOUBLE ½ M.F. COND. W4232
1 M.F. COND. W4013
R.F. AND 1 A.F. BIAS RES.
3 R.F.
GRID COND. AND LEAK
½ M.F. COND. W4919
R.F. AND 1 A.F. FIL. POT.
POWER CHOKE
3250 Ω R.F. PLATE RES.
DET.
10,000 Ω 1 A.F. PLATE RES.
1 A.F.
DET. PLATE BY-PASS COND. W4922
MERSHON CONDENSER
2 R.F.
OUTPUT CHOKE
PUSH-PULL OUTPUT
½ M.F. COND. W4919
1 R.F.
POWER TRANSFORMER
3
2
1
BALANCE CONDENSERS
R.F. TRANS-FORMERS
60,000 Ω DET. PLATE RES.
ANTENNA CHOKE
OUTPUT FIL. POT.
RECTIFIER TUBE AND FUSE PANEL
OUTPUT BIAS. RES.
DYNACONE FIELD TERMINALS
½ M.F. GROUNDING CONDENSER

BOTTOM VIEW, MODEL 706 CHASSIS

Audio-Frequency Transformers.

1. Both audio transformers are mounted in a single can. They must be removed as a single unit.

2. Unsolder leads. Remove nuts holding assembly in position and take off transformers. Replace in reverse order.

Tuning Condensers.

1. The complete condenser gang should be removed and replaced as a unit.

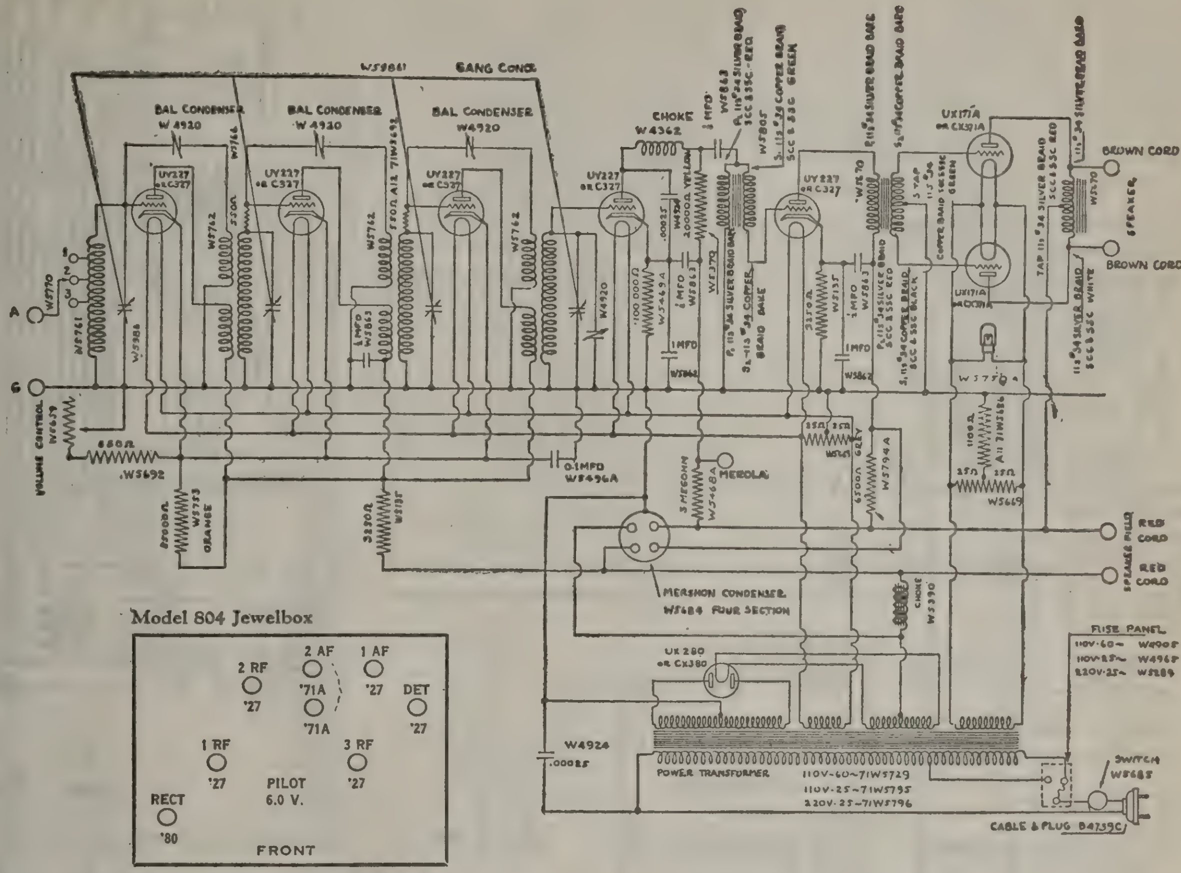
2. Take off knobs and remove leads from pilot light socket and volume control first. Next remove switch from holder. Then unsolder condenser leads and remove assembly. Replace in reverse order.

Radio-Frequency Transformers.

1. Unsolder leads first. Then remove shield can. Finally take off transformer coils. Replace in reverse order.

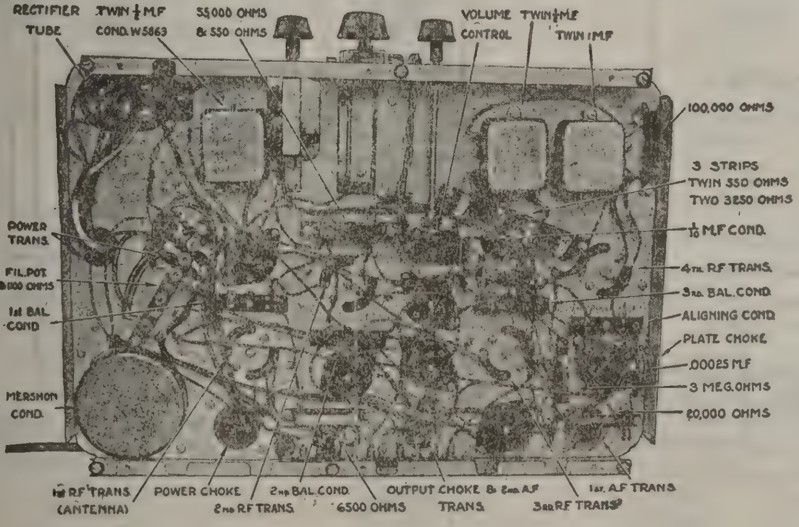
CROSLEY RADIO CORP.

MODEL 804
Schematic,Voltage
Bottom View,Notes


W59861
GANG COND.
BAL CONDENSER W 4920
BAL CONDENSER W 4920
BAL CONDENSER W4920
UY227 or C327
UY227 or C327
UY227 or C327
UY227 or C327
UY227 or C327
W5766
W5762
550Ω
550Ω AIR 71W5693
W5762
W5762
A
G
W5770
W5761
W5986
1 MFD W5863
W4920
VOLUME CONTROL W5659
650Ω
.W5692
8500Ω
W5753 ORANGE
3250Ω
W5135
0.1MFD W5496A
CHOKE W4362
.00025
W4924
20000Ω YELLOW
100 000Ω
W5469A
1 MFD W5863
1MFD
W5862
W5863
P1 115 #34 SILVER BRAID SCC & SSC-RED
W5805
S1 115 #34 COPPER BRAID SCC & SSC GREEN
P1 115 #34 SILVER BRAID BARE
S1-115 #34 COPPER BRAID BARE
W5370
2250Ω
W5135
1MFD W5863
1MFD
W5862
W5170
P 115 #34 SILVER BRAID BARE
S 115 #34 COPPER BRAID BARE
P1 115 #34 SILVER BRAID SCC & SSC RED
S1 115 #34 COPPER BRAID SCC & SSC BLACK
S TAP 115 #34 COPPER BRAID SCC & SSC GREEN
UX171A or CX371A
UX171A or CX371A
TAP 115 #34 SILVER BRAID SCC & SSC RED
115 #34 SILVER BRAID BARE
115 #34 SILVER BRAID SCC & SSC WHITE
W5170
BROWN CORD
SPEAKER
BROWN CORD
W5770A
1100Ω
All 71W5686
25Ω 25Ω
W5669
25Ω 25Ω
W5669
3 MEGOHM W5468A
MEROLA
6500Ω GREY
W5794A
RED CORD
SPEAKER FIELD
RED CORD
MERSHON CONDENSER W5684 FOUR SECTION
CHOKE W5390
FUSE PANEL
110V-60~ W4908
110V-25~ W4968
220V-25~ W5289
UX280 or CX380
W4924
.00025
POWER TRANSFORMER
110V-60~71W5729
110V-25~71W5795
220V-25~71W5796
SWITCH W5685
CABLE & PLUG B4739C

Model 804 Jewelbox

2 AF
'71A
1 AF
'27
2 RF
'27
'71A
DET
'27
1 RF
'27
3 RF
'27
PILOT
6.0 V.
RECT
'80
FRONT


RECTIFIER TUBE
TWIN ½ MF COND. W5863
55,000 OHMS & 550 OHMS
VOLUME CONTROL
TWIN ½ MF
TWIN 1 MF
100,000 OHMS
3 STRIPS TWIN 550 OHMS TWO 3250 OHMS
1/10 MF COND.
4TH RF TRANS.
3RD BAL. COND.
ALIGNING COND.
PLATE CHOKE
.00025 MF
3 MEG. OHMS
20,000 OHMS
POWER TRANS.
FIL. POT. 8100 OHMS
1st BAL. COND.
MERSHON COND.
1st RF TRANS. (ANTENNA)
POWER CHOKE
2ND BAL. COND.
2ND RF TRANS.
6500 OHMS
OUTPUT CHOKE & 2ND A.F. TRANS.
3RD RF TRANS.
1st A.F TRANS.

CROSLEY—Model 804
Line Voltage 117.5—Set on High Volt Tap—Volume Control Position Max

TUBE No. IN ORDER	TYPE OF TUBE ②	POSITION OF TUBE 1ST. R.F. DET., ETC. ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE M.A.	⑪ PLATE M.A. GRID TEST	⑫ PLATE CHANGE M.A.	⑬ SCREEN GRID VOLTS
1	227	1st RF	2.45	185	2.20	175	12	12	5.2	8.0	3.8	-
2	227	2nd RF	2.45	185	2.20	175	12	12	5.2	8.0	3.8	-
3	227 -	3rd RF	2.45	185	2.20	175	12	12	5.2	8.0	3.8	-
4	227	Det.	2.45	150	2.20	150	22	12	0.2	0.25	.05	-
5	227	1st AF	2.45	225	2.20	184	13	12	5.2	8.0	3.8	-
6	171A	2nd AF	5.2	200	5.10	180	40	-	18	25	7.0	-
7	171A	2nd AF	5.2	200	5.10	180	40	-	18	25	7.0	-
8	280	Rect.	5.0	-	4.80	-	-	-	80	-	-	-

Alignment and Balancing.

1. A small, adjustable, aligning condenser is shunted across the detector stage tuning condenser for aligning the tuning condensers controlled by the station selector.

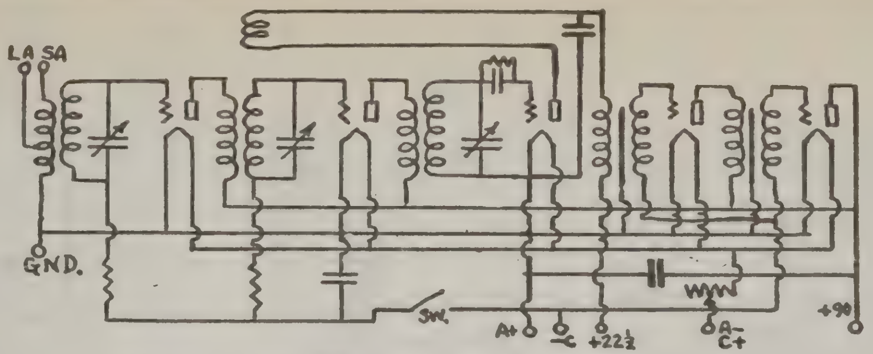
2. Small, adjustable neutrodyne condensers are provided for balancing. Follow the instructions for balancing given on page 4, "Crosley Service Manual." Insulate one of the heater prongs, **not the emitter. Do not use headphones.**

Connections.

1. Follow the connection diagram shown herewith. A small lead near the antenna terminal is provided in order to adjust the set for best operation with different types of aerials. For average operation with an average antenna, this lead should be inserted in terminal "2" at the rear of the chassis. For greatest sensitivity, insert the lead in terminal "1", and for greatest selectivity in terminal "3".

MODEL TRIRDYN
MODEL 51
MODEL 5-38
Schematic

CROSLEY RADIO CORP.


LA SA
GND.
SW.
A+
-C
+22½
A-
C+
+90

MODEL 5-38

Model 5-38, Series 2 (Serial No. 8000H & Above)

BELOW 8000H 4TH TUBE IS 2RF, 5TH TUBE DET

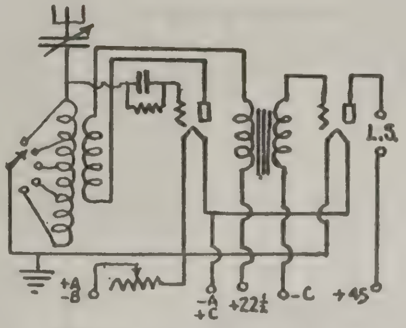
1 RF	2 AF	1 AF	DET	2 RF
○	○	○	○	○
'01A	'01A	'01A	'01A	'01A
OR	OR	OR	OR	OR
X'99	X'99	X'99	X'99	X'99
OR	OR	OR	OR	OR
12	12	12	12	12

FRONT

Model 51

DET	AF
○	○
'01A	'01A
OR	OR
X'99	'12A
OR	'71A OR X'99
12	'20 OR 12

FRONT

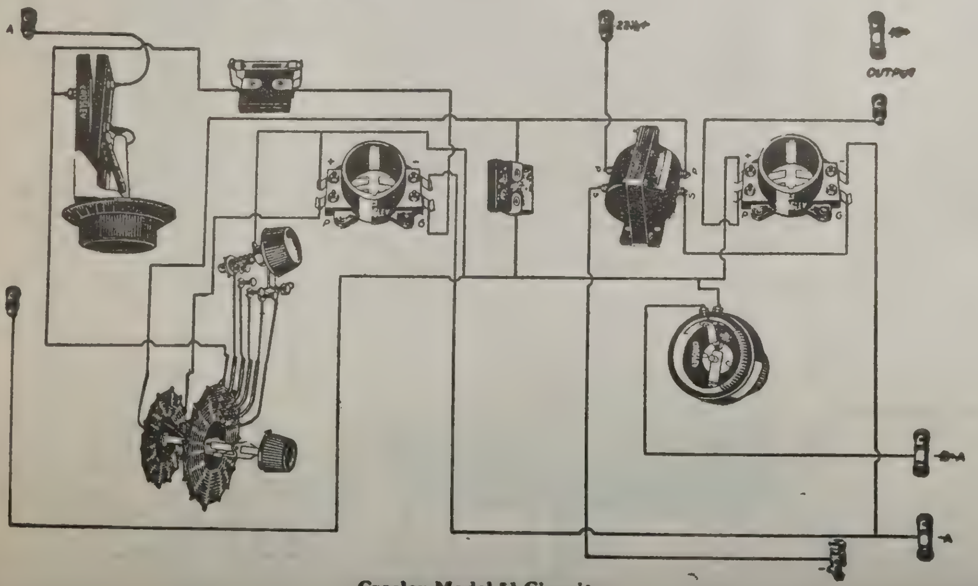

L.S.
+A
-B
-A
+C
+22½
-C
+45

MODEL 51

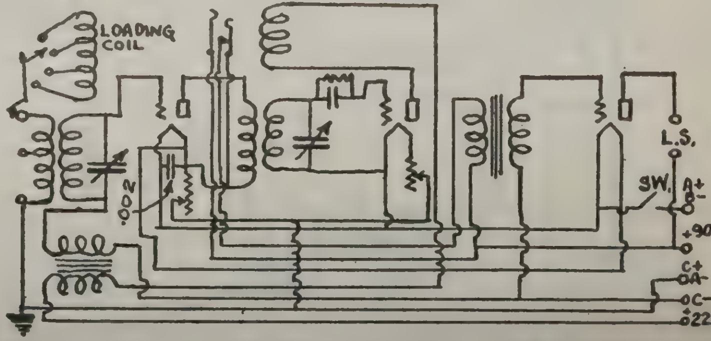
Model Trirdyn

RF 1 AF	DET	2 AF
○	○	○
'01A	'01A	'01A
OR	OR	OR
X'99	X'99	X'99
OR	OR	OR
12	12	12

FRONT


A
22½+
OUTPUT
B
-A

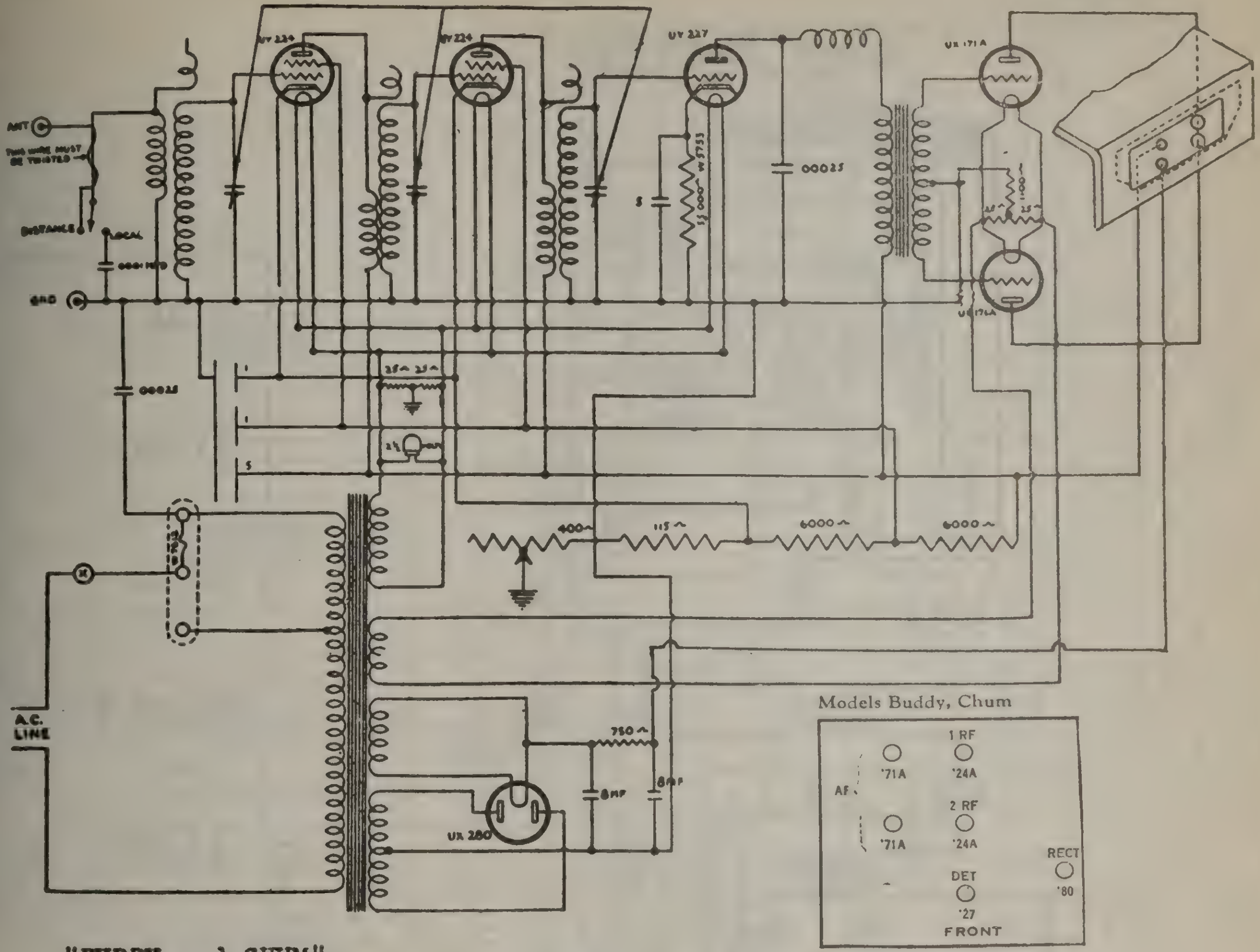
Crosley Model 51 Circuit


LOADING COIL
.002
L.S.
SW.
A+
B-
+90
C+
A-
C-
22½

MODEL TRIRDYN

MODEL BUDDY, CHUM
Schematic, Voltage

CROSLEY RADIO CORP


UY 224
UY 224
UY 227
UX 171A
UX 171A
ANT
GND
DISTANCE
LOCAL
.00025
.00025
400~
115~
6000~
6000~
750~
8MF
8MF
UX 280
A.C. LINE
Models Buddy, Chum
1 RF
'24A
2 RF
'24A
'71A
'71A
AF
DET
'27
RECT
'80
FRONT

"BUDDY and CHUM"

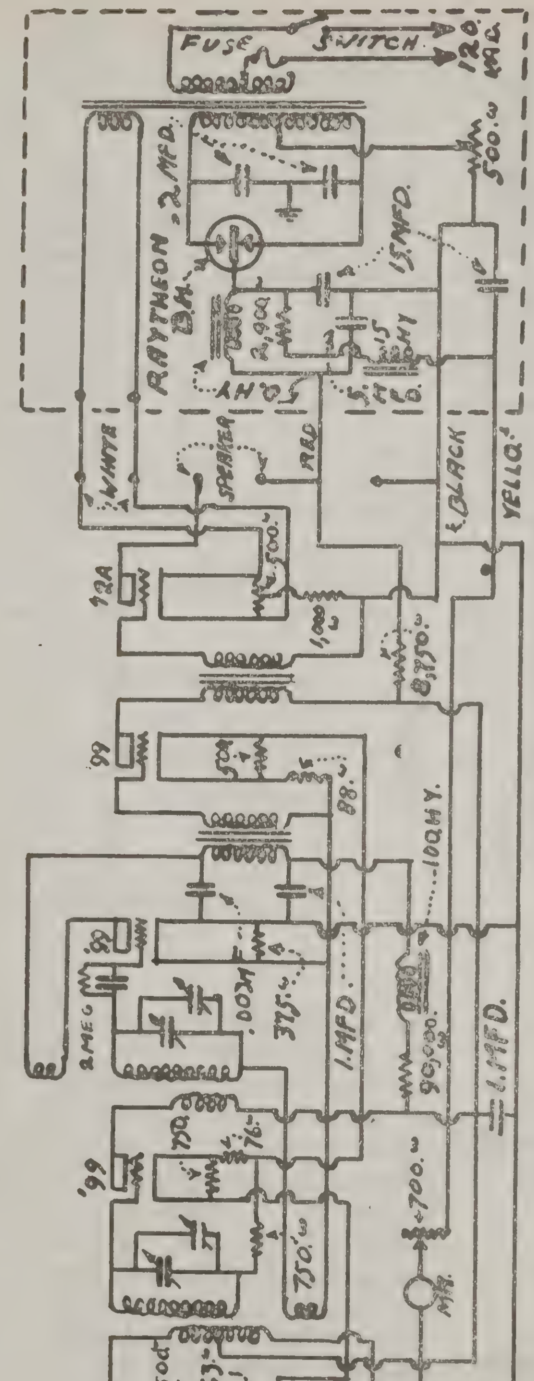
VOLTAGE LIMITS

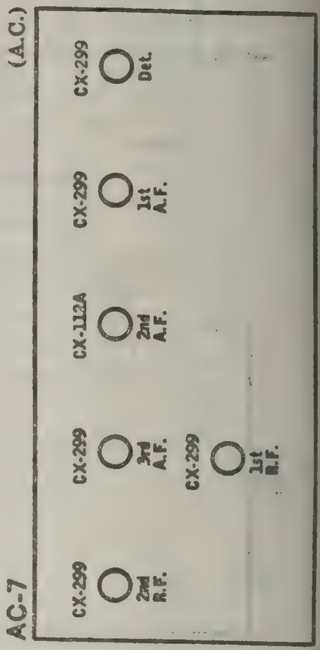
	Volume Control On Full	
Filament Voltages		
R.F. and Detector tubes	2.4	
A.F. and Rectifier tubes	4.8	
- - -	- - -	
Plate Voltages		
All tubes but Rectifier	170	
Rectifier tube	250 each	
- - -	- - -	
Control Grid Voltages		
R.F. tubes	2.8	
Detector tube	12.0	16.0
A.F. tubes	38.0	
- - -	- - -	
Screen Grid Voltages		
R.F. tubes	85.0	

The above readings are to be taken with the receiver in full operating condition, with the volume control on full, and with a line voltage of 117.5 when the fuse is in the "High" position or of 107.5 when the fuse is on the "Low" position. In the case of 220 volt receivers, the line voltages should be respectively 235 and 215. Measure plate and grid voltages with a high-resistance D.C. voltmeter (at least 800 ohms per volt.) These voltages are to be measured from the plate or grid socket contact to the emitter contact or negative filament contact, unless otherwise noted in the table. The contacts must be reached from the bottom of the receiver (unless a set tester is used) with tubes, dial light, and speaker in place. Use a low-range A.C. voltmeter to measure the filament voltages.

MODEL AC-7
AC-7C

CROSLEY RADIO CORP.


FUSE
SWITCH
120 V AC
500 ω
RAYTHEON B.H.
.2 MFD
15 MFD
2,900
15 HY
WHITE
SPEAKER
RED
BLACK
YELLOW
12A
500 ω
1,000 ω
8,750 ω
'99
88 ω
100 HY.
1 MFD
96,000 ω
2 MEG
'99
375 ω
1 MFD
'99
750 ω
76 ω
750 ω
700 ω
MA.
450 ω
63 ω
'99
'99
1 MFD
99 ω
1 M.
S. ANT
L. ANT
GND.

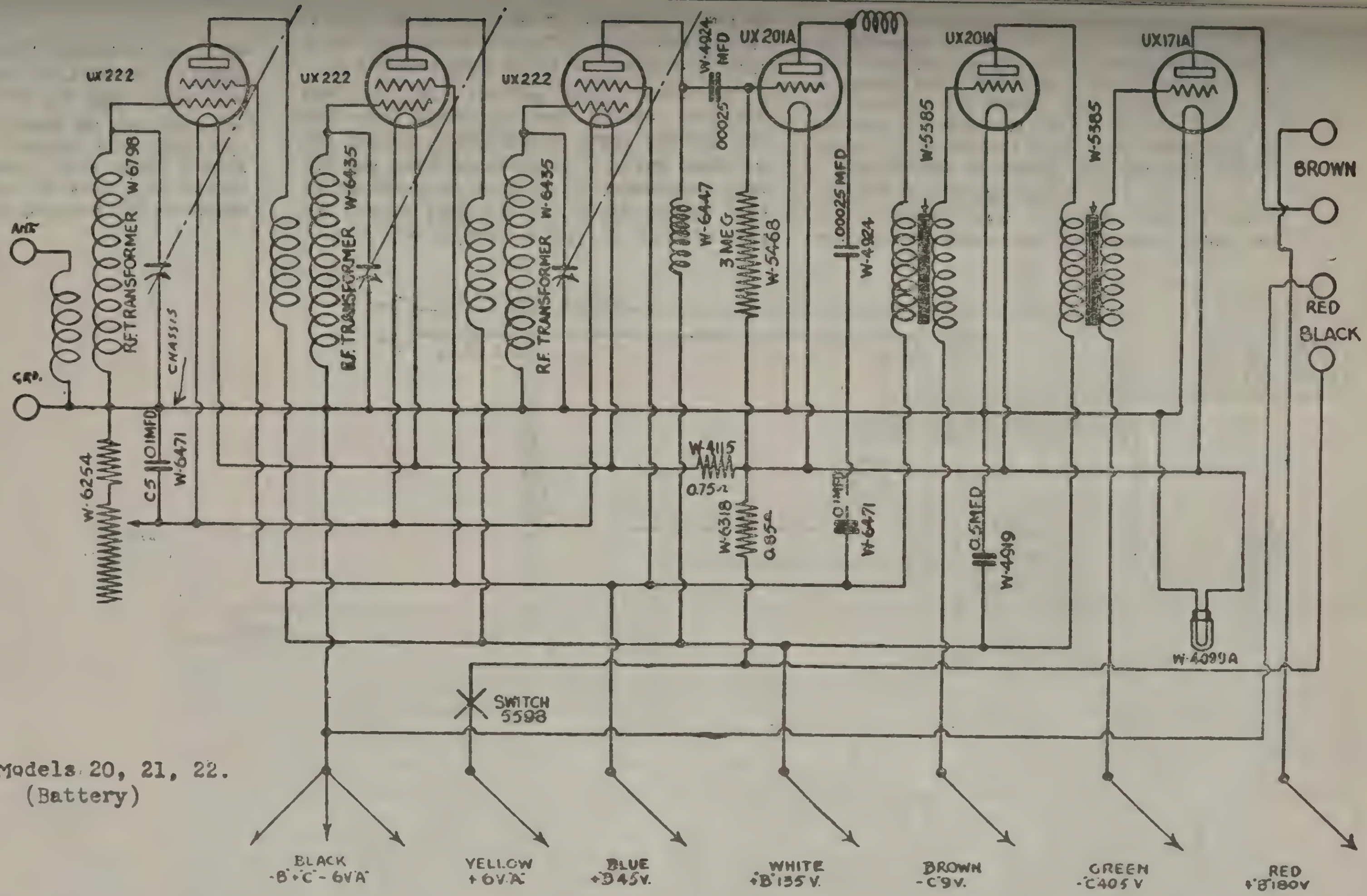

(A.C.)
CX-299
Det.
CX-299
1st A.F.
CX-112A
2nd A.F.
CX-299
3rd A.F.
CX-299
1st R.F.
CX-299
2nd R.F.
AC-7

CROSLEY

MODELS AC-7 AND AC-7C

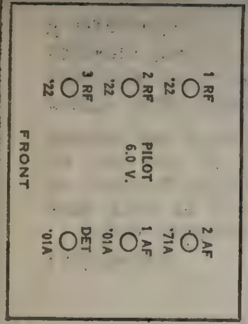
CROSLEY RADIO CORP

MODELS 20,21,22
Schematic, Data
MODELS 21,22
Voltage Data


UX222
UX222
UX222
UX201A
UX201A
UX171A
W-4924 .00025 MFD
RF TRANSFORMER W-6798
R.F. TRANSFORMER W-6435
R.F. TRANSFORMER W-6435
W-6447
3 MEG W-5468
.00025 MFD W-4924
W-5385
W-5385
BROWN
RED
BLACK
ANT.
GRD.
CHASSIS
C5 .01MFD W-6471
W-6254
W-4115 0.75Ω
W-6318 0.85Ω
.01MFD W-6471
0.5MFD W-4919
W-4099A
SWITCH 5598
BLACK -B+C-6V'A'
YELLOW +6V'A'
BLUE +B45V.
WHITE +B135V.
BROWN -C9V.
GREEN -C40.5V
RED +B180V

Models 20, 21, 22.
(Battery)

Models 20, 21, 22


1 RF
'22
2 RF
'22
3 RF
'22
PILOT
6.0 V.
2 AF
'71A
1 AF
'01A
DET
'01A
FRONT

CROSLEY—Models 21-22
Line Voltage 115—Volume Control Position Max
Note: Battery operated.

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET — TUBE OUT: A VOLTS ④	B VOLTS ⑤	TUBE IN TESTER: A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREEN GRID VOLTS ⑬
1	222	1st RF	3.3	135	3.2	133	1.5	-	.8	1.8	1.0	45
2	222	2nd RF	3.3	135	3.2	133	1.5	-	.8	1.8	1.0	45
3	222	3rd RF	3.3	135	3.2	133	1.5	-	.8	1.6	1.0	45
4	201A	Det.	5.0	-	4.8	45	-	-	2.0	5.0	3.0	-
5	201A	1st AF	5.0	135	4.9	135	9	-	3.5	8.0	4.5	-
6	171A	2nd AF	6.0	180	4.9	180	40.5	-	20	24	4.0	-

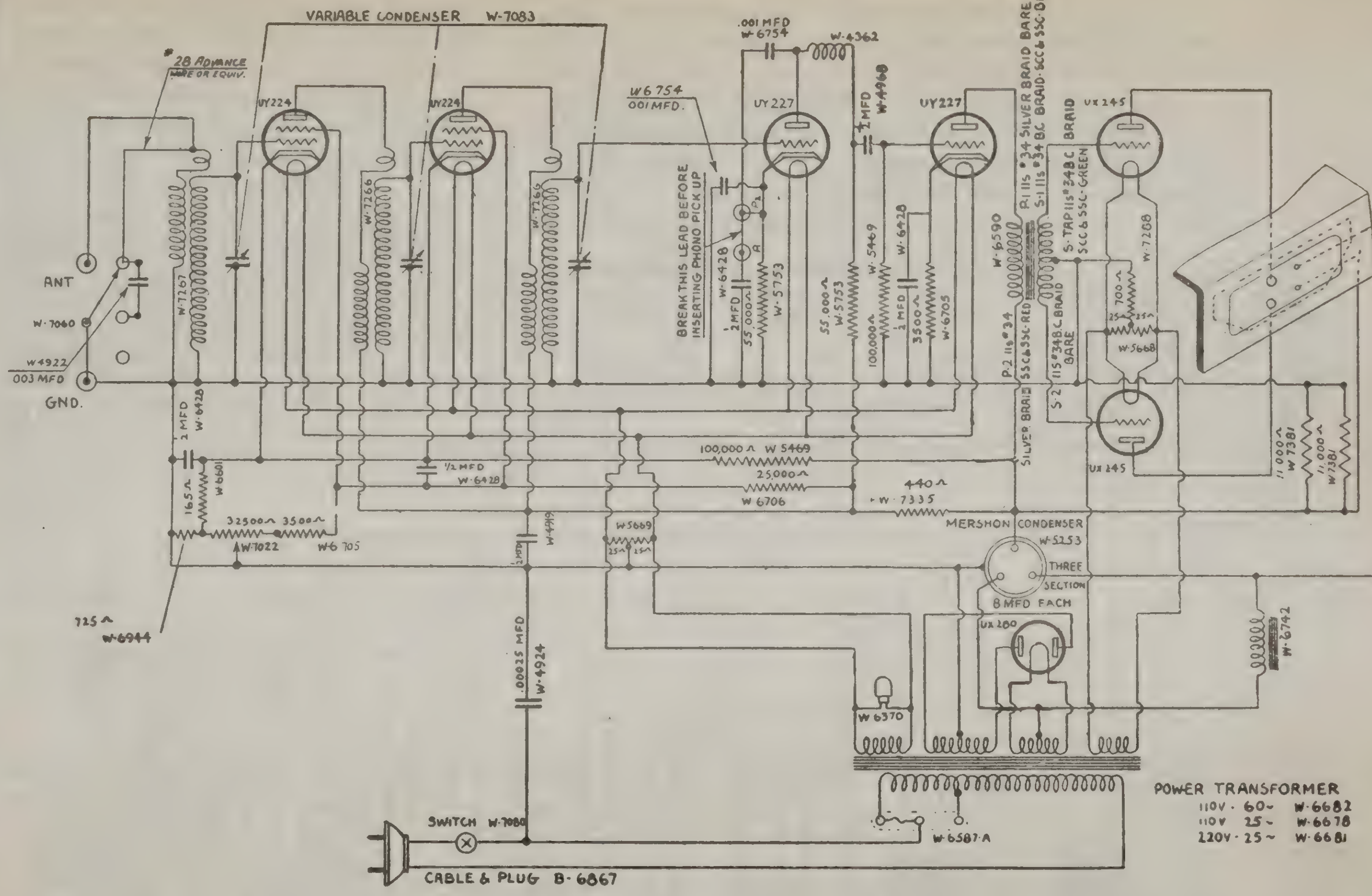
1. The original chasses were built for use with Type E Dynacone. When the type C Dynacone (with separately excited field coils) was introduced, two terminals (Red and Black) were added to the chassis for supplying the field of the "C" type speaker with current direct from the storage battery, or "A" supply.

2. For a short time the yellow and black filament terminals were connected to the points shown by the dotted lines marked "2Y" and "2B" on the circuit diagram.

3. In recent chasses the 3 megohm resistor W5468 in the detector grid circuit is replaced by an A-2 radio-frequency choke, the 0.85 ohm resistor is moved to the negative filament lead, and the detector grid return is connected to the negative side of the 0.85 ohm resistor. See the changes marked "3" on the circuit diagram.

MODELS 30S,31S,33S,34S
Schematic, Voltage,Notes

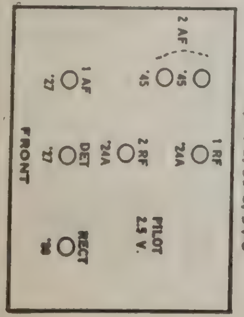
CROSLEY RADIO CORP.


VARIABLE CONDENSER W-7083
#28 ADVANCE WIRE OR EQUIV.
UY224
UY224
UY227
UY227
UX245
UX245
UX280
ANT
GND.
W-7060
W4922 .003 MFD
W-7267
W-7266
W-7265
2 MFD W-6428
1/2 MFD W-6428
165 Ω
1099-M
32500 Ω 3500 Ω
AW-7022
W6705
725 Ω W-6944
W6754 .001 MFD.
.001 MFD W-6754
W-4362
1 MFD W-4968
BREAK THIS LEAD BEFORE INSERTING PHONO PICK UP
W-6428 1 MFD
55,000 Ω W-5753
55,000 Ω W-5753
100,000 Ω W-5469
1 MFD W-6428
3500 Ω W-6705
W-6590
P-1 115 #34 SILVER BRAID BARE
S-1 115 #34 B.C. BRAID-SCC & SSC-BLACK
S-TAP 115 #34 B.C BRAID SCC & SSC-GREEN
P-2 115 #34 SILVER BRAID SSC & SSC-RED
S-2 115 #34 B.C. BRAID BARE
W-7268
700 Ω
25 Ω 25 Ω
W-5668
11,000 Ω W-7381
11,000 Ω W-7381
100,000 Ω W 5469
25,000 Ω
W 6706
440 Ω
W-7335
MERSHON CONDENSER W-5253 THREE SECTION 8 MFD EACH
W5669
25 Ω 25 Ω
W-4919
.00025 MFD W-4924
W-6742
W 6370
POWER TRANSFORMER
110V. 60~ W-6682
110V 25~ W-6678
120V. 25~ W-6681
W-6587-A
SWITCH W-7080
CABLE & PLUG B-6867

CROSLEY—63 Chassis
Models 30S, 31S, 33S, 34S and Playmate.

TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET. OPERATING VOLTAGES: FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID-SPACE CHG. ⑥	NORMAL GRID-SCREEN ⑦	CATHODE TO HEATER ⑧	MILLIAMPERES: SCREEN GD L H 80 PLATE ⑨	PLATE R H 80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫
1	224	1 R.F.	2.43	153	-1.4	65	1.2	-	2.95	6.	3.03
2	224	2 R.F.	2.43	153	-1.4	65	1.2	-	2.85	5.25	2.4
3	227	Det.	2.4	114	-	-10.9	11.8	-	.3	.39	.9
4	227	1 A.F.	2.45	140	-	-4.	10	-	2.85	3.6	.75
5	245	2.A.F.	2.35	224	-	-42.5		-	30.	33.6	4.6
6	245	2 A.F.	2.35	224	-	-42.5	-	-	30.	33.8	4.6
7	280	Rect.	5.1	-	-	-	-	55	55	-	-

Models 30-S, 31-S, 33-S, 34-S


1 RF
'24A
2 AF
'45
'45
2 RF
'24A
PILOT 2.5 V.
1 AF
'27
DET
'27
RECT
'80
FRONT

Installation

These receivers are designed for operation with Type M Dynacoil speakers. The chassis is equipped with a socket into which a plug on the end of the speaker cord fits. Although not shown on page 29, the more recently built chassis of the 40S series are equipped with sockets for Type M Dynacoil speakers instead of with terminals for Type J Dynacoils.

The line voltage should be checked and the chassis fuse inserted in the proper clips as described on page 29 in connection with the 40S series of receivers. If the owner of the receiver complains of tubes burning out too often check the line voltage and see that the fuse is inserted in its proper clips.

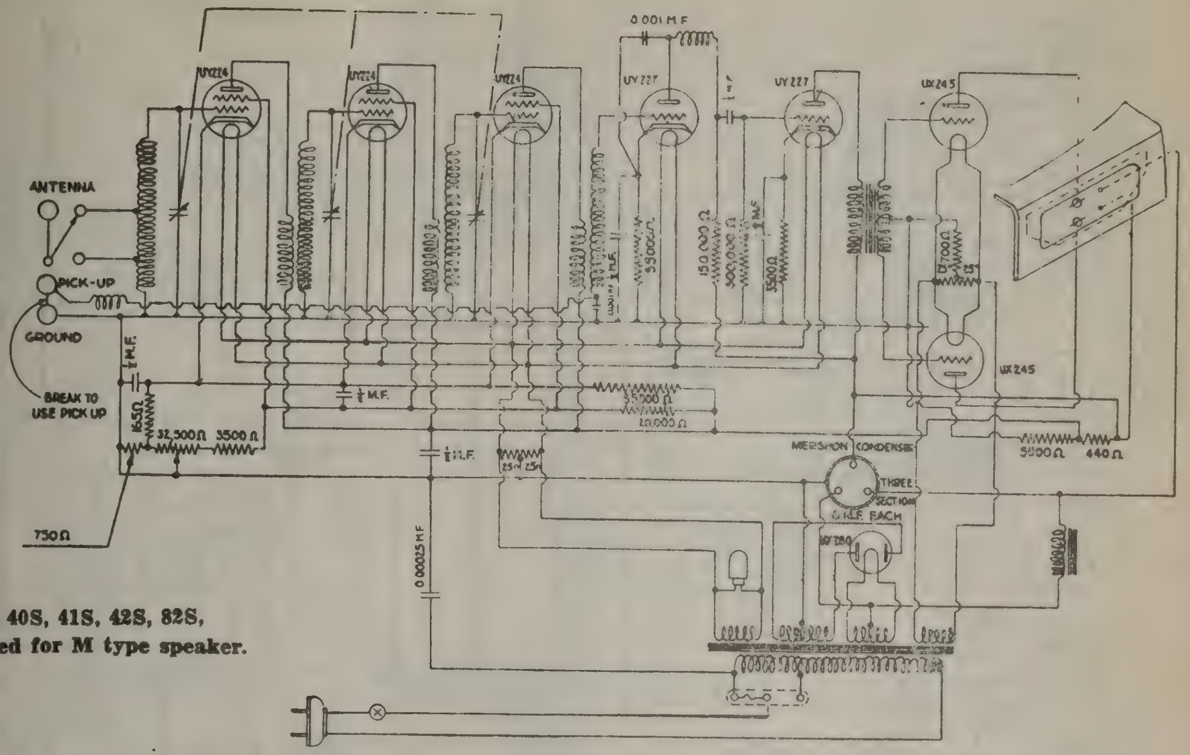
If the dial light burns out, replace it with a 2½ volt Mazda miniature base bulb No. 41 If the fuse requires to be replaced use a two ampere cartridge type automobile light fuse (two ampere fuses are also used on recent chasses of the 40S series)

Installation of Model 30S Unitrad chassis, which is the chassis with front panel only for console mounting, is similar to that described on page 29 for Model 40S. Model 31S is in a metal, table type case. Model 33S and 34S are mounted in wooden consoles, with built-in speakers

CROSLEY RADIO CORP.

MODELS 40S,41S,42S,82S
Schematic,Voltage

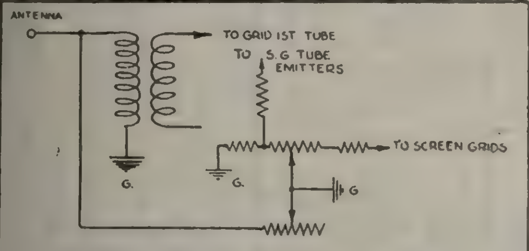
For model 41S receiver, a Dynacoil speaker type J, model 244, is required.


ANTENNA
PICK-UP
GROUND
BREAK TO USE PICK UP
UY224
UY224
UY224
UY227
UY227
UX245
UX245
0.001 M.F.
1 M.F.
1/4 M.F.
1 M.F.
0.00025 M.F.
165Ω
32,500Ω
3500Ω
750Ω
35000Ω
20,000Ω
25Ω
25Ω
150,000Ω
500,000Ω
3500Ω
1700Ω
5500Ω
440Ω
IMMERSION CONDENSER
THREE SECTION
2 M.F. EACH
UX280

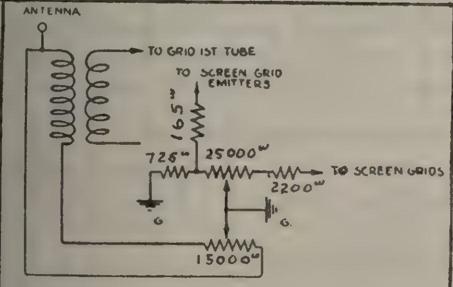
Models 40S, 41S, 42S, 82S, arranged for M type speaker.

CROSLEY—73 Chassis—Models 40S-41S-42S-82S
Line Voltage 117.5—Set on High Volt Tap—Volume Control Position Max

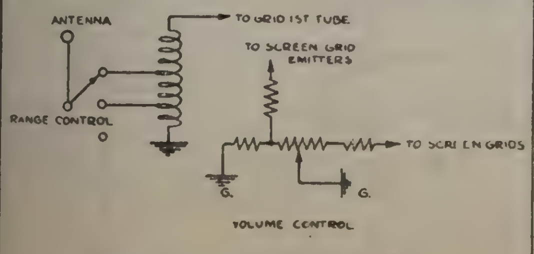
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE - HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.60	180	2.40	175	1.5	1.5	1.5	4.0	2.5	70
2	224	2nd RF	2.60	180	2.40	175	1.5	1.5	1.5	4.0	2.5	70
3	224	3rd RF	2.60	180	2.40	175	1.5	1.3	1.5	4.0	2.5	70
4	227	Det.	2.60	100	2.45	100	18	12	.8	.3	.1	-
5	227	1st AF	2.65	200	2.45	180	15	12	4.0	5.0	1.0	-
6	245	2nd AF	2.55	265	2.30	240	48	-	26	30	4.0	-
7	245	2nd AF	2.55	265	2.30	240	48	-	26	30	4.0	-
8	280	Rect.	5.60	-	5.00		-	-	100	-	-	-


ANTENNA
TO GRID 1ST TUBE
TO S.G TUBE EMITTERS
TO SCREEN GRIDS
G.
G.
G

First Type of Volume Control.

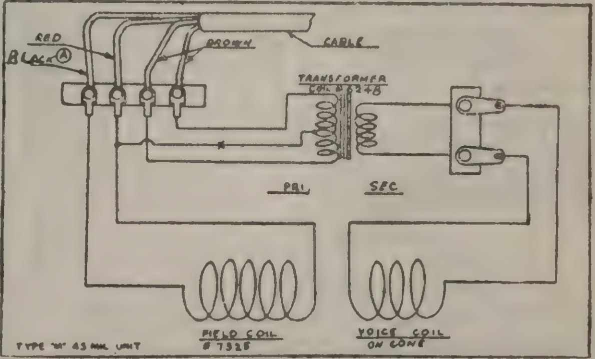

ANTENNA
TO GRID 1ST TUBE
TO SCREEN GRID EMITTERS
165 Ω
725 Ω
25000 Ω
TO SCREEN GRIDS
2200 Ω
G
G.
15000 Ω

Second Type of Volume Control.


ANTENNA
TO GRID 1ST TUBE
TO SCREEN GRID EMITTERS
RANGE CONTROL
TO SCREEN GRIDS
G.
G.
VOLUME CONTROL

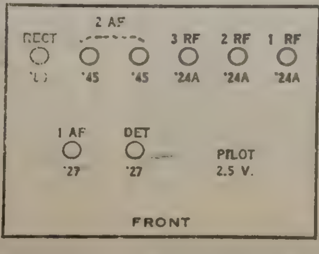
Third Type of Volume Control.

Models 42S and 82S are equipped with Dynacoil speakers, type J, model 255.


RED
BLACK Ⓐ
BROWN
CABLE
TRANSFORMER
PRI.
SEC.
FIELD COIL
VOICE COIL ON CONE
TYPE "M" 43 MM UNIT

For model 40S receiver, Dynacoil type J, model 254 is supplied.

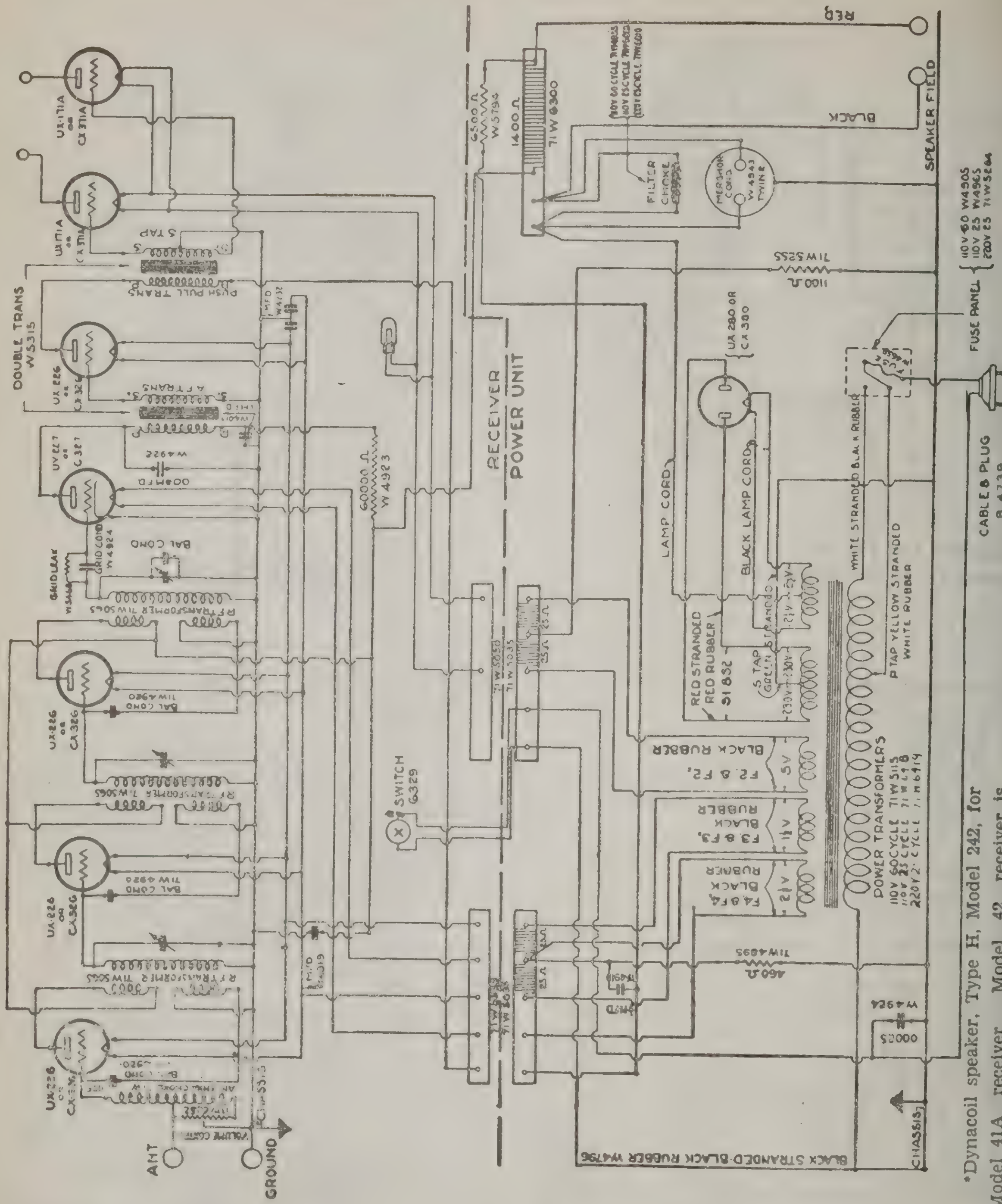
Models 40-S, 41-S, 42-S, 82-S


RECT
'80
2 AF
'45
'45
3 RF
'24A
2 RF
'24A
1 RF
'24A
1 AF
'27
DET
'27
PILOT
2.5 V.
FRONT

(ABOVE)
Connections for Dynacoils Types G,H,J,M
Red and Black leads to field coil. Brown leads to speaker output transformer.

MODELS 41,41A,42
Schematic,Voltage

CROSLEY RADIO CORP.


UX-171A or CX-371A
UX-171A or CX-371A
DOUBLE TRANS W5315
PUSH PULL TRANS
5 TAP
UX-226 or CX-326
AF TRANS
UY-227 or C-327
W4922
.00 MFD
GRID COND W4924
GRIDLEAK
BAL COND
RF TRANSFORMER 71W5065
UX-226 or CX-326
BAL COND 71W4920
RF TRANSFORMER 71W5065
UX-226 or CX-326
BAL COND 71W4920
RF TRANSFORMER 71W5065
UX-226 or CX-326
VOLUME CONT
ANT
GROUND
60000 Ω W4923
SWITCH 6329
RECEIVER
POWER UNIT
6500 Ω W5794
1400 Ω
71W6300
FILTER CHOKE
MERSHON COND W4943 TWIN
RED
BLACK
SPEAKER FIELD
1100 Ω 71W5255
UX-280 or CX-380
110V 60 W4905
110V 25 W4965
220V 25 71W5284
FUSE PANEL
CABLE & PLUG R 4738
LAMP CORD
BLACK LAMP CORD
WHITE STRANDED BLACK RUBBER
RED STRANDED RED RUBBER 51832
5 TAP GREEN STRANDED
P TAP YELLOW STRANDED WHITE RUBBER
F2 & F2, BLACK RUBBER
F3 & F3, BLACK RUBBER
F4 & F4, BLACK RUBBER
5V
1½V
2½V
POWER TRANSFORMERS
110V 60 CYCLE 71W5115
110V 25 CYCLE 71W6418
220V 25 CYCLE 71W6414
460 Ω 71W4895
W4924
.00025
CHASSIS
BLACK STRANDED-BLACK RUBBER W4796
71W5030
71W5035

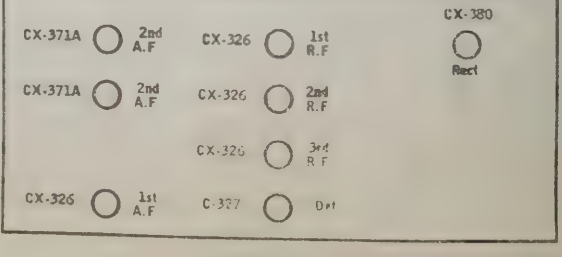
*Dynacoil speaker, Type H, Model 242, for Model 41A receiver Model 42 receiver is equipped with built-in Dynacoil speaker, Type H, Model 243.

*Note—Mershon Condenser in set will probably be ruined if speaker field circuit is opened while set is in operation.

CROSLEY—Models 41-41A-42-704-706
Line Voltage 117.5—227 Emitter Based 11 Volts Negative with Respect to Filament. Detector Grid Test Made with Grid Leak Shorted

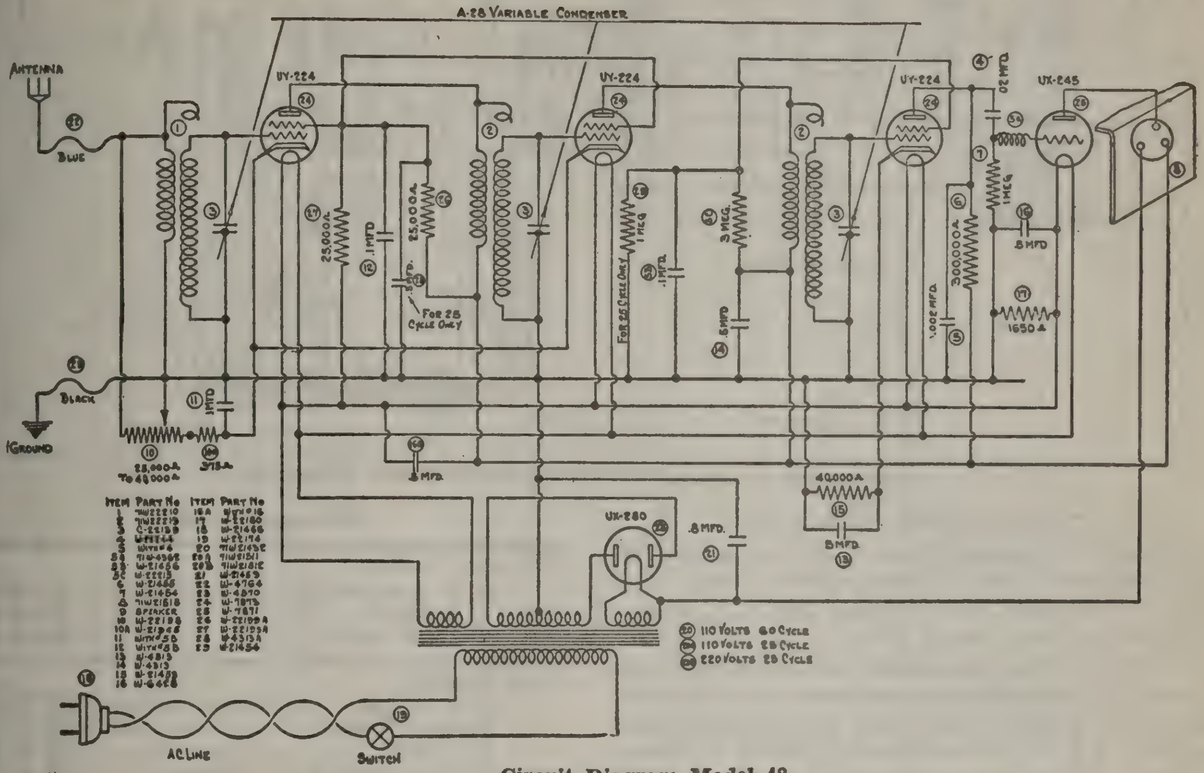
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st.R.F.	1.6	160	1.5	150	11.0		6.5	12.0	5.5
2	226	2nd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
3	226	3rd.R.F.	1.6	160	1.5	150	11.0		6.5	13.4	6.9
4	227	Detector	2.50	157	[illegible]	[illegible]	0.0		2.2	2.75	.56
5	226	1st.A.F.	1.6	120	1.5	120	9.0		6.2	8.0	1.8
6	171A	2nd.A.F.	5.3	185	5.0	170	37.5		20.0	23.0	3.0
7	171A	2nd.A.F.	5.3	[illegible]	[illegible]	170	37.5		20.0	23.0	3.0
8	280	Rectifier	5.3		4.9						

32, 40, 41, 41A, 42 (A.C.)


CX-371A
2nd A.F
CX-371A
2nd A.F
CX-326
1st A.F
CX-326
1st R.F
CX-326
2nd R.F
CX-326
3rd R.F
C-327
Det
CX-380
Rect

CROSLEY RADIO CORP.

MODEL 48
Schematic, Voltage


A-28 VARIABLE CONDENSER
ANTENNA
BLUE
BLACK
GROUND
UY-224
UY-224
UY-224
UX-245
UX-280
25,000Ω
.1 MFD
25,000Ω
.5 MFD
FOR 25 CYCLE ONLY
1 MEG
.1 MFD
FOR 25 CYCLE ONLY
3 MEG
.5 MFD
.002 MFD
300,000Ω
.02 MFD
1 MEG
.5 MFD
1650Ω
1 MFD
25,000Ω TO 45,000Ω
375Ω
.5 MFD
.8 MFD
40,000Ω
.5 MFD
110 VOLTS 60 CYCLE
110 VOLTS 25 CYCLE
220 VOLTS 25 CYCLE
AC LINE
SWITCH

ITEM	PART No	ITEM	PART No
1	7W22210	16A	WTH#16
2	7W22213	17	W-22160
3	C-22139	18	W-21466
4	[illegible]	19	W-22174
5	WITH#6	20	7W21432
5A	7W4362	20A	7W21511
5B	W-21656	20B	7W21812
5C	W-22215	21	W-21459
6	W-21488	22	W-4764
7	W-21454	23	W-4870
8	7W21618	24	W-7873
9	SPEAKER	25	W-7871
10	W-22138	26	W-22109A
10A	W-21946	27	W-22193A
11	WITH#5B	28	W-4313A
12	WITH#8B	29	W-21454
13	W-4813		
14	W-4313		
15	W-21453		
16	W-6428		

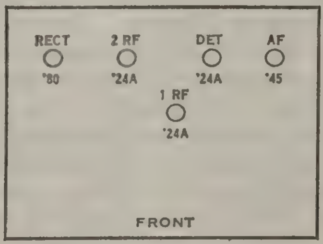
Circuit Diagram Model 48

Voltage Limits

To be measured with tubes in place, speaker connected, and line voltage of 117½ (235 for 220 volt receivers. Measure plate and grid voltages with a high-resistance D. C. volt-meter (600 ohms or more per volt) from plate or grid socket contact to emitter contact. Use a low-range A. C. meter to measure filament voltages.

Filament Voltages	
All tubes but rectifier	2.3 to 2.5
Rectifier tube	4.6 to 4.8
Plate Voltages	
R. F. amplifier tubes	160 to 190
Detector tube	105 to 125
A. F. amplifier tube	125 to 155
Rectifier tube	220 A. C.
Screen Grid Voltages	
R. F. amplifier tubes	80 to 90
Detector tube	40 to 50
Control Grid Voltages	
R. F. amplifier tubes	2.5 to 3.1
Detector tube	6.0 to 7.0
A. F. amplifier tube	25 to 35

Model 48


RECT
'80
2 RF
'24A
DET
'24A
AF
'45
1 RF
'24A
FRONT

Installation Notes

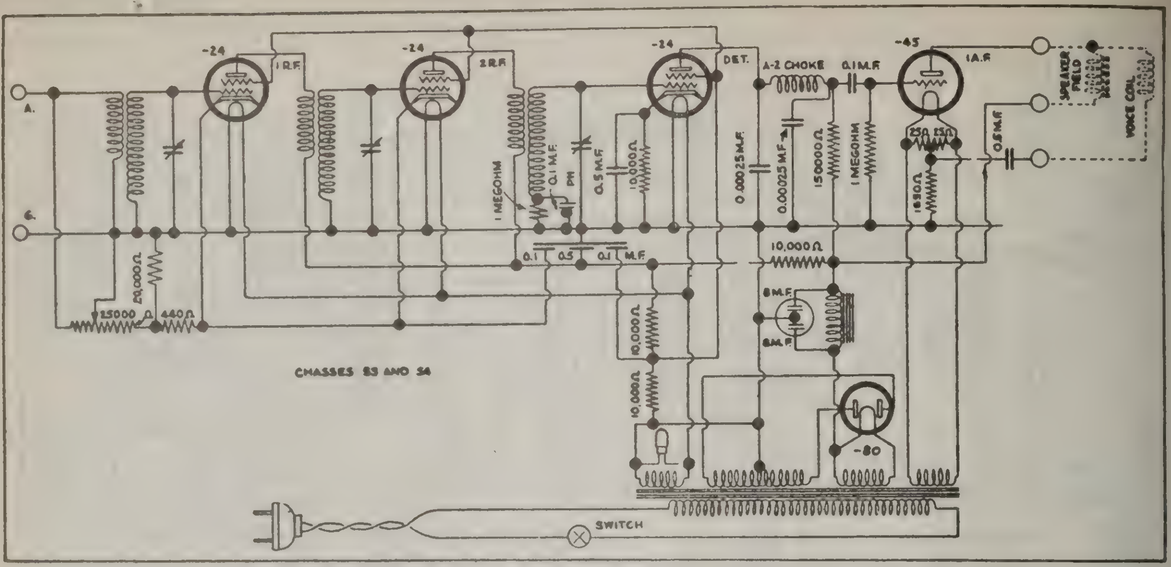
Because of the low sensitivity of this chassis it is better to use a comparatively large aerial with it if possible. A good ground should, of course, be used.

One must be careful in inserting the speaker plug not to force it in when the prongs are improperly lined up with the socket holes.

This model employs the following tubes: two -24 screen grid amplifiers, a -24 screen grid detector, a -45 power output amplifier, and a -80 rectifier.

MODEL 53,54,57
Schematic,Voltage

CROSLEY RADIO CORP.



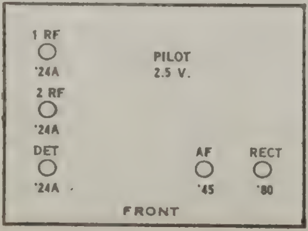
Circuit Model 53 (see note below regarding Models 54 and 57)

Circuit, Models 54 and 57

Model 54 circuit differs from that shown in the diagram in the following particulars: The "PH" terminals are between the r. f. transformer coil and the 0.1 m. f. condenser, instead of between this condenser and ground, as shown. The triple unit condenser near the center of the diagram has values, from right to left, of 0.1, 0.1, 0.5 microfarads, instead of those shown. There is no dial light on Model 54.

Model 57 differs in circuit from the above description in the following particulars: An additional condenser of 0.25 m. f. capacity is shunted across the filter choke. The primary of the speaker output transformer is connected in the position in which the speaker field is shown in the above diagram. Instead of being connected to the 1650 ohm resistor through a condenser, as shown in the above diagram, the bottom speaker terminal is connected to ground. The speaker field is connected from this grounded terminal to the middle speaker terminal on the diagram, so that current from the positive "B" circuit flows through the speaker field to ground. A fixed condenser is shunted across the 1650 ohm output biasing resistor.

Models 53E, 53F, 53M, 57V



Voltage Limits

Filament Voltages	
R. F. and Detector Tubes	2.1 to 2.3
A. F. Tube	2.2 to 2.4
Rectifier Tube	4.1 to 4.3
Plate Voltages	
R. F. Tubes	160 to 180
Detector Tube	215 to 245
A. F. Tube	230 to 260
Rectifier Tube (A. C. Voltage)	340 to 370 each plate
Control Grid Voltages	
R. F. Tubes	3.1 to 3.5
Detector Tube	9.0 to 10.0
A. F. Tube	45.0 to 50.0
Screen Grid Voltages	
R. F. and Detector Tubes	85 to 95
Approximate Plate Current Values	
R. F. Tubes	0.0032
Detector Tube	0.00035
A. F. Tube	0.0335
Rectifier Tube	0.045

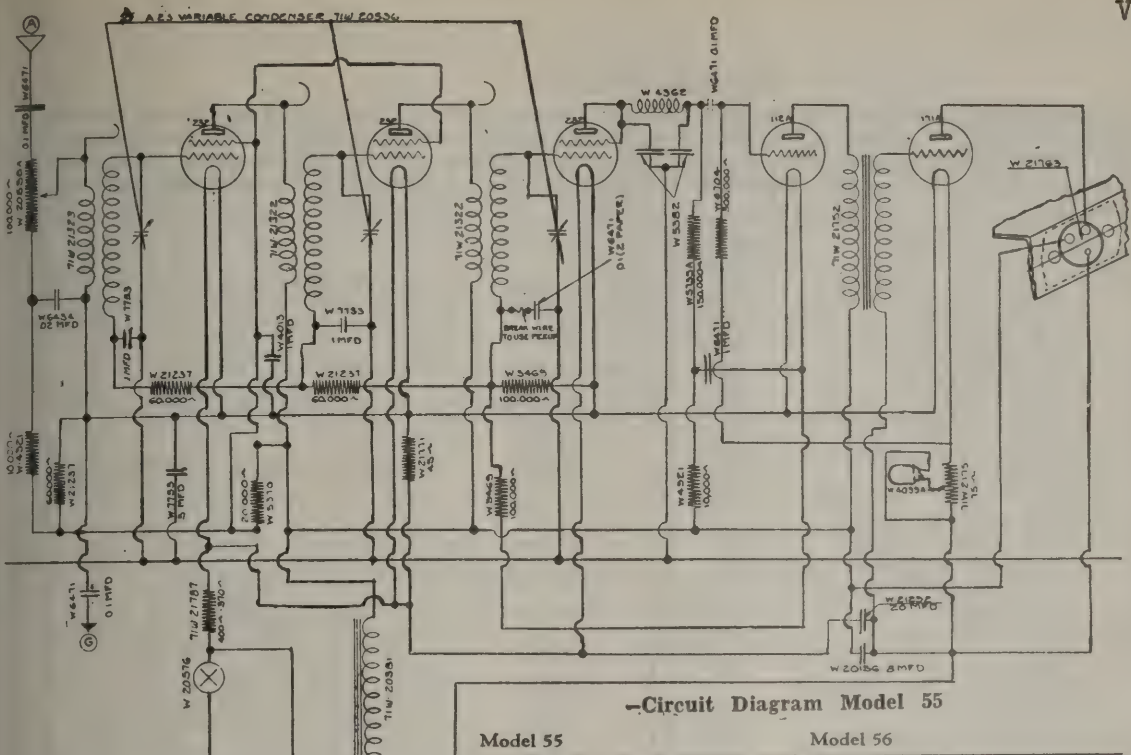
To be measured with speaker connected, tubes in place, and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltages of the detector and audio tubes, which should be measured from the emitters to the chassis. The filaments of the output and rectifier tubes serve as the emitters, while the other tubes have heaters and separate emitters. Measure filament voltages with a low-range A. C. voltmeter.

Black	0	Orange	3	Violet	7
Brown	1	Yellow	4	Gray	8
Red	2	Green	5	White	9
		Blue	6		

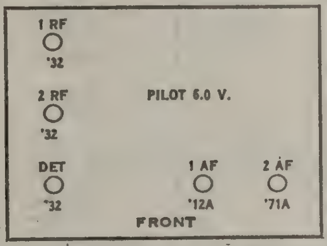
For example, a resistor with orange body color, green end color, and a red dot has a resistance of 3500 ohms.

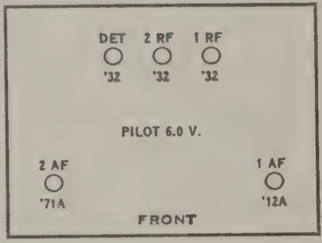
CROSLEY RADIO CORP.

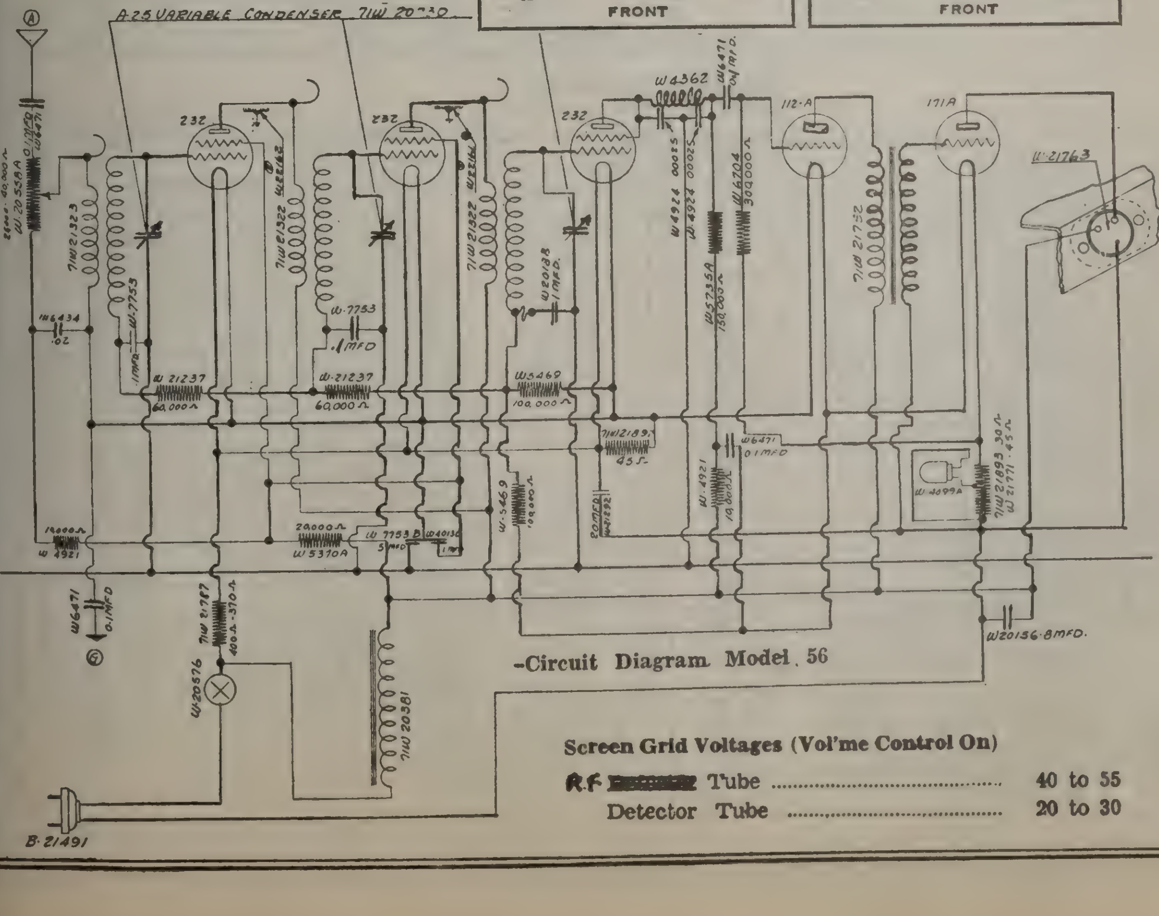
MODEL 55
MODEL 56
Schematic
Voltage


A-25 VARIABLE CONDENSER 7IW 20530
'32
'32
'32
112A
171A
W 4362
W 6471 0.1 MFD
W 21763
W 20558A 100,000~
W 6471 0.1 MFD
7IW 21323
7IW 21322
7IW 21322
W 7753
W 6434 .02 MFD
W 6471 .01 (2 PAPER)
BREAK WIRE TO USE PECKER
W 5382
W 5735A 150,000~
W 6204 300,000~
W 21237 60,000~
W 21237 60,000~
W 5469 100,000~
7IW 21752
W 4321 10,000~
W 21237 60,000~
W 7753 .5 MFD
W 5370 20,000~
7IW 21771 45~
W 5469 100,000~
W 4921 10,000~
W 4099A
W 21626 2.0 MFD
W 20156 8 MFD
W 6471 0.1 MFD
7IW 21787 400~-370~
W 20576
7IW 20381
B 68678

–Circuit Diagram Model 55


Model 55
1 RF
'32
2 RF
'32
DET
'32
PILOT 6.0 V.
1 AF
'12A
2 AF
'71A
FRONT


Model 56
DET
'32
2 RF
'32
1 RF
'32
PILOT 6.0 V.
2 AF
'71A
1 AF
'12A
FRONT


A-25 VARIABLE CONDENSER 7IW 20730
232
232
232
112-A
171A
W 4362
W 6471 .01 MFD
W 21763
W 20558A 25000-40,000~
W 6471 .01 MFD
7IW 21323
7IW 21322
7IW 21322
W 21162
W 21162
W 20188 1 MFD
W 4924 .00025
W 5735A 150,000~
W 6204 300,000~
7IW 21752
W 6434 .02
W 7753
1 MFD
W 7753 .1 MFD
W 21237 60,000~
W 21237 60,000~
W 5469 100,000~
7IW 21893 45~
W 6471 0.1 MFD
W 4921 10,000~
W 5469 100,000~
2.0 MFD W 21821
W 4099A
7IW 21893 30~
W 21771 45~
W 4921 10,000~
W 5370A 20,000~
W 7753 B 5 MFD
W 40136
W 6471 0.1 MFD
7IW 21787 400~-370~
W 20576
7IW 20381
W 20156 8 MFD
B-21491

–Circuit Diagram Model 56

Screen Grid Voltages (Vol'me Control On)

R.F [redacted] Tube	40 to 55
Detector Tube	20 to 30

Plate Voltages

R. F. Tubes	80 to 90
Detector Tube	20 to 30
1st A. F. Tube	75 to 90
Output Tube	85 to 100

Control Grid Voltages

R. F. and Detector Tubes	1.2 to 1.8
1st A. F. Tube	4.0 to 5.0
Output Tube	10.0 to 15.0

Filament Voltages

R. F. and Detector Tubes	1.5 to 2.0
A. F. Tubes	4.2 to 5.0

MODEL 55
MODEL 56
Parts Lists

CROSLEY RADIO CORP.

Parts List Model 55

INSTRUCTIONS FOR ORDERING—Give part number, description of part, and serial number of receiver on which part is to be used. If article wanted is not listed separately, then that part of complete assembly containing this article should be ordered. Goods shipped on open account to Crosley Wholesale Distributors only. Cash must accompany Dealer and Consumer orders. Prices are subject to the usual trade discounts.

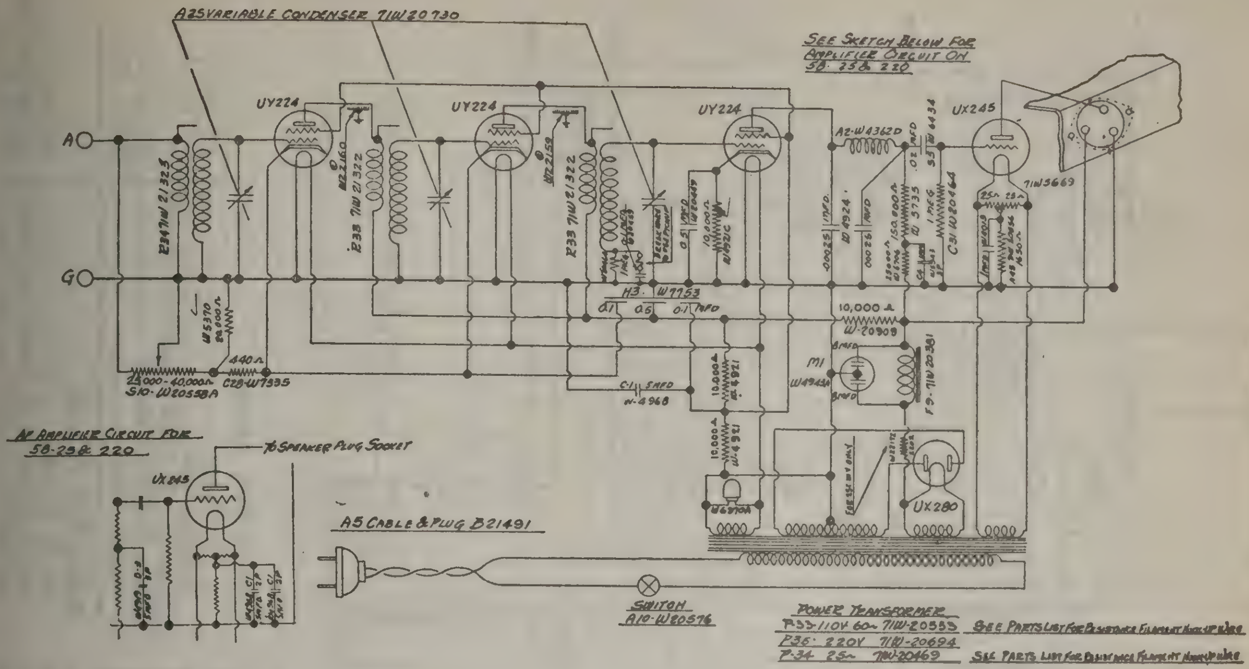
Qty.	Part No.	Description	List Price Each
1	D-21761	Chassis	2.00
5	W-7871	Socket (4 Prong)	.25
5	W-7874	Socket Guide	.10
2	W-21322	R. F. Transformer	2.50
1	W-21323	R. F. Transformer (Ant.)	2.50
3	W-21739	Grid Connectors	.25
3	B-21174	R. F. Coil Shield	.50
1	W-20558	Volume Control	1.75
	W-20536	Variable condenser gang	18.00
1	W-20981	Spider	.30
1	W-7154	Dial Gear	.15
1	W-5596	Set Screw	.05
1	W-5354D	Dial Indicator	.25
1	W-4899	Pinion	.35
1	W-20594	Pinion Bracket (inner)	.15
1	W-20595	Pinion Bracket (outer)	.15
1	W-4907	Spring Washer	.05
1	W-20722	Dial Light Bracket	.25
1	W-20576	Power Switch	.75
1	B-21762	Chassis Plate	.15
1	W-20156	8 Mfd. Condenser	5.00
1	W-21760	Filament drop resistor (400-370 ohms)	1.00
1	W-21779	Filament drop resistor bracket	.10
2	W-4435	Asbestos Washer	.05
1	W-20381	Filter Choke	3.25
1	W-21292	Electrolytic Condenser (20 mfd.)	2.00
1	W-21752	A. F. Transformer	5.00
		PARTS UNDER CHASSIS	
1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-21109	Resistor Assembly	1.00
	W-5713	Mounting Strip	.25
	W-5370	Ressitor 20,000 ohms (red, black, orange spot)	.60
1	W-21237	Resistor 60,000 ohms (blue, black, orange spot)	.60
2	W-5382	0.00025 Mfd. Fixed Condenser	.35
1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-5469	Resistor 100,000 ohms (brown, black, yellow spot)	.60
2	W-21237	Resistor 60,000 ohm	.60
1	W-6434	0.02 Mfd. Fixed Condenser	.60
1	W-20940	Resistor Assembly	1.00
	W-5713	Mounting Strip	.25
	W-4921	Resistor 10,000 ohms	.60
1	W-4362	Plate Choke	.50
1	W-7753	0.1-0.5-0.1 Mfd. Fixed Condenser	2.00
1	W-4013	1. Mfd. Fixed Condenser (2 paper)	1.35
1	W-6471	0.1 Mfd. Fixed Condenser	1.00
1	W-21754	Resistor Assembly	3.15
	W-21771	Mounting Strip & Resistance (45 ohm)	.45
	W-5735	Resistor 150,000 ohms (brown, green, yellow spot)	.60
	W-4921	Resistor 10,000 ohms (brown, black, orange spot)	.60
	W-5469	Resistor 100,000 ohms (brown, black, yellow spot)	.60
	W-6704	Resistor 300,000 ohms (orange black, yellow spot)	.60
1	W-20630	Bottom Bracket	.10
1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-21751	Resistance Assembly (45-30 ohms)	.40
1	W-21798	Junction Block	.10
1	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-20883	Terminal (A. G & P H.)	.50
1	W-21763	Speaker Terminal Socket	.40
1	B-6867	Cable	1.50
1	C-21581	R. F. Shield Assembly	1.25
1	C-20658	Chassis Bottom	.50
1	W-20167	Knob (large)	.40
2	W-20482	Knob (small)	.35

Parts List Model 56

Qty.	Part No.	Description	List Price Each
1	C-21900	Chassis	1.75
5	W-7871	Socket (4 prong)	.25
5	W-7874	Socket Guide	.10
1	W-20558	Volume Control	1.75
1	W-21752	A. F. Transformer	5.50
1	W-21760	Filament Drop Resistor (400-370 ohms)	1.00
1	W-21779	Filament Drop Resistor Bracket	.10
2	W-4435	Asbestos Washer	.05
1	W-20730	Variable Condenser Gang	18.00
1	W-20981	Spider	.30
1	W-22093	Dial	.25
1	W-22094	Dial Strip	.25
1	W-20977	Dial Band	.20
2	W-21322	R. F. Transformers	2.50
1	W-21223	R. F. Transformers (antenna)	2.50
3	W-21739	Grid Connectors	.25
3	W-21257	R. F. Coil Shields	.50
1	C-20871	R. F. Shield	1.25
1	W-20576	Power Switch	.75
1	W-22090	Dial Light Bracket	.25
1	W-21901	Chassis Plate	.15
1	W-20381	Filter Choke	3.25
1	W-20156	Condenser (8 Mfd. 2 paper)	5.00
1	W-21763	Speaker Terminal	.40
1	W-20883	Terminal A. G. & PH.	.50
		PARTS UNDER CHASSIS	
1	W-21893	Fixed Resistance (30 ohm)	.40
1	W-21892	Fixed Resistance (45 ohm)	.40
1	W-20188	0.1 Mfd. Fixed Condenser	.60
1	W-4362	Plate Choke	.50
2	W-4924	0.00025 Mfd. Fixed Condenser	.35
2	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-6434	0.02 Mfd. Fixed Condenser	.60
1	W-7753	0.1-0.5-0.1 Mfd. Fixed Condenser	2.00
1	W-4013	1. Mfd. Fixed Condenser (2 paper)	1.35
1	W-21237	Resistor (60,000 ohms) Blue, black, orange	.60
1	W-5469	Resistor 100,000 ohms Brown, black, yellow	.60
1	W-21237	Resistor (60,000) ohms)	.60
3	W-21127	Stiffened Sleeving (3-8"x2")	.05
1	W-20873	Bottom Bracket	.10
2	W-6471	0.1 Mfd. Fixed Condenser (2 paper)	1.00
1	W-21895	Fixed Resistance Assembly	2.50
	W-21771	Resistance and mounting strip (45 ohms)	.45
	W-5735	Resistor 150,000 ohms (Brown, green, yellow)	.60
	W-6704	Resistor 300,000 ohms (Orange, black, yellow)	.60
	W-4921	Resistor 10,000 ohms (Brown, black, orange)	.60
1	W-21894	Resistance Assembly	2.35
	W-6028	Mounting Strip	.30
	W-4921	Resistor (10,000 ohm Brown, black, orange	.60
	W-5469	Resistor (100,000 ohm) Brown, black, yellow	.60
	W-5370	Resistor (20,000 ohm) Red, black, orange.	.60
1	W-21292	20 Mfd. Condenser	2.00
1	B-21491	Cable	1.50
1	C-20872	Chassis Bottom	.50
2	W-20482	Knob (Small)	.35

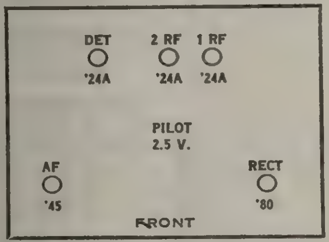
CROSLEY RADIO CORP.

MODEL 58
Schematic
Parts List


A25 VARIABLE CONDENSER W20730
SEE SKETCH BELOW FOR AMPLIFIER CIRCUIT ON 58-25 & 220
UY224
UY224
UY224
UX245
A
G
A2-W4362D
W-20909
10,000 Ω
H3. W7753
25,000-40,000Ω
S10-W20558A
C28-W7335
440Ω
M1
W4943A
UX280
AF AMPLIFIER CIRCUIT FOR 58-25 & 220
To SPEAKER PLUG SOCKET
UX245
A5 CABLE & PLUG B21491
SWITCH
A10-W20576
POWER TRANSFORMER
P33-110V 60~ W-20555
P35 220V W-20694
P34 25~ W-20469
SEE PARTS LIST FOR RESISTANCE FILAMENT HOOK-UP WIRE

WIRING DIAGRAM FOR MODEL 58

Models 54G, 58Q *


DET
2 RF
1 RF
'24A
'24A
'24A
PILOT
2.5 V.
AF
'45
RECT
'80
FRONT

Circuit Diagram Model 58

For Voltage Data See Model 54

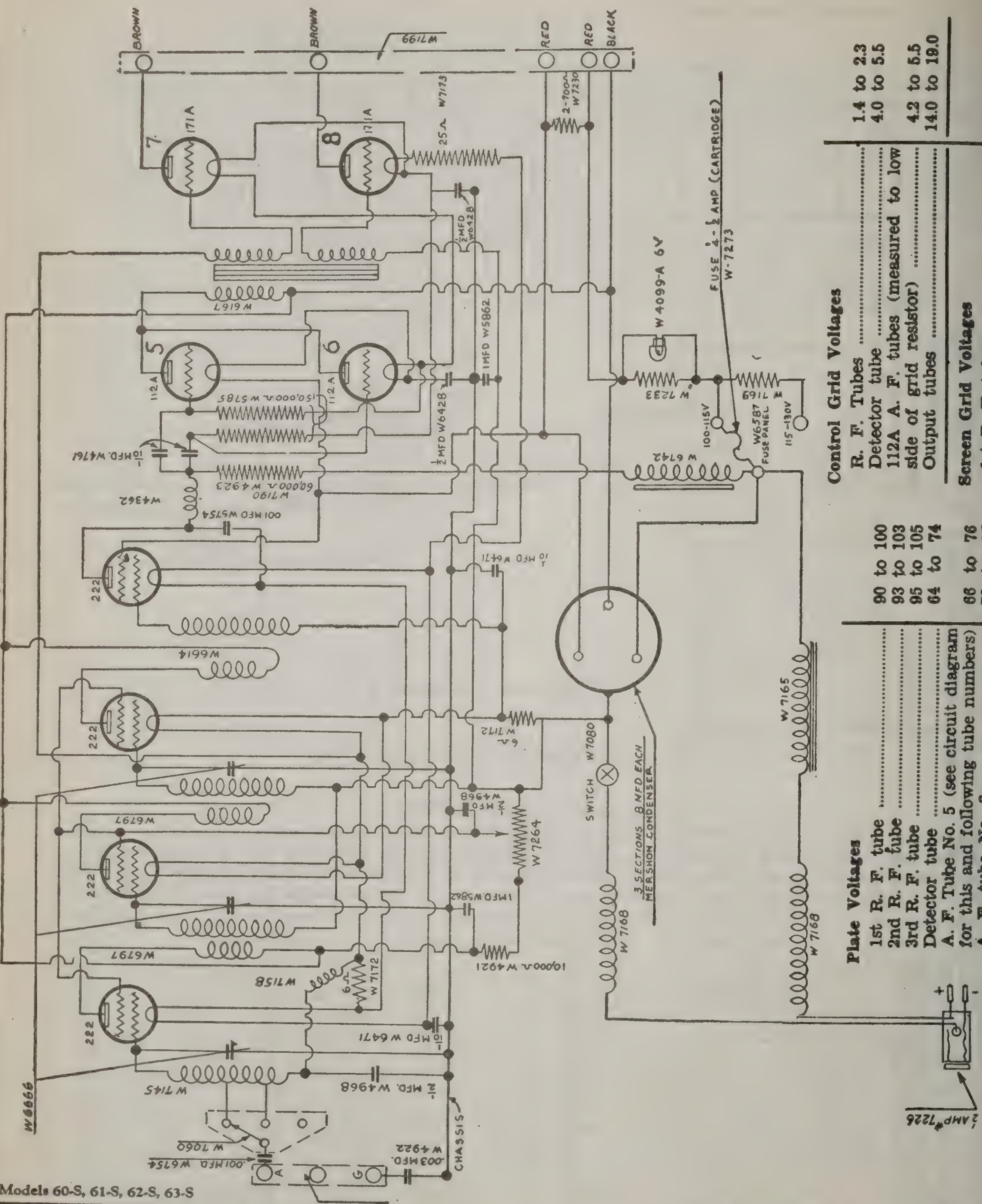
Parts List—Model 58

INSTRUCTIONS FOR ORDERING—Give part number, description of part, and serial number of receiver on which part is to be used. If article wanted is not listed separately, then that part of complete assembly containing this article should be ordered. Goods shipped on open account to Crosley Wholesale Distributors only. Cash must accompany Dealer and Consumer orders. Prices are subject to the usual trade discounts.

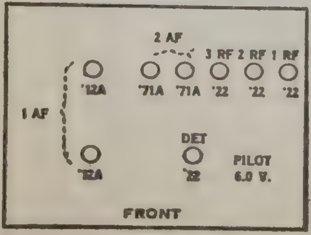
Qty.	Part No.	Description	List Price Each
1	W-21569	Chassis	1.75
3	W-7873	Socket (5 Prong)	.30
2	W-7871	Socket (4 Prong)	.25
1	W-21518	Speaker Socket	.40
4	W-7874	Socket Guide	.10
1	W-21297	Socket Guide (280)	.10
1	W-20883	Terminal Board (A. G. & Ph.)	.50
1	W-20558	Volume Control	1.75
1	W-20381	Filter Choke	3.25
1	W-4943	Mershon Condenser	4.25
2	W-5033	Condenser Clamp	.15
1	W-4946	Condenser Cap	.25
1	W-20730	Variable Condenser Gang	18.00
1	W-22090	Dial Light Bracket Assembly	.40
1	W-22095	Dial Drum Assembly	.80
	W-22094	Dial Indicator Cover	.25
	W-20077	Dial Band	.20
2	W-21322	R. F. Transformer	2.50
1	W-21323	R. F. Transformer (Antenna)	2.50
3	W-21739	Grid Connector	.25
3	W-21257	R. F. Coil Shield	.50
1	W-20576	Power Switch	.75
1	W-22025	Power Transformer (110 V. 60 Cycle)	13.00
2	W-21597	Tie Straps	.10
1	C-20871	R. F. Shield	1.25
		PARTS UNDER CHASSIS	
1	W-5669	25 -25 ohm Resistance	.40
1	W-20556	1650 ohm Resistance	.35
1	W-5943	.1 Mfd. Fixed Condenser	1.10
2	W-4924	.00025 Mfd. Fixed Condenser	.35
1	W-4362	Plate Choke	.50
1	W-6434	.02 mfd. Fixed Condenser	.60
1	W-4013	1. mfd. Fixed Condenser	1.35
1	W-20449	.5 -.1 mfd. Fixed Condenser	1.25
1	W-7753	.1 -.5 -.1 mfd. Fixed Condenser	2.00
1	W-4968	.5 mfd. Fixed Condenser	1.20
1	W-21955	3250 ohm Candohm Resistance (2 Section)	.80
1	W-21956	3160 ohm Candohm Resistance	.30
1	W-22043	Mounted Resistor Assembly	2.35
	W-20099	Mounting Strip	.30
	W-5735	150.000 ohm Resistor	.60
	W-5370	20,000 ohm Resistor	.60
	W-6706	25,000 ohm Resistor	.60
1	W-22082	Mounted Resistor Assembly	3.00
	W-20099	Mounting Strip	.30
	W-4921	10,000 ohm Resistor	.60
2	W-20464	1 Meg. Resistor	.60
	W-7335	440 Ohm Resistor	.60
1	B-21491	Cable	1.50
1	C-20872	Chassis Bottom	.50
1	W-20873	Bottom Bracket	.10
2	W-20482	Knob	.35
	W-7947	Knob Spring	.05

MODELS 60S,61S,62S,63S
Schematic, Voltage

CROSLEY RADIO CORP.


BROWN
BROWN
W7199
RED
RED
BLACK
2-700Ω W7230
171A
171A
7
8
25Ω W7173
½ MFD W6428
W6167
5
6
112A
112A
1MFD W5862
150,000Ω W5785
½ MFD W6428
1/10 MFD. W4761
W7190
60,000Ω W4923
W4362
.001 MFD W5754
222
1/10 MFD W6471
W6614
W4099-A 6V
FUSE ¼-½ AMP (CARTRIDGE) W-7273
W7233
W7169
100-115V
115-130V
W6587 FUSE PANEL
W6742
W7165
W7080
SWITCH
3 SECTIONS 8 MFD EACH MERSHON CONDENSER
W7168
W7168
222
6Ω W7172
½ MFD W4968
W7264
1MFD W5862
W6797
222
W6797
10,000Ω W4921
W7158
6Ω W7172
222
1/10 MFD W6471
½ MFD. W4968
W7145
W6666
CHASSIS
W7060
.001 MFD W6754
.003 MFD. W4922
A
G
W7053
½ AMP W7226
+
-

Models 60-S, 61-S, 62-S, 63-S

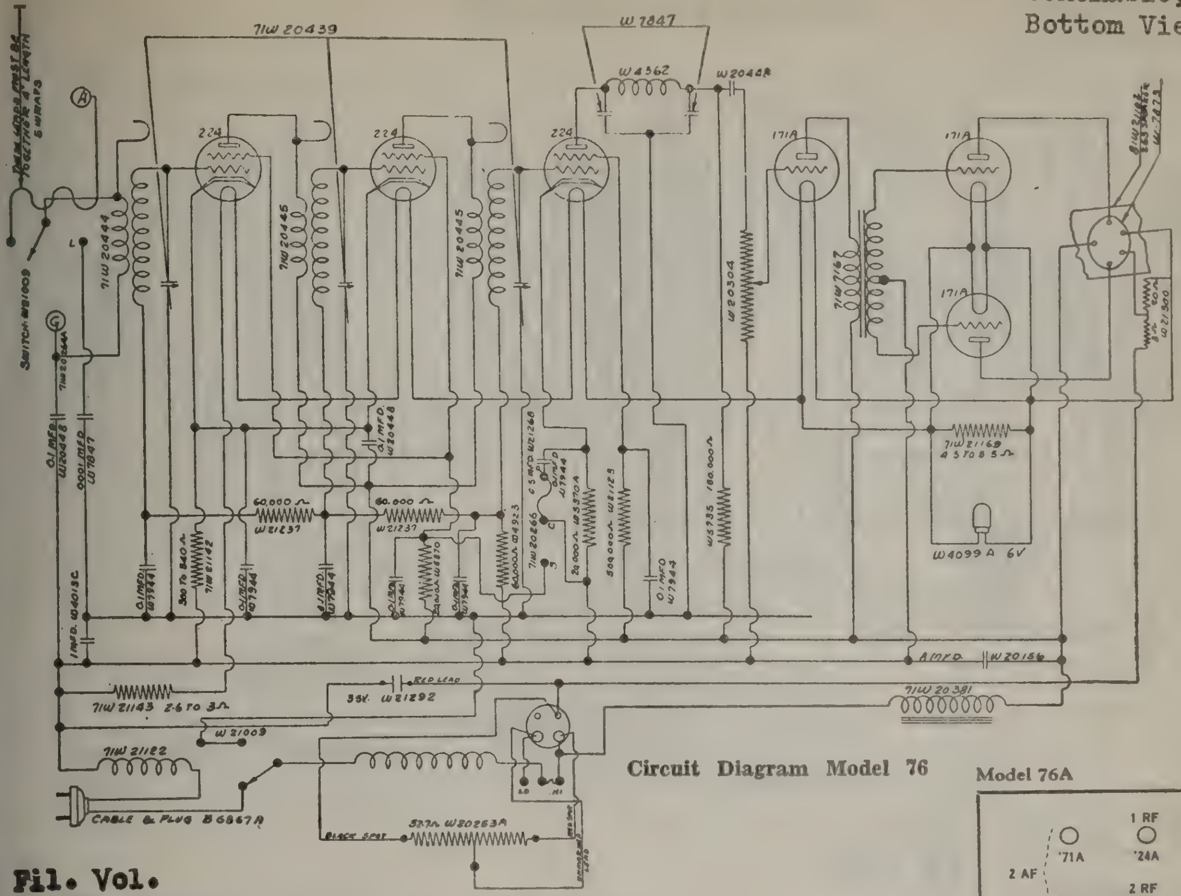

2 AF
3 RF
2 RF
1 RF
1 AF
'12A
'71A
'71A
'22
'22
'22
DET
'12A
'22
PILOT
6.0 V.
FRONT

Voltage Limits

	Volume Control on Full
Filament Voltages	
R. F. and Detector tubes	2.6 to 3.4
All A. F. tubes	4.2 to 5.5
Plate Voltages	
1st R. F. tube	90 to 100
2nd R. F. tube	93 to 103
3rd R. F. tube	95 to 105
Detector tube	64 to 74
A. F. Tube No. 5 (see circuit diagram for this and following tube numbers)	66 to 76
A. F. tube No. 6	72 to 82
Output tube, No. 7	77 to 87
Output tube, No. 8	81 to 91
Control Grid Voltages	
R. F. Tubes	1.4 to 2.3
Detector tube	4.0 to 5.5
112A A. F. tubes (measured to low side of grid resistor)	4.2 to 5.5
Output tubes	14.0 to 19.0
Screen Grid Voltages	
1st R. F. tube	47 to 67
2nd and 3rd R. F. tubes	50 to 70
Detector	14 to 34

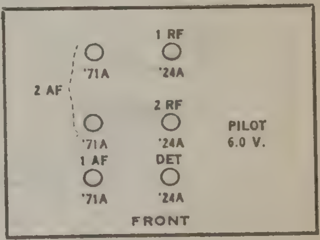
CROSLEY RADIO CORP.

MODEL 76
Schematic,Voltage
Bottom View


71W 20439
W 7847
W 4562
W 20448
224
224
224
171A
171A
171A
A
C
L
SWITCH W81009
71W 20444
71W 20445
71W 20445
W 20304
71W 7167
60,000 Ω
W21237
60,000 Ω
W21237
71W 21169
W4099 A 6V
A MFD
W 20156
71W 20381
71W 21143 2.6 TO 3Ω
35V. W21292
RED LEAD
W 21009
71W 21182
CABLE & PLUG B 6867A
BLACK SPOT
537Ω W20253A
LO
HI

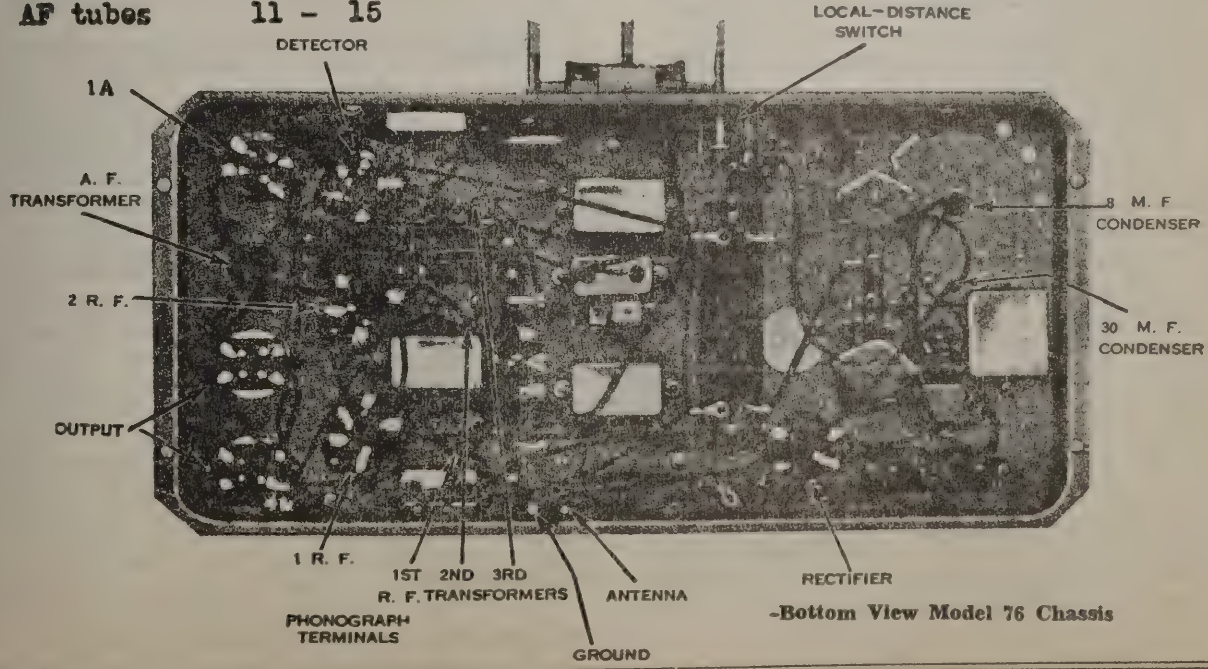
Circuit Diagram Model 76

Model 76A


1 RF
'71A
'24A
2 AF
2 RF
'71A
'24A
PILOT
6.0 V.
1 AF
DET
'71A
'24A
FRONT

Fil. Vol.		**Screen Grid**	
RF and Det	2.3- 2.6	RF tubes	60 - 80
AF tubes	4.6- 5.2	Det	9 - 11
Plate Vol.			
RF tubes	90 - 110		
Det	60 - 70		
AF tubes	80 - 100		
Control Grid			
RF tubes	2 - 3.0		
Det	3 - 3.5		
AF tubes	11 - 15		

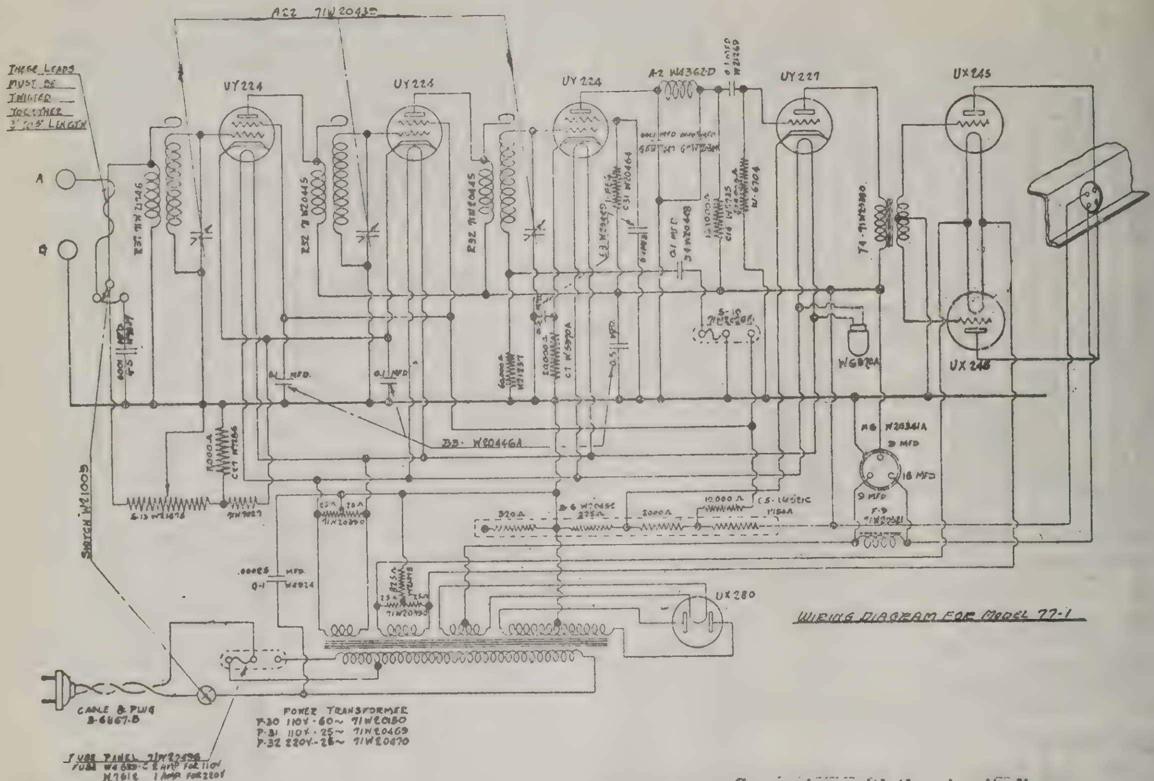
To be measured with speaker in circuit. Fuse in "high" for 117.5 line voltage and in "low" position for 107.5 line voltage.


DETECTOR
LOCAL-DISTANCE SWITCH
1A
A. F. TRANSFORMER
8 M. F CONDENSER
2 R. F.
30 M. F. CONDENSER
OUTPUT
1 R. F.
1ST 2ND 3RD R. F. TRANSFORMERS
ANTENNA
RECTIFIER
PHONOGRAPH TERMINALS
GROUND

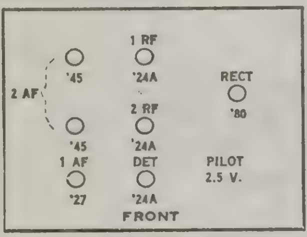
-Bottom View Model 76 Chassis

MODEL 77-1
Schematic
Bottom View, Notes

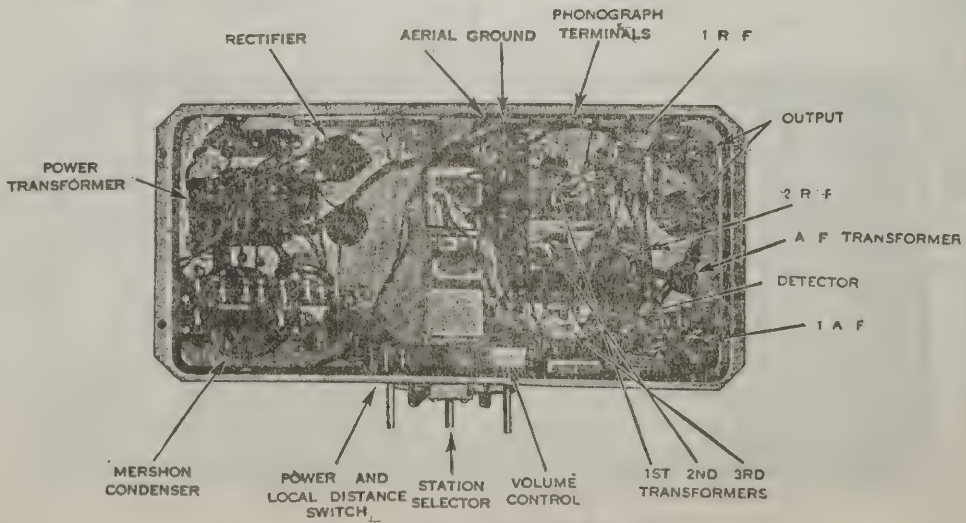
CROSLEY RADIO CORP.


A-22 71W20438
THESE LEADS MUST BE TWISTED TOGETHER 3" TO 5" LENGTH
UY224
UY224
UY224
UY227
UX245
UX245
UX280
A-2 W4362D
A
G
R31 71W21746
R32 71W20445
R32 71W20445
0.1 MFD.
0.1 MFD.
B3· W20446A
5000 Ω
C17 W7186
S-13 W21676
71W7027
SWITCH W21005
60000 Ω
20000 Ω
C7 W5970A
0.5 MFD.
S-15
W6874
M6 W20341A
9 MFD
18 MFD
320 Ω
B-6 W20452
275 Ω
2000 Ω
10,000 Ω
C5-14
.00025 MFD.
Q-1 W4924
71W20490
71W20490
CABLE & PLUG
B-6867-B
POWER TRANSFORMER
P-30 110V-60~ 71W20150
P-31 110V-25~ 71W20469
P-32 220V-25~ 71W20470
FUSE PANEL 71W22496
FUSE W6850-C 2 AMP FOR 110V
W7612 1 AMP FOR 220V
WIRING DIAGRAM FOR MODEL 77-1

Models 77A, 77B, 77L


1 RF
'24A
2 RF
'24A
DET
'24A
2 AF
'45
'45
1 AF
'27
RECT
'80
PILOT
2.5 V.
FRONT

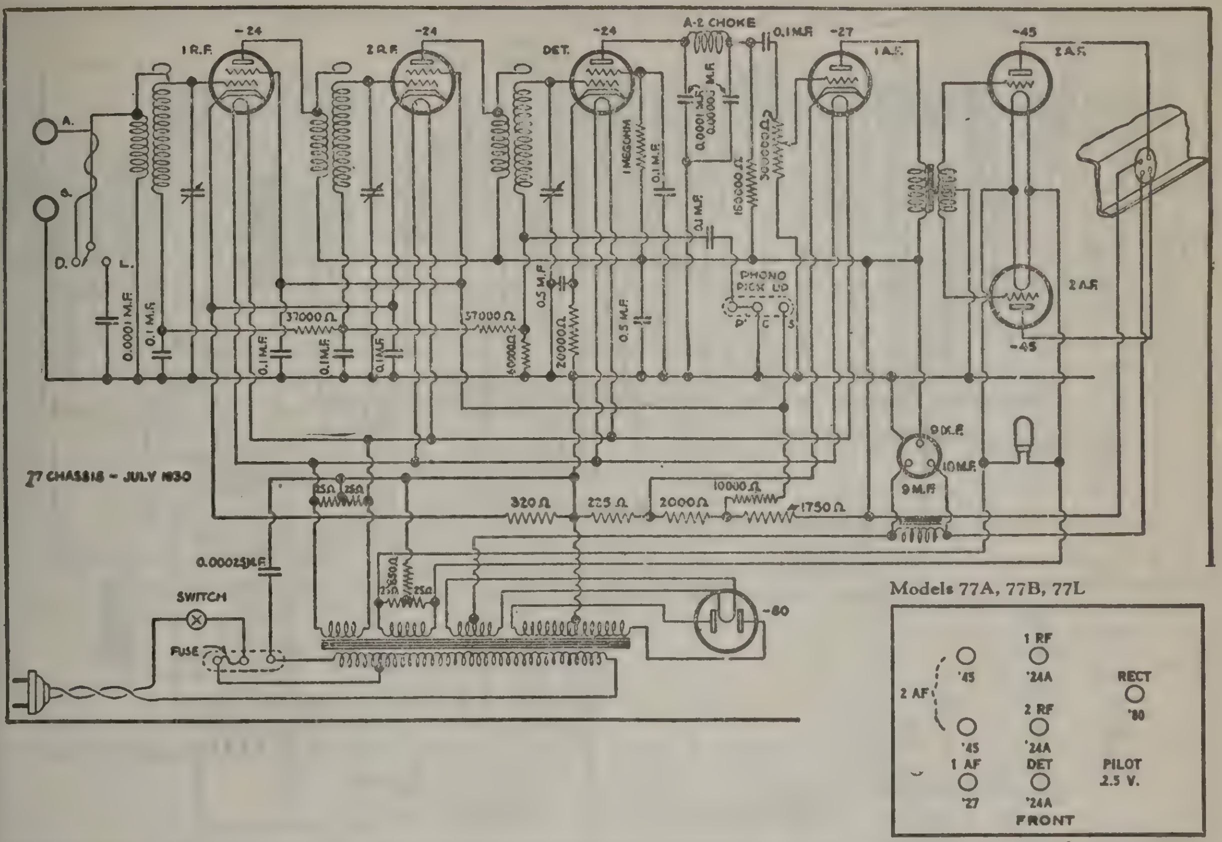
Comparison with the circuit diagram of Model 77, will show that the 37,000 ohm and 16,000 ohm isolating resistors, and the 0.1 micro-farad isolating condensers have been removed from the radio-frequency circuit. In addition a new type of volume control is used, located in the first stage r. f. instead of in the audio frequency circuit. The antenna coil has a low-impedance primary, and is not interchangeable with that on Model 77. These are the essential differences.


RECTIFIER
AERIAL GROUND
PHONOGRAPH TERMINALS
1 R F
OUTPUT
POWER TRANSFORMER
2 R F
A F TRANSFORMER
DETECTOR
1 A F
MERSHON CONDENSER
POWER AND LOCAL DISTANCE SWITCH
STATION SELECTOR
VOLUME CONTROL
1ST 2ND 3RD TRANSFORMERS

-Bottom View Model 77-1

CROSLEY RADIO CORP.

MODELS 77A,77B,77L
Schematic,Voltage



-24
1 R.F.
-24
2 R.F.
-24
DET.
A-2 CHOKE
0.1 M.F.
-27
1 A.F.
-45
2 A.F.
A.
G.
D.
L.
0.0001 M.F.
0.1 M.F.
37000 Ω
0.1 M.F.
0.1 M.F.
0.1 M.F.
37000 Ω
60000 Ω
0.5 M.F.
20000 Ω
1 MEGOHM
0.1 M.F.
0.5 M.F.
0.0001 M.F.
0.0001 M.F.
0.1 M.F.
150000 Ω
500000 Ω
PHONO PICK UP
P
C
S
2 A.F.
-45
77 CHASSIS - JULY 1930
25 Ω
25 Ω
320 Ω
225 Ω
2000 Ω
10000 Ω
1750 Ω
9 M.F.
10 M.F.
9 M.F.
0.00025 M.F.
SWITCH
FUSE
150 Ω
25 Ω
-80

Models 77A, 77B, 77L

1 RF
'24A
2 AF
'45
RECT
'80
2 RF
'24A
'45
1 AF
DET
PILOT
2.5 V.
'27
'24A
FRONT

Voltage Limits

Filament Voltages	
All tubes but rectifier	2.3 to 2.6
Rectifier tube	4.6 to 5.2
Plate Voltages	
R. F. tubes	140 to 160
Detector tube	85 to 110
1st Audio tubes	125 to 150
Output tubes	230 to 260
Rectifier tube (A. C. Voltage)	250 to 280 each plate
Control Grid Voltages	
R. F tubes	1.6 to 3.2
Detector tube	2.0 to 3.2
1st Audio tube	8.0 to 10.0
Output tubes	45. to 65.
Screen Grid Voltages	
R. F. tubes	75 to 90
Detector tube	35 to 55

To be measured with speaker connected and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance, D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltage of the first audio tube, which should be measured from the emitter to the chassis. The filaments of the output and rectifier tubes serve as the emitters, while the other tubes have heaters and separate emitters. Measure filament voltages with a low-range, A. C. voltmeter.

All voltage readings are to be taken with the speaker connected and the tubes in place.

Installation Notes

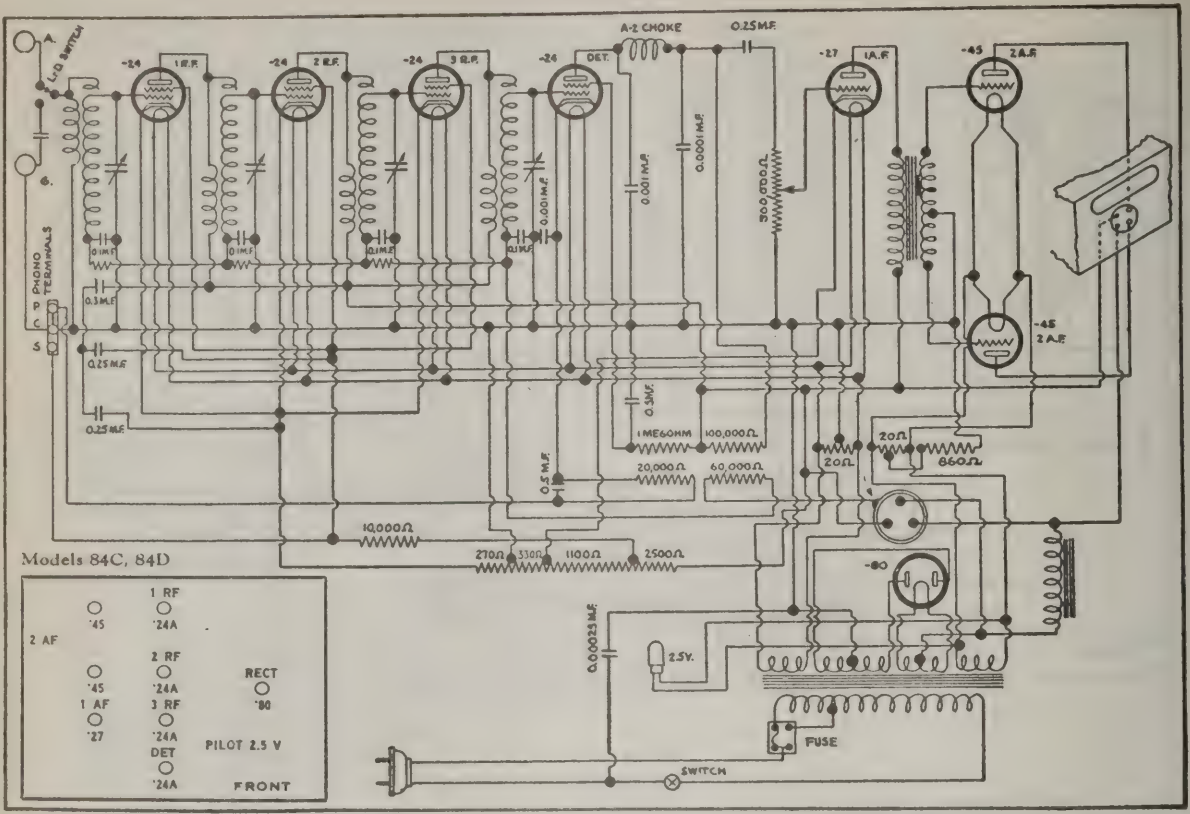
Recommended aerial length: 50 feet or more for outdoor aerial, 20 to 50 feet for indoor aerial.

There are three terminals at the rear of the chassis, marked "P", "C", and "S", for phonograph pick up devices. Instructions for connecting these in Crosley phono-radio combinations will be found in the instruction books accompanying the receivers. To connect other types of phonograph pick up, a single-pole double-throw switch is required. Cut the wire between terminals "P" and "C". Connect the center pole of the switch to terminal "C". Connect the end poles of the switch to terminals "P" and "S". Connect the two leads from the phonograph pick up to the switch poles which are connected to "P" and "C" (terminal "C" is grounded to the chassis). For phonograph reproduction, throw the switch so that the terminals "C" and "S" are connected together. For radio reproduction, throw the switch so that the terminals "P" and "C" are connected together. The volume of phonograph reproduction may be controlled by the volume control on the radio receiver.

If the phonograph attachment is disconnected from the receiver at any time and it is desired to obtain radio reception, it will be necessary to connect a wire from "P" to "C."

MODELS 84C, 84D
Schematic,Voltage
Notes

CROSLEY RADIO CORP.


A
L-D SWITCH
G.
PHONO TERMINALS
P
C
S
-24
1 R.F.
-24
2 R.F.
-24
3 R.F.
-24
DET.
A-2 CHOKE
0.25 M.F.
-27
1A.F.
-45
2A.F.
-45
2 A.F.
0.001 M.F.
0.0001 M.F.
300,000 Ω
0.1 M.F.
0.3 M.F.
0.25 M.F.
0.25 M.F.
0.3 M.F.
1 MEGOHM
100,000 Ω
20,000 Ω
60,000 Ω
20 Ω
20 Ω
860 Ω
0.5 M.F.
10,000 Ω
270 Ω
330 Ω
1100 Ω
2500 Ω
-80
0.00025 M.F.
2.5 V.
FUSE
SWITCH
Models 84C, 84D
1 RF
'24A
'45
2 AF
2 RF
'24A
'45
1 AF
'27
3 RF
'24A
DET
'24A
RECT
'80
PILOT 2.5 V
FRONT

INSTALLATION NOTES

Recommended aerial length, 50 feet or more for outdoor installations; 20 feet or more for indoor installations.

Terminals are provided for phonograph pick-up devices. When such a device is connected, the wire between terminals "P" and "C" must be out. If the pick-up device is afterwards disconnected, a wire must be connected between "P" and "C" before the receiver may be operated.

To connect a phonograph pick-up a double throw, single-pole switch must be used. Connect the middle pole of the switch to terminal "C" and the end poles to terminals "P" and "S". Connect the pick-up to the switch poles which are connected to "P" and "C", and cut the wire between "P" and "C", as described above. Throw switch toward "P" pole for radio reproduction or toward "S" pole for phonograph reproduction.

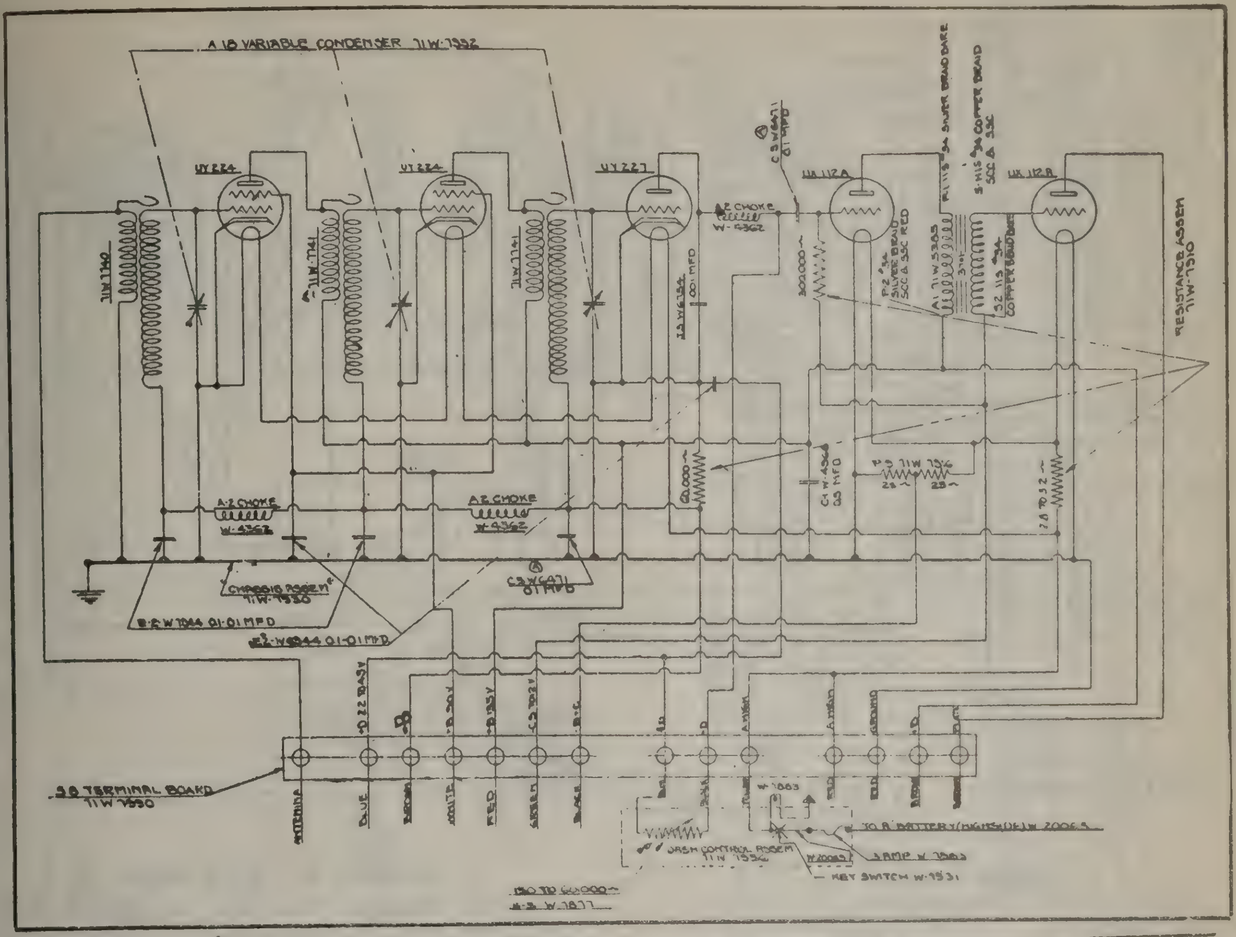
Voltage Limits

Filament Voltages	
All tubes but rectifier	2.3 to 2.6
Rectifier tube	4.6 to 5.2
Plate Voltages	
R. F. tubes	170 to 190
Detector tube	95 to 105
1st Audio tube	130 to 150
Output tubes	220 to 250
Rectifier tube (A. C. voltage)	250 to 280 each plate
Control Grid Voltages	
R. F. tubes	2.5 to 3.5
Detector tube	4.0 to 7.0
1st Audio tube	8.0 to 11.0
Output tubes	40.0 to 50.0
Screen Grid Voltages	
R. F. tubes	60 to 75
Detector tube	35 to 55

To be measured with speaker connected and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position or of 107½ (215 for 220 volt receivers) with fuse in "Low" position. Measure plate and grid voltages with a high-resistance, D. C. voltmeter (600 ohms or more per volt) from plate or grid tube contact to emitter contact, except in the case of the grid voltage of the first audio tube, which should be measured from the emitter to the chassis.

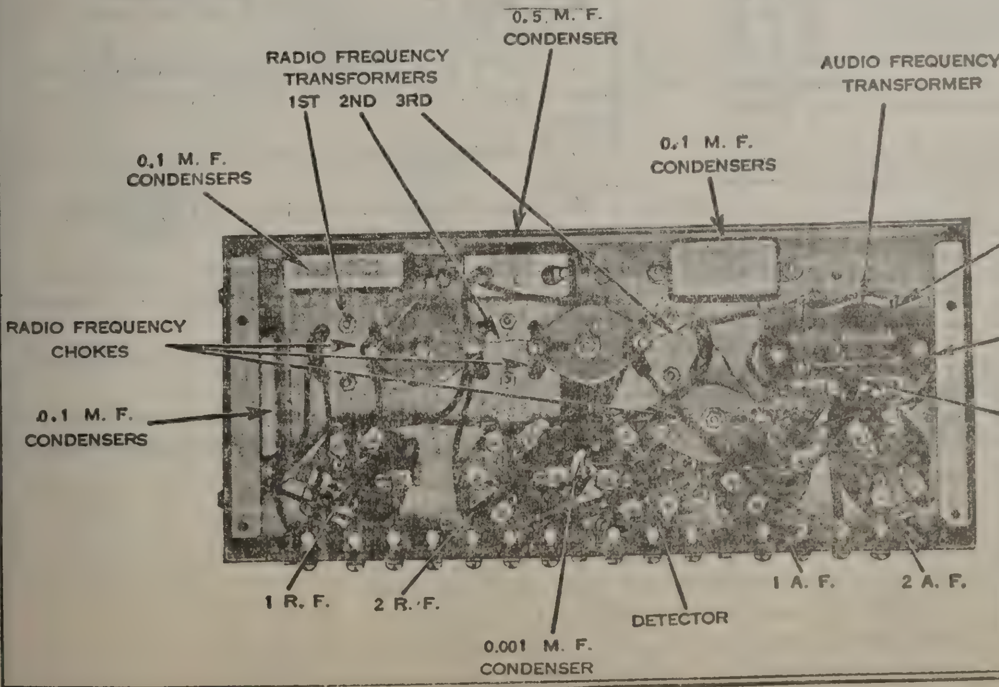
CROSLEY RADIO CORP.

MODEL 90 AUTO
Schematic, Voltage

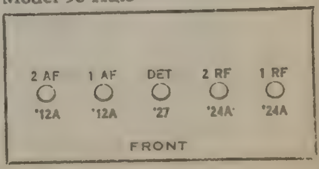

A 18 VARIABLE CONDENSER 71W-7332
UY224
UY224
UY227
UX112A
UX112A
71W7740
71W-7741
71W7741
A-2 CHOKE W-4362
A2 CHOKE W-4362
A2 CHOKE W-4362
CHASSIS ASSEM 71W-7530
B-2 W7044 01-01 MFD
E2-W6044 01-01 MFD
C3 W6471 .01 MFD
C3 W6471 .01 MFD
13 W6734 .001 MFD
300,000~
60,000~
C1 W-4364 0.5 MFD
P3 71W 7316 25~ 25~
25 TO 32~
A1 71W 5365
P-2 #34 SILVER BRAID SCC & SSC RED
R1 115 #34 SILVER BRAID BARE
S-115 #34 COPPER BRAID SCC & SSC
S2 115 #34 COPPER BRAID BARE
RESISTANCE ASSEM 71W-7310
38 TERMINAL BOARD 71W 7530
+0 22 TO 45V
-B
+B 90V
+B 135V
-C 3 TO 21V
-B -C
ANTENNA
BLUE
BROWN
WHITE
RED
GREEN
BLACK
A MAIN
GROUND
W-1063
TO A BATTERY (HIGH SIDE) W 20065
DASH CONTROL ASSEM 71W 7536
W20063
LAMP W 7563
KEY SWITCH W-7531
150 TO 60,000~
W-7877

Filament Voltages	
R. F. and Detector Tubes	2.0
A. F. Tubes	4.7
Plate Voltages	
All Tubes but Detector	135
Detector Tube	22½

Control Grid Voltages	
R. F. Tubes	2.5
Detector Tube	3.0
A. F. Tubes	12.0
Screen Grid Voltages	
R. F. Tubes	90

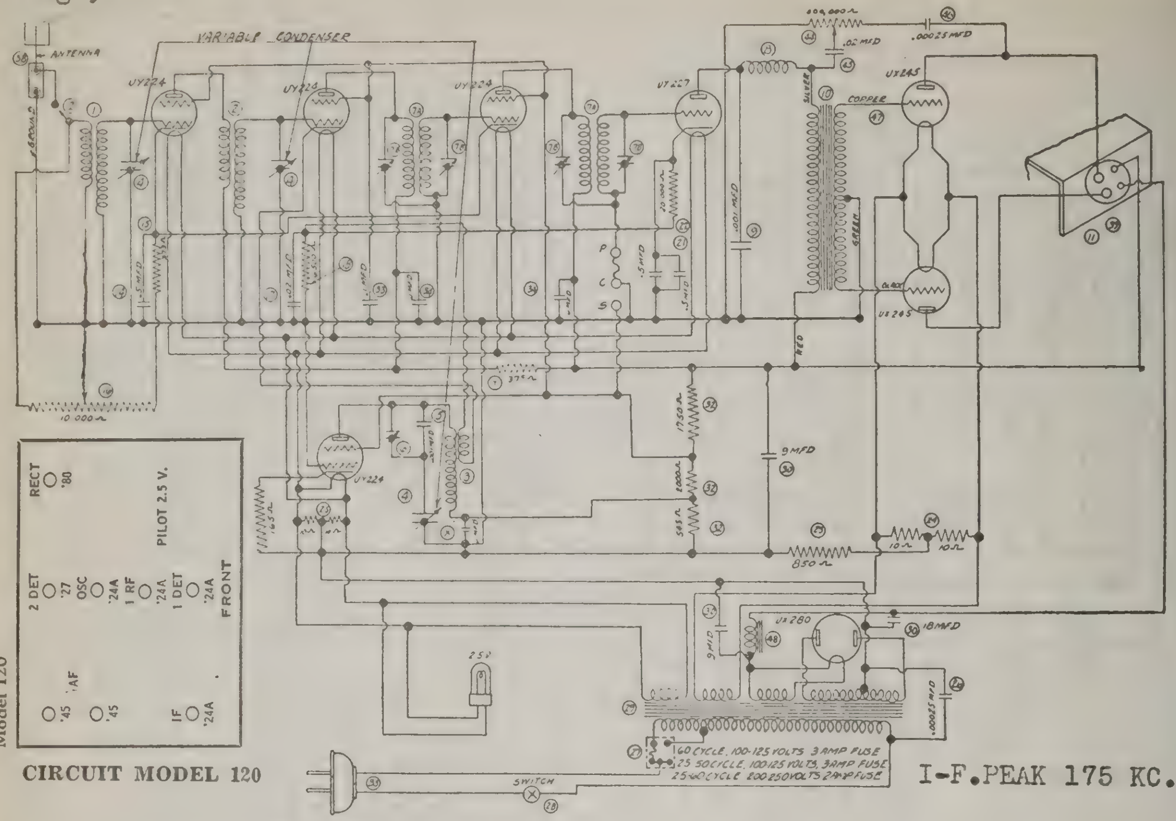

0.5 M. F. CONDENSER
RADIO FREQUENCY TRANSFORMERS
1ST 2ND 3RD
AUDIO FREQUENCY TRANSFORMER
0.1 M. F. CONDENSERS
0.1 M. F. CONDENSERS
300.000 OHM RESISTANCE
RADIO FREQUENCY CHOKES
60.000 OHM RESISTANCE
0.1 M. F. CONDENSERS
25 TO 32 OHM RESISTANCE
1 R. F.
2 R. F.
DETECTOR
1 A. F.
2 A. F.
0.001 M. F. CONDENSER

Model 90 Auto


2 AF
'12A
1 AF
'12A
DET
'27
2 RF
'24A
1 RF
'24A
FRONT

MODEL 120
Schematic
Voltage,Notes

CROSLEY RADIO CORP.


ANTENNA
GROUND
VARIABLE CONDENSER
UY224
UY224
UY224
UY227
UX245
UX245
UY224
UX280
100,000 Ω
.02 MFD
.00025 MFD
SILVER
COPPER
GREEN
BLACK
RED
.001 MFD
10,000 Ω
375 Ω
1750 Ω
2000 Ω
565 Ω
165 Ω
9 MFD
850 Ω
10 Ω
10 Ω
18 MFD
.00025 MFD
25V
SWITCH
P
C
S
RECT '80
PILOT 2.5 V.
2 DET '27
OSC '24A
1 RF '24A
1 DET '24A
FRONT
AF
'45
'45
IF '24A
Model 120
60 CYCLE, 100-125 VOLTS 3 AMP FUSE
25 50 CYCLE, 100-125 VOLTS, 3 AMP FUSE
25-60 CYCLE 200-250 VOLTS 2 AMP FUSE

CIRCUIT MODEL 120

I-F.PEAK 175 KC.

Voltage Limits

Filament Voltages	
All tubes but output and rectifier	2.4 to 2.6
Output tubes	2.3 to 2.5
Rectifier tube	4.6 to 5.2
Plate Voltages	
1st R. F. and Intermediate Amplifiers	150 to 170
Oscillator	16 to 25
1st Detector	145 to 165
2nd Detector	135 to 155
Output	245 to 275
Rectifier (A. C. voltage)	260 to 290 each plate
Screen Grid Voltages	
All screen grid tubes	85 to 95
Control Grid Voltages	
1st R. F. and Intermediate Amplifiers	2.5 to 3.5
Oscillator	0.5 to 1.5
1st Detector	6.0 to 8.0
2nd Detector	13.0 to 17.0
Output tubes	50 to 58.0

To be measured with speaker connected, volume control on full, and line voltage of 117½ (235 for 220 volt receivers) with fuse in "High" position, or of 107½ (215 for 220 volt receivers) with fuse in "Low" position.

Changes In 120 Chassis

Service Bulletin No. A1 of March 15th covers the A. B. J. A. series of the 120 Chassis. Sets having serial prefix letters A. B. J. B. contain the following changes. Prices of parts remain the same.

W-22017 I. F. Transformer Assembly is replaced by W-22017-E I. F Transformer Assembly.

W-21989 Coil Assembly is replaced by W-21989-B Coil Assembly.

W-21295 I. F. Transformer Assembly is replaced by W-21295-B I F Transformer Assembly.

W-21964 Flexible Resistor (165 ohms) is omitted.

W-21965 Flexible Resistor (375 ohms) is added.

W-21995 R. F. Transformer (oscillator) (Rear) is replaced by W-22589 R. F Transformer (oscillator).

New type I. F. Coil Assemblies are marked with a dot of red paint.

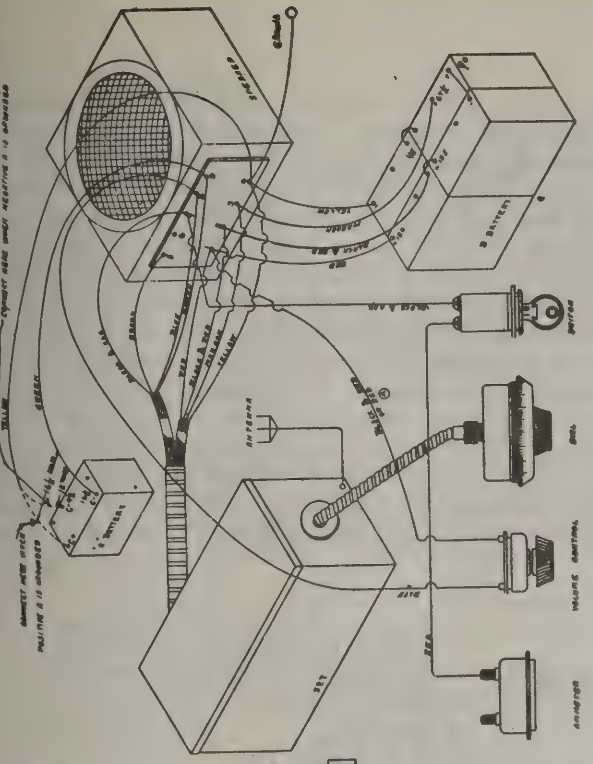
New type R. F. Transformer (oscillator), W-22589, has five connections instead of four

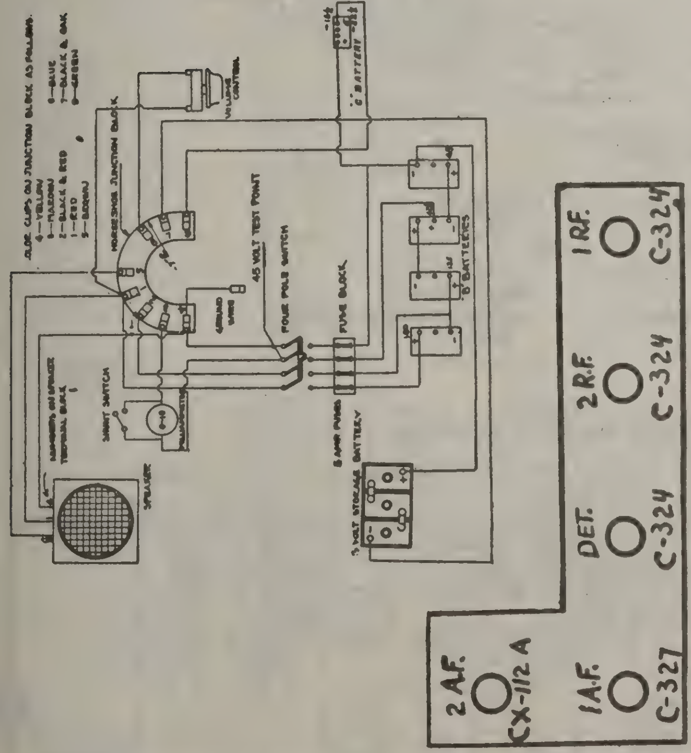
To Compensate For Long Aerial With 120 Chassis

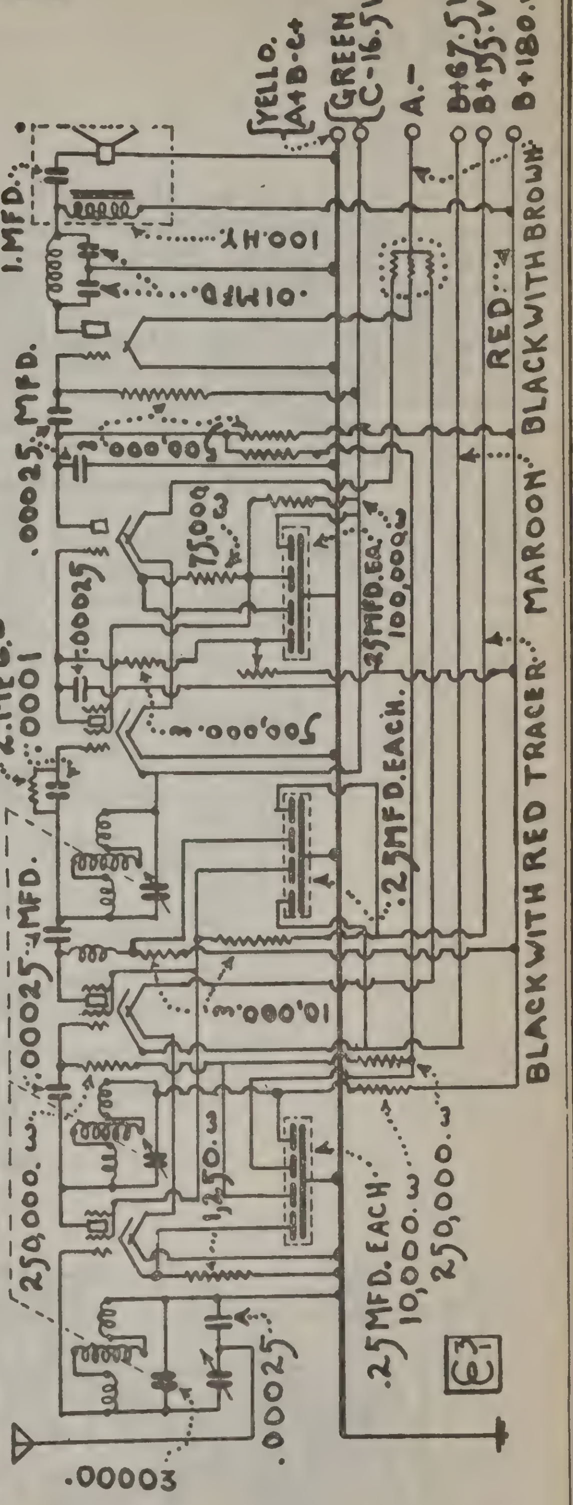
Model 120 is so sensitive that a long aerial may give undesirably great pick-up. To reduce the pick-up, connect a 0.0025 mfd. condenser from the antenna terminal to the ground terminal of the receiver, and a 0.00005 mfd. condenser in the antenna lead.

DELCO·RADIO CORP

MODEL 3002


SPEAKER
B BATTERY
SWITCH
DIAL
ANTENNA
VOLUME CONTROL
AMMETER
SET
C BATTERY
GROUND


SLIDE CLIPS ON JUNCTION BLOCK AS FOLLOWS
4—YELLOW
5—MAROON
2—BLACK & RED
1—RED
3—BROWN
6—BLUE
7—BLACK & OAK
8—GREEN
HORSESHOE JUNCTION BLOCK
45 VOLT TEST POINT
FOUR POLE SWITCH
FUSE BLOCK
B BATTERIES
C BATTERY
VOLUME CONTROL
GROUND WIRE
SHUNT SWITCH
SPEAKER
6 VOLT STORAGE BATTERY
2.A.F.
CX-112 A
1.A.F.
C-327
DET.
C-324
2.R.F.
C-324
1.R.F.
C-324


YELLO.
A+B-C+
GREEN
C-16.5V.
A.-
B+67.5V
B+135.V
B+180.V
RED
BLACK WITH BROWN
MAROON
BLACK WITH RED TRACER
1.MFD.
100.HY.
.01MFD.
.00025 MFD.
500,000.ω
75,000 ω
.25MFD.EA.
100,000ω
.00025
2.MEG.ω
.0001
500,000.ω
.25MFD.EACH.
.00025 MFD.
10,000.ω
250,000.ω
1,250.ω
.25MFD.EACH
10,000.ω
250,000.ω
.00025
.00003
E3

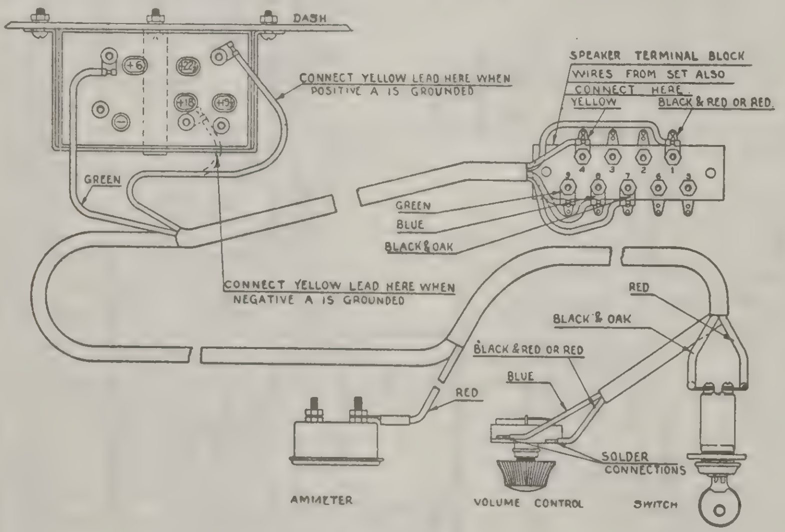
Delco Radio Model 3002

Type of Tube	Position of Tube	Tube in Test Kit					
		Filament Volts	Plate Volts	Control Grid Volts	Screen Volts	Plate M.A. Current	Plate M.A. Grid Test
224	1—R. F.	1.9	125	4.8	100	3.2	5.4
224	2—R. F.	1.9	72	0	42	2.2	2
224	Detector	1.9	15	0	10	.13	0
227	1—A. F.	1.9	45	1	-	.19	.27
212-A	2—A. F.	3.9	137	.2	-	5.5	10.5

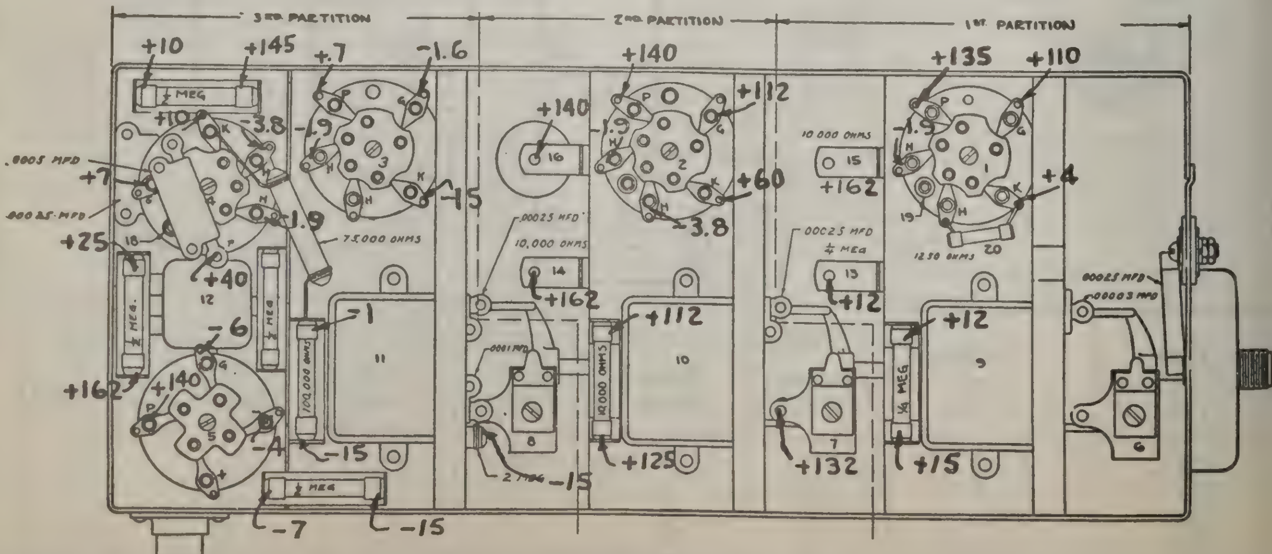
MODEL 3002
Notes
Parts Layout

DELCO RADIO CORP

After the set is in operation on a powerful signal, it will be necessary to tune the antenna circuit so that weaker signals will be received with the maximum volume. The best way to do this is to connect a milliammeter, with a zero to ten milliampere scale, in series with the B Plus 67.5 volt maroon lead. (Connect positive side of meter to set.) Insert a small screw driver in the hole in the bottom of the receiver located nearest the antenna terminal and adjust the large screw on the first balancing condenser. This is located about two inches above the hole. Adjustments should be made by turning the screw until the minimum reading on the meter is obtained. While this adjustment is being made, the station selector should be turned slightly in either way to determine whether or not the reading can be further decreased. This adjustment is a very delicate operation and requires only a slight movement in either direction, not to exceed one full turn. If a meter is not available, a weaker signal should be selected and the set adjusted to maximum volume by varying the position of the screw. Care should be taken not to apply excessive pressure in making this adjustment. While it will do no damage to ground the screw driver to the set while adjusting the screw, the signals will be cut out whenever the screw driver touches the case. A little tape wound around the screw driver will prevent this. It is impossible to receive a shock while making this adjustment. Make above adjustment only through the hole located nearest the aerial connection. After installation is complete, check all connections for correct locations and tightness.

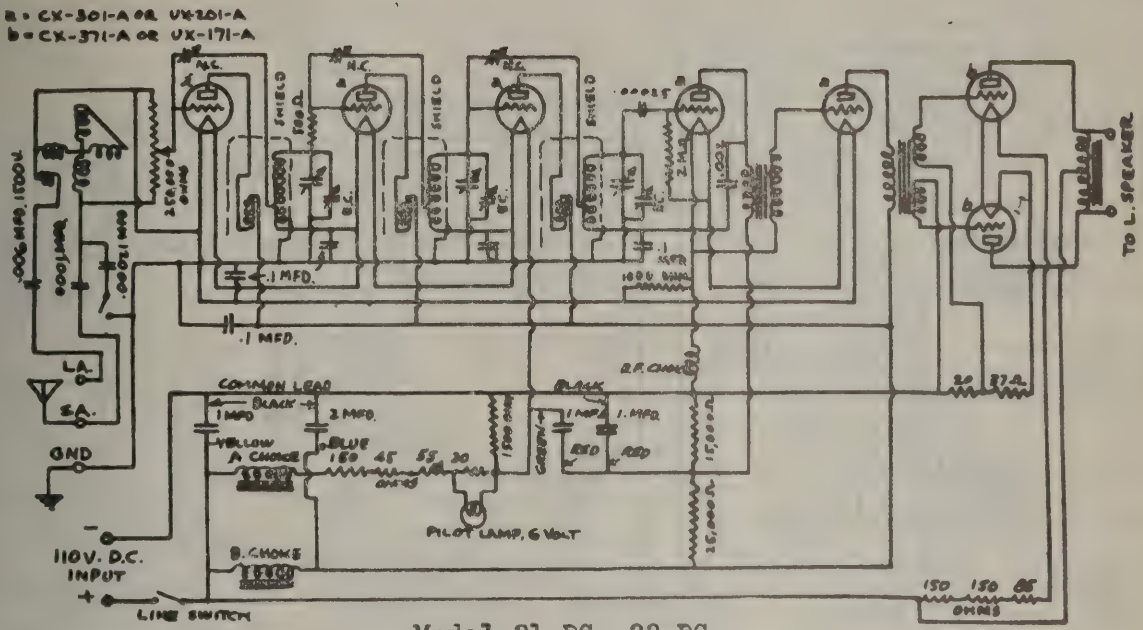

DASH
+6
+22
+135
+90
CONNECT YELLOW LEAD HERE WHEN POSITIVE A IS GROUNDED
SPEAKER TERMINAL BLOCK
WIRES FROM SET ALSO CONNECT HERE
YELLOW
BLACK & RED OR RED.
GREEN
GREEN
BLUE
BLACK & OAK
CONNECT YELLOW LEAD HERE WHEN NEGATIVE A IS GROUNDED
RED
BLACK & OAK
BLACK & RED OR RED
BLUE
RED
SOLDER CONNECTIONS
AMMETER
VOLUME CONTROL
SWITCH

-Control Wiring Harness Connections.


3RD PARTITION
2ND PARTITION
1ST PARTITION
+10
+145
+.7
-1.6
+140
+112
+135
+110
½ MEG
+10
-3.8
-1.9
.0005 MFD
+7
.00025 MFD
+25
18
12
+40
-1.9
75,000 OHMS
-15
+140
16
-1.9
+60
-3.8
10,000 OHMS
15
+162
-1.9
+4
19
1250 OHMS
20
.00025 MFD
10,000 OHMS
14
+162
.00025 MFD
¼ MEG
13
+12
.00025 MFD
.00003 MFD
-6
-1
11
+112
10
+12
9
+162
+140
5
-4
100,000 OHMS
-15
.0001 MFD
8
2 MEG
-15
10,000 OHMS
+125
7
+132
¼ MEG
+15
6
½ MEG
-7
-15

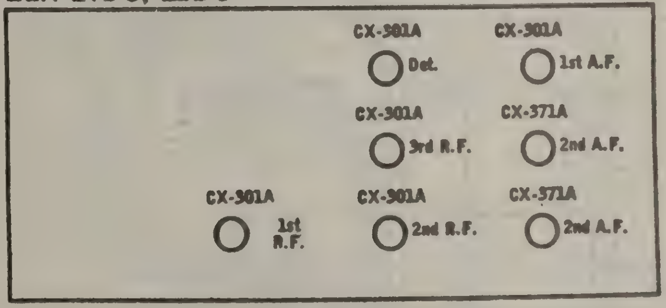
EARL RADIO CORP.

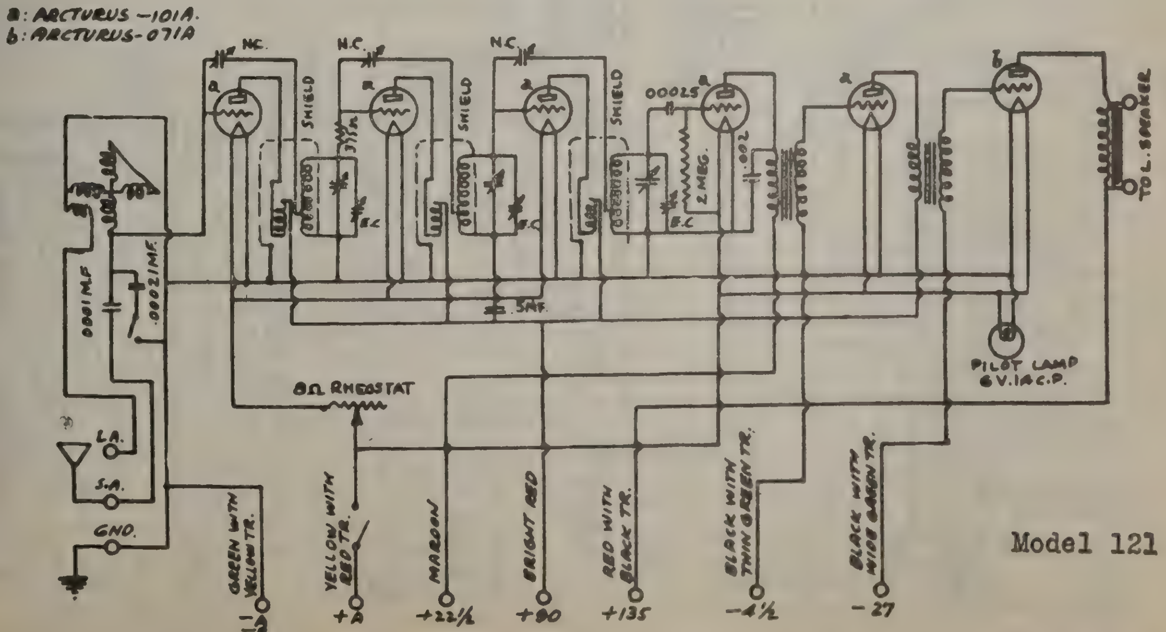
MODEL 21 DC, 22 DC
MODEL 121


a = CX-301-A OR UX-201-A
b = CX-371-A OR UX-171-A
N.C.
SHIELD
500 Ω
B.C.
.00025
2 M Ω
.002
250,000 OHMS
.006 MFD. 1500 V.
.0001 MFD
.00021 MFD
.1 MFD.
.1 MFD
1000 OHMS
L.A.
S.A.
GND
R.F. CHOKE
COMMON LEAD
BLACK
1 MFD
2 MFD
YELLOW
A CHOKE
BLUE
150 45 55 30 OHMS
1500 OHMS
GREEN
RED
15,000 Ω
PILOT LAMP, 6 VOLT
110V. D.C. INPUT
B. CHOKE
LINE SWITCH
20
27 Ω
150 150 85 OHMS
TO L. SPEAKER

Model 21 DC, 22 DC

Earl 21DC, 22DC (D.C.)

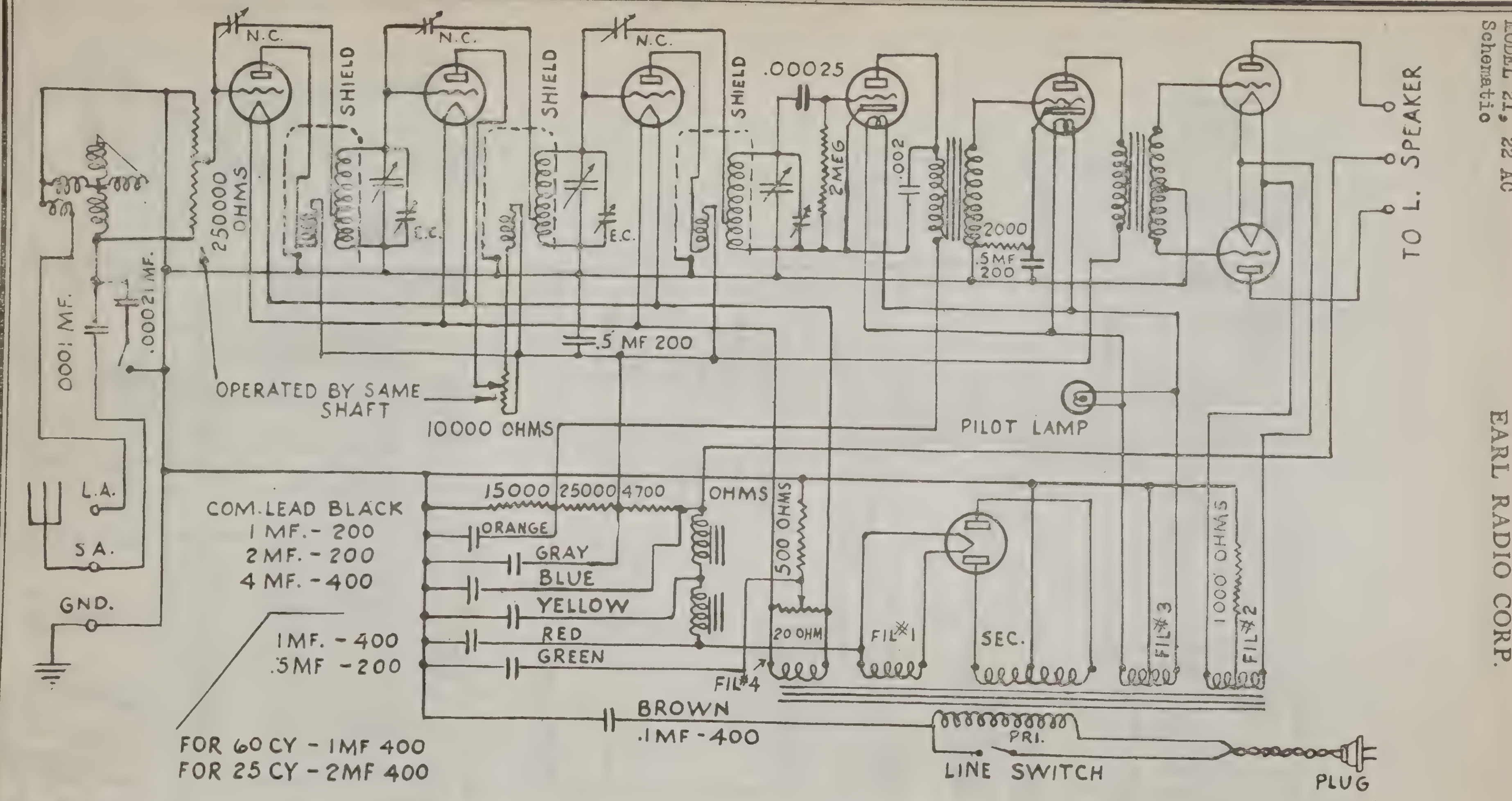

CX-301A Det.
CX-301A 1st A.F.
CX-301A 3rd R.F.
CX-371A 2nd A.F.
CX-301A 1st R.F.
CX-301A 2nd R.F.
CX-371A 2nd A.F.


a: ARCTURUS-101A.
b: ARCTURUS-071A
N.C.
SHIELD
.00025
2 MEG.
.002
.0001 M.F.
.00021 M.F.
.5 MF.
8Ω RHEOSTAT
PILOT LAMP 6V. 1A C.P.
TO L. SPEAKER
L.A.
S.A.
GND.
GREEN WITH YELLOW TR.
YELLOW WITH RED TR.
MAROON
BRIGHT RED
RED WITH BLACK TR.
BLACK WITH THIN GREEN TR.
BLACK WITH WIDE GREEN TR.
-A
+A
+22½
+90
+135
-4½
-27

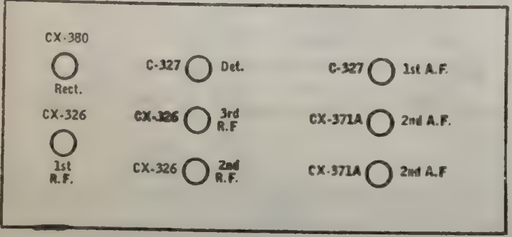
Model 121

MODEL 21, 22 AC
Schematic

EARL RADIO CORP.


N.C.
N.C.
N.C.
SHIELD
SHIELD
SHIELD
E.C.
E.C.
.00025
2 MEG
.002
2000
.5 MF
200
TO L. SPEAKER
250000 OHMS
.00021 MF.
.0001 MF.
.5 MF 200
OPERATED BY SAME SHAFT
10000 OHMS
PILOT LAMP
L.A.
S.A.
GND.
15000
25000
4700
OHMS
500 OHMS
1000 OHMS
COM. LEAD BLACK
1 MF. - 200
2 MF. - 200
4 MF. - 400
ORANGE
GRAY
BLUE
YELLOW
RED
GREEN
1 MF. - 400
.5 MF - 200
20 OHM
FIL #4
FIL #1
SEC.
FIL #3
FIL #2
BROWN
.1 MF - 400
PRI.
LINE SWITCH
PLUG
FOR 60 CY - 1 MF 400
FOR 25 CY - 2 MF 400

Earl 21, 22 (A.C.)

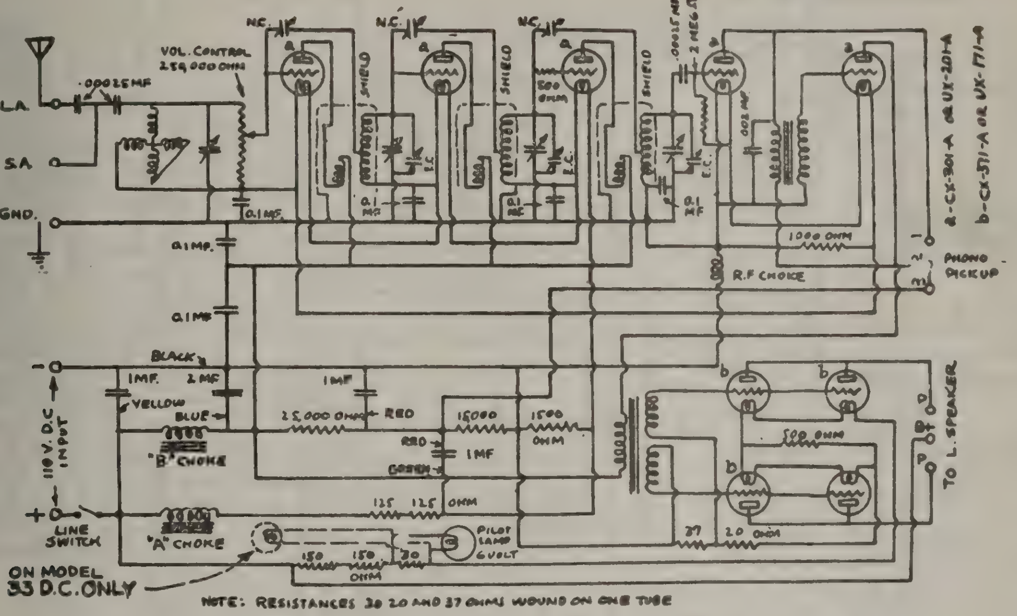

CX-380
Rect.
CX-326
1st R.F.
C-327
Det.
CX-326
3rd R.F.
CX-326
2nd R.F.
C-327
1st A.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F

FRESHMAN—Earl—Model 21-22
Line Voltage 116—Volume Control Position On

Tube No in Order	Type of Tube	Position of Tube 1st RF Det etc	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts	B Volts	A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate M A	Plate M A Grid Test	Plate Change M A	Screen Grid Volts
1	226	1st RF	1.5	80	1.47	76	5	-	2.3	4.6	2.3	
2	226	2nd RF	1.5	80	1.47	76	5	-	2.3	4.6	2.3	
3	226	3rd RF	1.5	80	1.47	76	5	-	2.3	5.1	2.3	
4	227	Det.	2.16	32	1.9	20	-	-	1.0	1.0	0	
5	227	1st A	2.15	92	1.90	72	4.5	5	2.5	5.0	2.5	
6	171A	2nd A	5.0	135	4.85	125	29	-	13.0	3.5	22.0	
7	171A	2nd A	5.0	136	4.86	125	29	-	13	35	22	
8	280	Rect.	5.0	-	5.4	-	-	-	40			
9												
10												

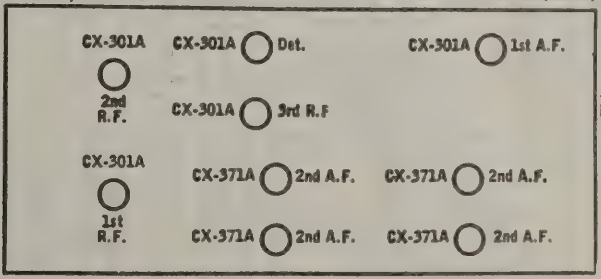
MODEL 24 DC
MODEL 31 DC, 32 DC
MODEL 33-S AC
Schematic

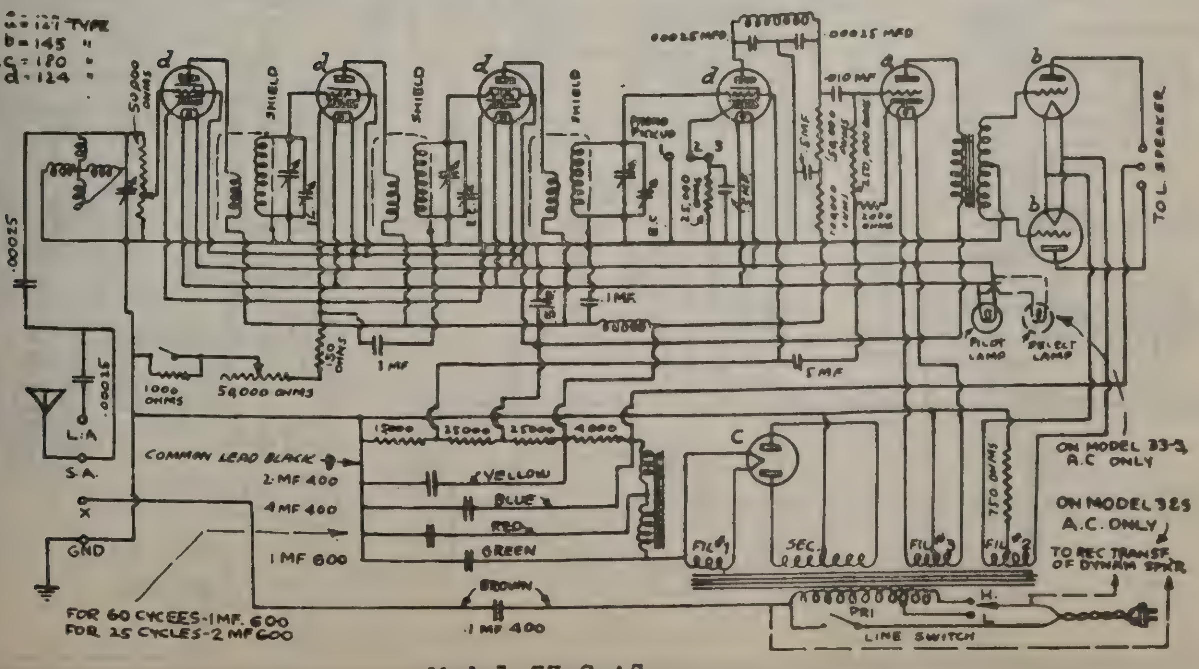
EARL RADIO CORP.


L.A.
S.A.
GND.
.00025 MF
VOL. CONTROL 250,000 OHM
N.C.
N.C.
N.C.
a
a
a
a
a
SHIELD
SHIELD
SHIELD
500 OHM
.00015 MF
2 MEG
0.1 MF
0.1 MF
0.1 MF
0.1 MF
0.1 MF
0.1 MF
.002 MF
1000 OHM
R.F. CHOKE
PHONO PICKUP
a - CX-301-A OR UX-201-A
b - CX-371-A OR UX-171-A
BLACK
-
+
110 V. D.C. INPUT
1 MF
2 MF
1 MF
1 MF
YELLOW
BLUE
RED
RED
GREEN
25,000 OHM
15000
1500 OHM
"B" CHOKE
125
125 OHM
LINE SWITCH
"A" CHOKE
PILOT LAMP 6 VOLT
150
150 OHM
30
37
20 OHM
500 OHM
b
b
b
b
TO L. SPEAKER
ON MODEL 33 D.C. ONLY
NOTE: RESISTANCES 30 20 AND 37 OHMS WOUND ON ONE TUBE

Model 24 DC, 31 DC, 32 DC

31DC, 32DC (D.C.)

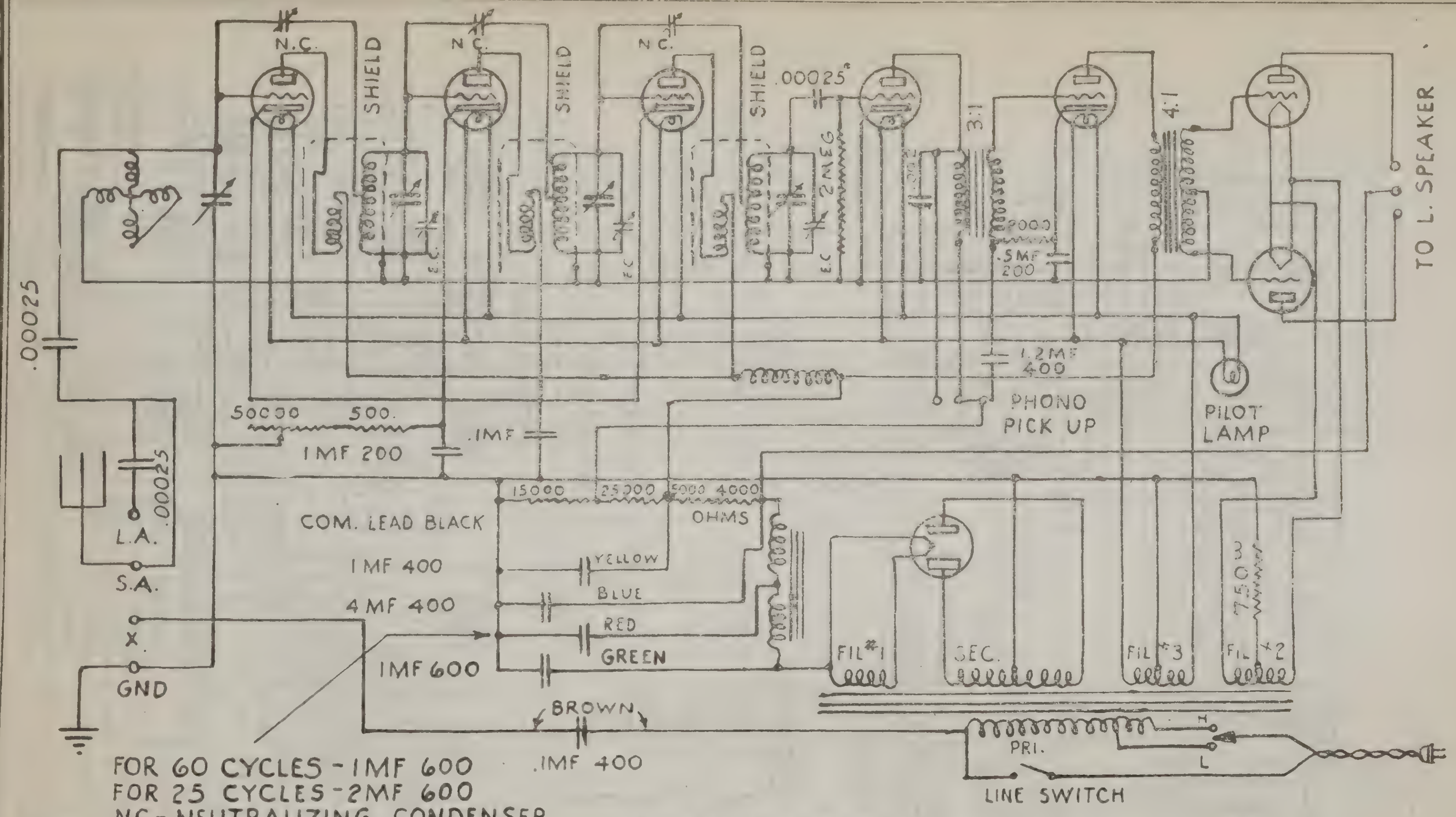

CX-301A
2nd R.F.
CX-301A
Det.
CX-301A
1st A.F.
CX-301A
3rd R.F.
CX-301A
1st R.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F.


a = 127 TYPE
b = 145 "
c = 180 "
d = 124 "
d
d
d
d
a
b
b
c
50,000 OHMS
SHIELD
SHIELD
SHIELD
PHONO PICKUP
1
2
3
25,000 OHMS
.00025 MFD
.00025 MFD
.010 MF
.5 MF
50,000 OHMS
250,000 OHMS
10,000 OHMS
2000 OHMS
TO L. SPEAKER
.00025
.00025
1 MF
1 MF
.5 MF
.5 MF
130
1000 OHMS
50,000 OHMS
PILOT LAMP
SELECT LAMP
L.A.
S.A.
X
GND
15000
15000
15000
4000
COMMON LEAD BLACK
2 MF 400
4 MF 400
1 MF 600
YELLOW
BLUE
RED
GREEN
BROWN
.1 MF 400
FIL #1
SEC.
FIL #3
FIL #2
750 OHMS
PRI
H.
LINE SWITCH
ON MODEL 33-S A.C ONLY
ON MODEL 32S A.C. ONLY
TO REC TRANSF. OF DYNAM SPKR.
FOR 60 CYCLES-1 MF. 600
FOR 25 CYCLES-2 MF 600

Model 33-S AC

MODEL 31, 32 AC
Schematic

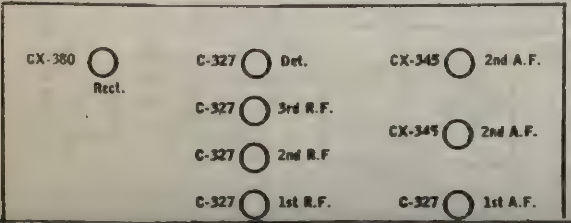
EARL RADIO CORP.


TO L. SPEAKER
N.C.
SHIELD
N.C.
SHIELD
N.C.
SHIELD
.00025
2 MEG
EC
EC
EC
3:1
.002
2000
.5MF
200
4:1
1.2MF
400
PHONO
PICK UP
PILOT
LAMP
.00025
.00025
L.A.
S.A.
X
GND
50000
500.
1MF 200
.1MF
15000
25000
5000 4000
OHMS
COM. LEAD BLACK
1MF 400
4MF 400
1MF 600
YELLOW
BLUE
RED
GREEN
BROWN
.1MF 400
FIL #1
SEC.
FIL #3
3
750
FIL #2
PRI.
H
L
LINE SWITCH
FOR 60 CYCLES - 1MF 600
FOR 25 CYCLES - 2MF 600
NC - NEUTRALIZING CONDENSER
EC - EQUALIZING CONDENSER

EARL MODELS 31 and 32

Earl 31, 32

(A.C.)

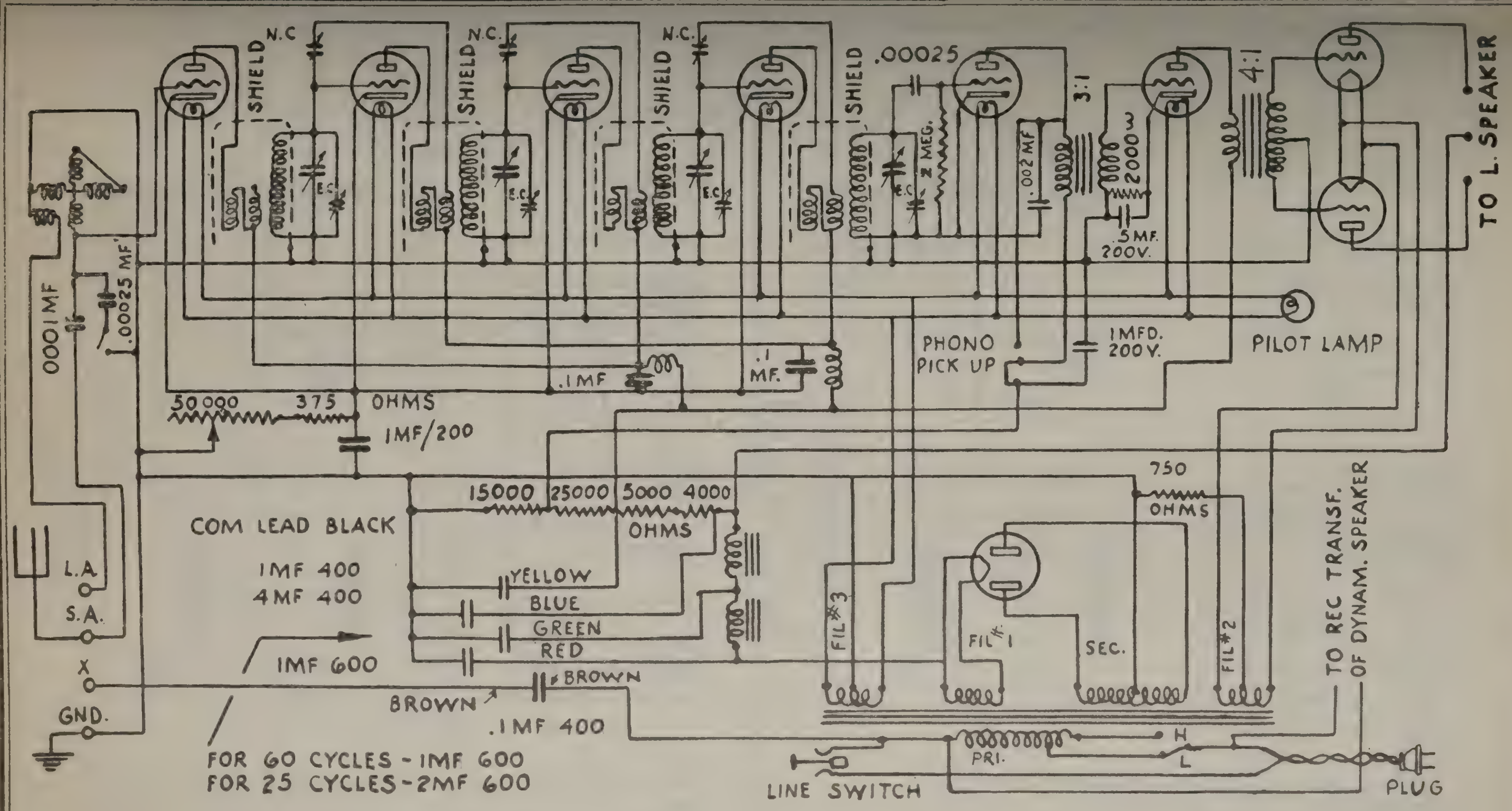

CX-380 Rect.
C-327 Det.
C-327 3rd R.F.
C-327 2nd R.F
C-327 1st R.F.
CX-345 2nd A.F.
CX-345 2nd A.F.
C-327 1st A.F.

FRESHMAN—Earl—Model 31-32
Line Voltage 116—Set on High Volt Tap—Volume
Control Position On

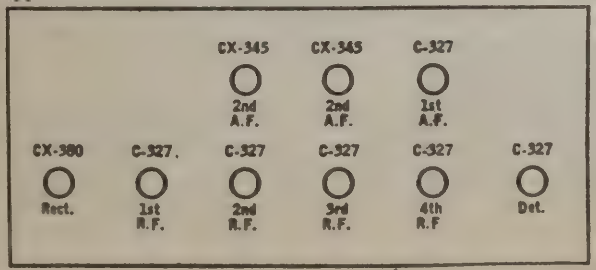
Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det. etc. ③	Readings Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts Control Grid ⑧	Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫
1	227	1st RF	2.18	92	2.07	86	5	5	3.5	6.1	4.6
2	227	2nd RF	2.18	92	2.05	86	5	5	3.5	8.1	4.6
3	227	3rd RF	2.18	92	2.04	86	5	5	3.5	8.1	4.6
4	227	Det.	2.18	35	2.05	21	0.5	-	0.9	0.9	0
5	227	1st A	2.22	100	2.05	81	5	5	2.8	5.6	2.8
6	245	2nd A	2.45	220	2.33	195	37	-	25	62	4
7	245	2nd A	2.45	220	2.33	195	37	-	25	62	4
8	280	Rect.	5.4	-	4.86	-	-	-	60		

MODEL 41, 42 AC
Schematic

EARL RADIO CORP.


SHIELD
N.C.
SHIELD
N.C.
SHIELD
N.C.
SHIELD
.00025
E.C.
2 MEG.
.002 MF
3:1
2000 ω
.5 MF.
200V.
4:1
TO L. SPEAKER
.0001 MF
.00025 MF
PILOT LAMP
.1 MF
.1 MF.
PHONO
PICK UP
1 MFD.
200 V.
50000
375
OHMS
1 MF/200
15000
25000
5000
4000
OHMS
750
OHMS
COM LEAD BLACK
1 MF 400
4 MF 400
YELLOW
BLUE
GREEN
RED
BROWN
BROWN
1 MF 600
.1 MF 400
FOR 60 CYCLES - 1 MF 600
FOR 25 CYCLES - 2 MF 600
L.A.
S.A.
X
GND.
FIL #3
FIL #1
SEC.
FIL #2
TO REC TRANSF.
OF DYNAM. SPEAKER
PRI.
H
L
LINE SWITCH
PLUG

41 (A.C.)

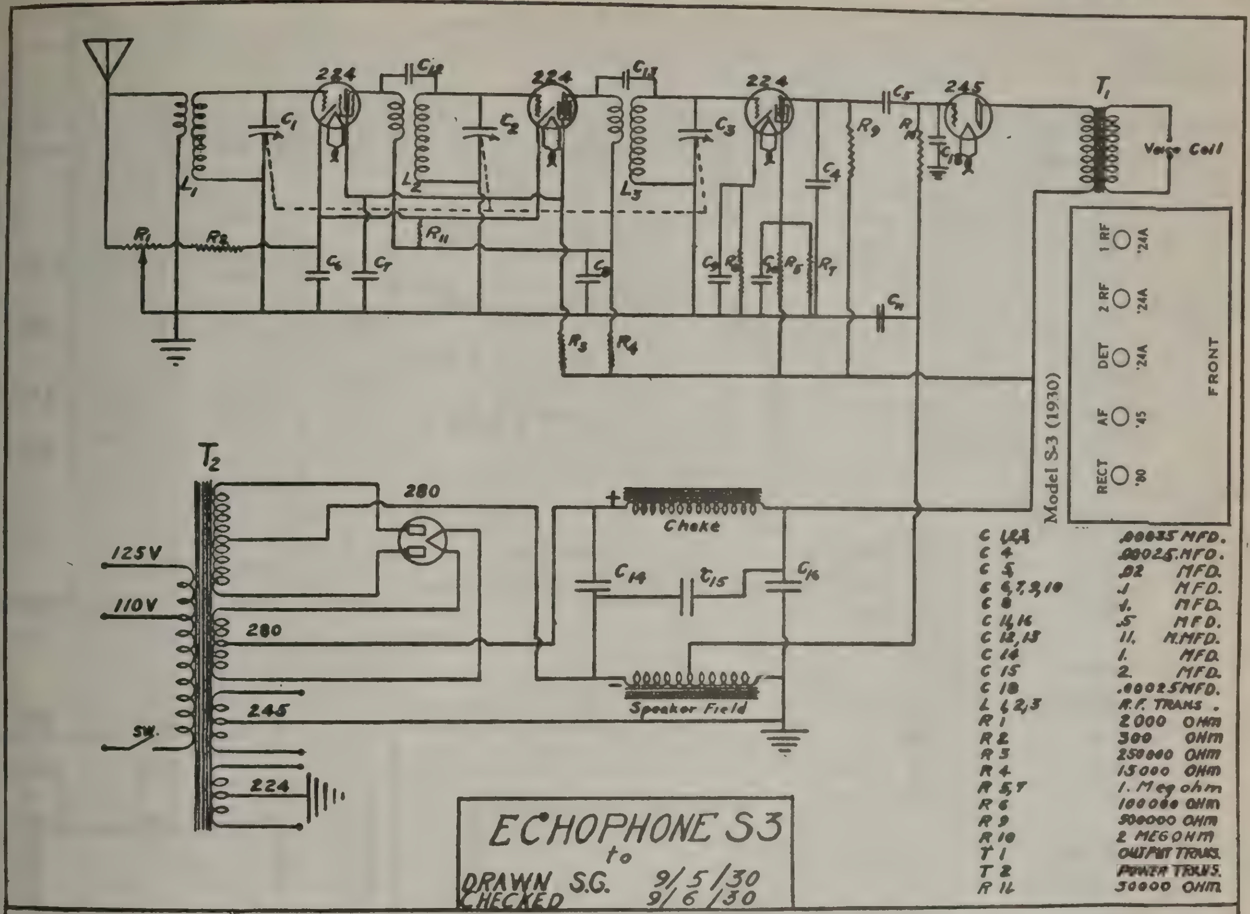

CX-345
2nd A.F.
CX-345
2nd A.F.
C-327
1st A.F.
CX-380
Rect.
C-327.
1st R.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
4th R.F.
C-327
Det.

FRESHMAN—Earl—Model 41
Line Voltage 116—Set on High Volt Tap—Volume Control Position On

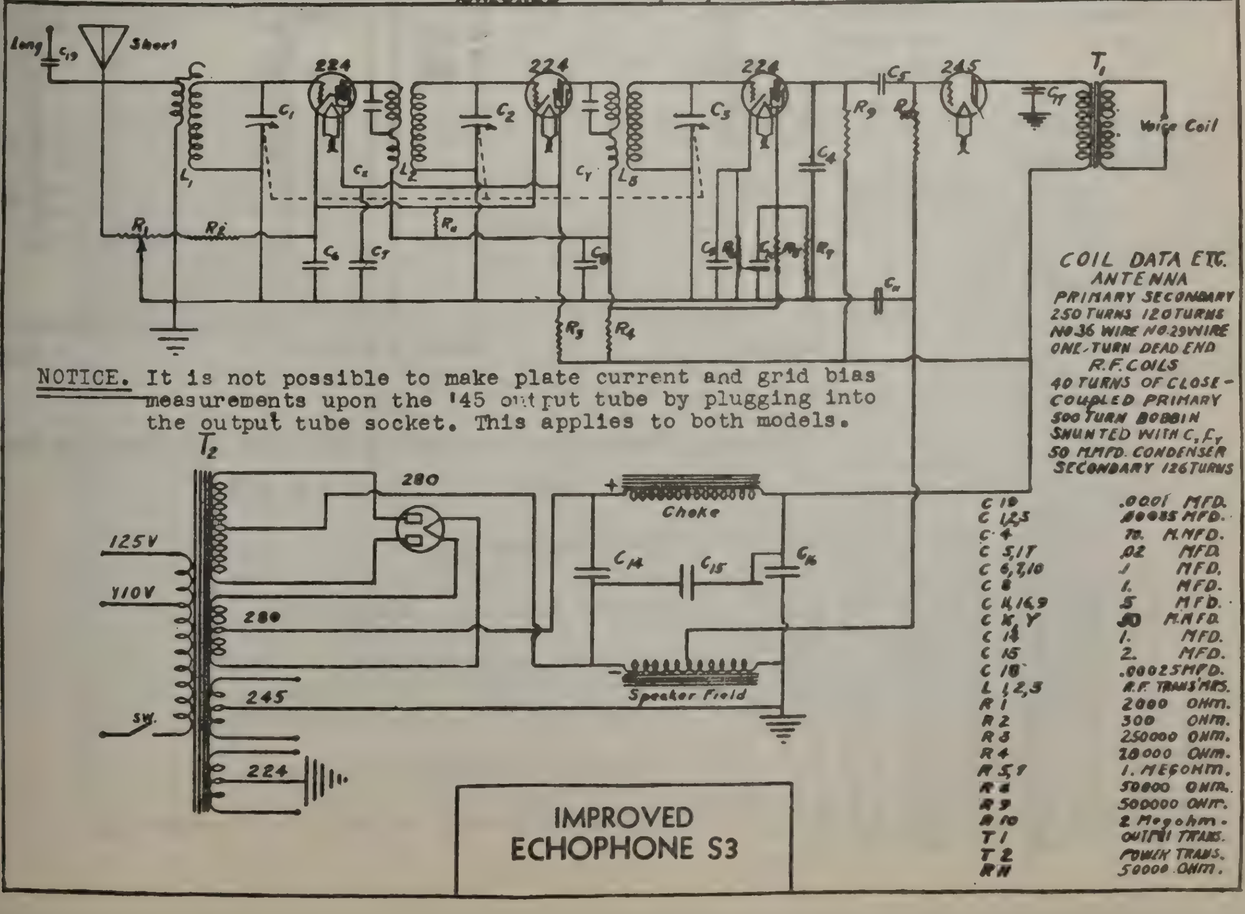
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS CONTROL GRID	CATHODE HEATER VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE CHANGE MA	SCREEN GRID VOLTS
1	227	1st RF	2.40	75	2.25	72	4	5	2.8	5.8	2.7	
2	227	2nd RF	2.40	75	2.25	72	4	5	2.8	5.5	2.[illegible]	
3	227	3rd RF	2.40	75	2.27	72	4	5	2.8	5.5	2.7	
4	227	4th RF	2.40	75	2.25	72	4	5	2.8	5.5	2.7	
5	227	Det.	2.40	26	2.25	15	1.5	0	1.0	1.0	0	
6	227	1st A	2.46	82	2.32	67	4	5	2.4	4.8	2.4	
7	245	2nd A	2.57	208	2.37	183	35	-	28	50	4	
8	245	2nd A	2.57	208	2.37	183	35	-	22	50	4	
9	280	Rect.	5.5	-	4.8	-	-	-	65	-	-	
10												

ECHOPHONE RADIO MFG. CO.

MODEL S-3
MODEL S-3 (Rev.)
Schematic


224
224
224
245
C_{12}
C_{13}
C_1
C_2
C_3
C_4
C_5
C_6
C_7
C_8
C_9
C_{10}
C_{11}
C_{18}
L_1
L_2
L_3
R_1
R_2
R_3
R_4
R_5
R_6
R_7
R_9
R_{10}
R_{11}
T_1
Voice Coil
1 RF '24A
2 RF '24A
DET '24A
AF '45
RECT '80
FRONT
Model S-3 (1930)
T_2
280
125V
110V
280
245
224
SW.
Choke
C_{14}
C_{15}
C_{16}
Speaker Field
ECHOPHONE S3
to
DRAWN S.G. 9/5/30
CHECKED 9/6/30

C 1,2,3	.00035 MFD.
C 4	.00025 MFD.
C 5	.02 MFD.
C 6,7,9,10	.1 MFD.
C 8	1. MFD.
C 11,16	.5 MFD.
C 12,13	11. M.MFD.
C 14	1. MFD.
C 15	2. MFD.
C 18	.00025 MFD.
L 1,2,3	R.F. TRANS.
R 1	2000 OHM
R 2	300 OHM
R 3	250000 OHM
R 4	15000 OHM
R 5,7	1. Megohm
R 6	100000 OHM
R 9	500000 OHM
R 10	2 MEGOHM
T 1	OUTPUT TRANS.
T 2	POWER TRANS.
R 11	30000 OHM


Long
C_{19}
Short
224
224
224
245
C_1
C_2
C_3
C_4
C_5
C_6
C_7
C_8
C_X
C_Y
C_{11}
C_{17}
L_1
L_2
L_3
R_1
R_2
R_3
R_4
R_7
R_9
R_{10}
R_{11}
T_1
Voice Coil
T_2
280
125V
110V
280
245
224
SW.
Choke
C_{14}
C_{15}
C_{16}
Speaker Field
IMPROVED
ECHOPHONE S3

NOTICE. It is not possible to make plate current and grid bias measurements upon the '45 output tube by plugging into the output tube socket. This applies to both models.

COIL DATA ETC.
ANTENNA
PRIMARY SECONDARY
250 TURNS 120 TURNS
NO 36 WIRE NO. 29 WIRE
ONE-TURN DEAD END
R.F. COILS
40 TURNS OF CLOSE-COUPLED PRIMARY
500 TURN BOBBIN
SHUNTED WITH C_X C_Y
50 MMFD. CONDENSER
SECONDARY 126 TURNS

C 19	.0001 MFD.
C 1,2,3	.00035 MFD.
C 4	70. M.MFD.
C 5,17	.02 MFD.
C 6,7,10	.1 MFD.
C 8	1. MFD.
C 11,16,9	.5 MFD.
C X, Y	50 M.MFD.
C 14	1. MFD.
C 15	2. MFD.
C 18	.00025 MFD.
L 1,2,3	R.F. TRANS'MRS.
R 1	2000 OHM.
R 2	300 OHM.
R 3	250000 OHM.
R 4	20000 OHM.
R 5,7	1. MEGOHM.
R 6	50000 OHM.
R 9	500000 OHM.
R 10	2 Megohm.
T 1	OUTPUT TRANS.
T 2	POWER TRANS.
R 11	50000 OHM.

MODEL S-3
Voltage
Notes

ECHOPHONE RADIO MFG. CO.

Model S-3

1. **Plate of 245 Tube**
   #5 to ground
   Normal ....250 volts
   Low ....235 volts
   High ....275 volts

2. **R. F. Plate**
   #25 to ground
   Normal ....140 volts
   Low ....120 volts
   High ....160 volts

3. **R. F. Screen**
   #14 to ground
   Normal .... 60 volts
   Low .... 50 volts
   High .... 75 volts

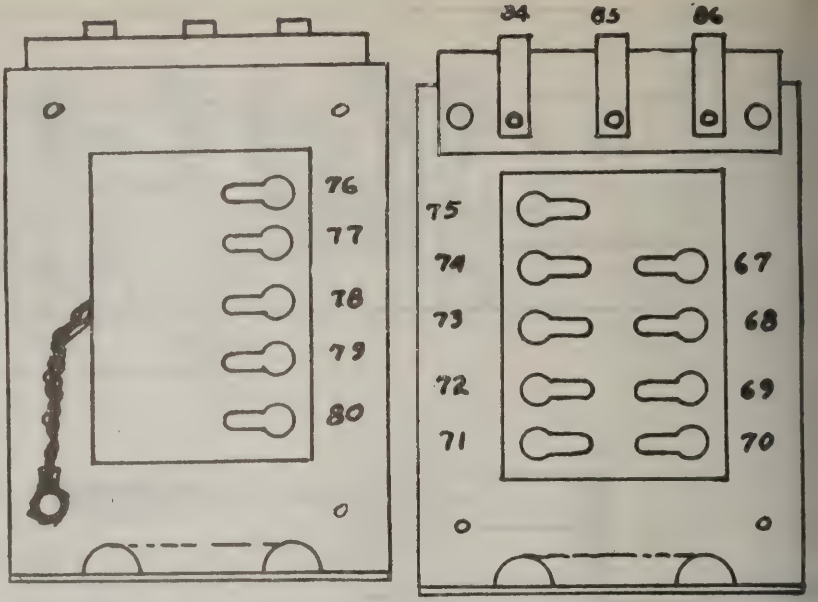
4. **Detector Plate**
   #13 to ground
   Normal .... 80 volts
   Low .... 70 volts
   High .... 90 volts

5. **Detector Screen**
   #9 to ground
   Normal .... 25 volts
   Low .... 20 volts
   High .... 30 volts

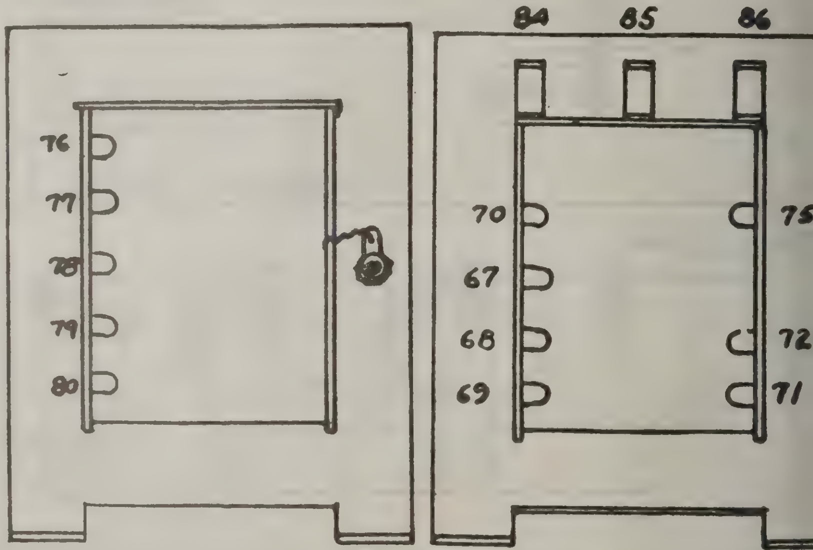
6. **Detector Cathode**
   #10 to ground
   .... 5 to 10 volts

7. **R. F. Cathode**
   #15 to ground
   .... 1.5 to 2.5 volts

8. **245 Bias**
   #48 to ground
   Normal .... 50 volts
   Low .... 40 volts
   High .... 55 volts


84
85
86
76
77
78
79
80
75
74
73
72
71
67
68
69
70

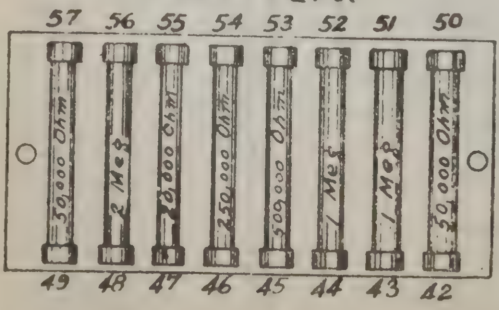
TYPE HA


84
85
86
76
77
78
79
80
70
67
68
69
75
72
71

TYPE JE

Drawing showing corresponding terminal positions on two types of power transformers used on S-3.

Resistor Panel


57
56
55
54
53
52
51
50
30,000 Ohm
2 Meg
20,000 Ohm
250,000 Ohm
500,000 Ohm
1 Meg
1 Meg
30,000 Ohm
49
48
47
46
45
44
43
42

Power Transformer

75-73 Pri. winding 74 low voltage tap.

72-71 Fil. winding 280 tube 70 center tap.

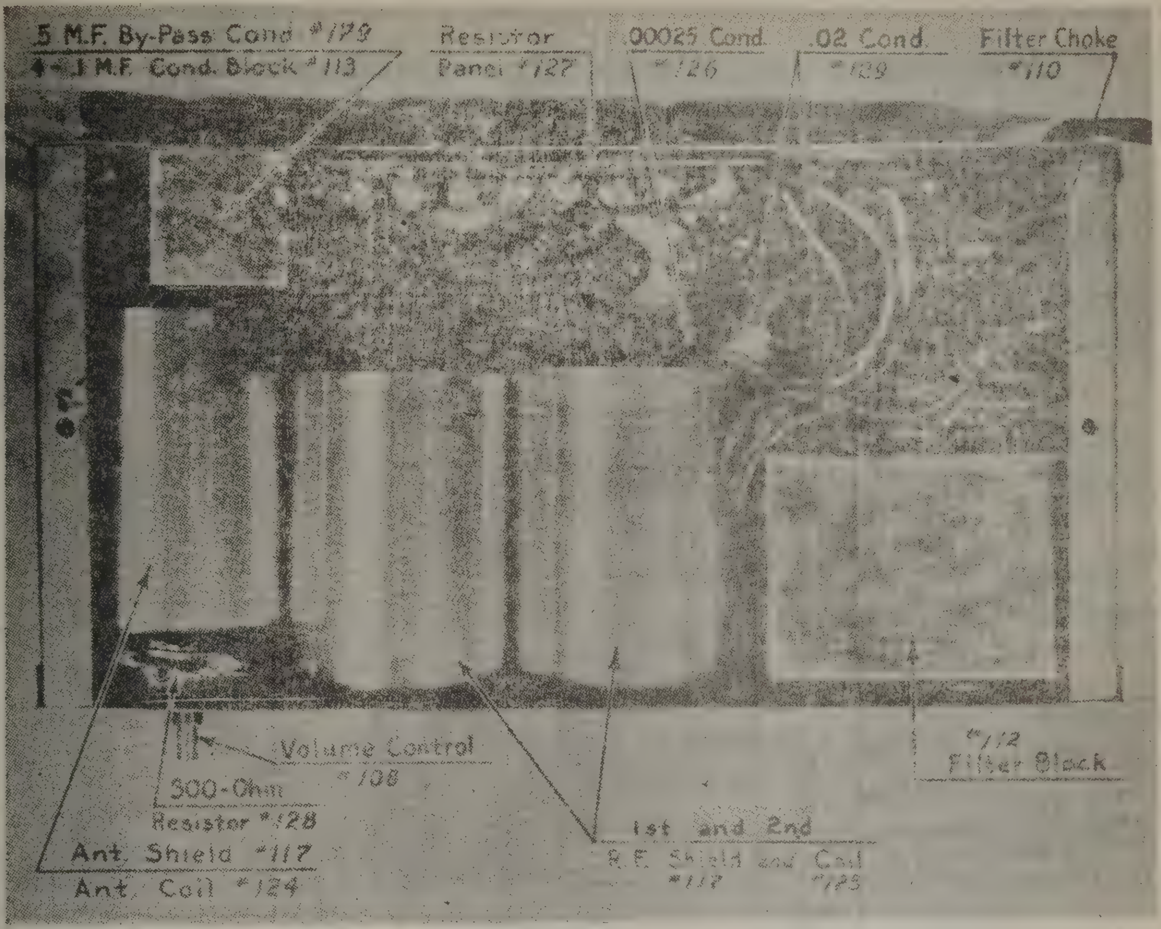
69-67 High voltage Sec. 68 center tap.

76-80 Fil. winding for 224 tubes.

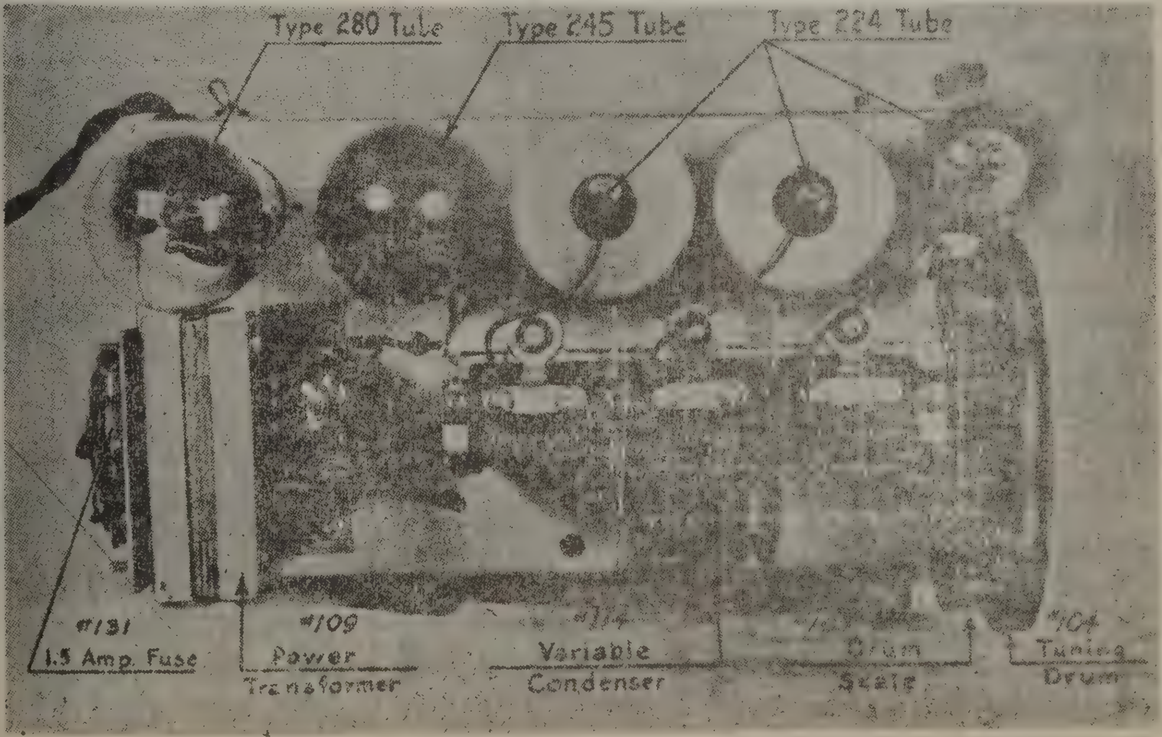
77-79 Fil. winding for 245 tube 78 center tap.

MODEL S-3
Chassis

ECHOPHONE RADIO MFG. CO.


.5 M.F. By-Pass Cond #129
4-1 M.F. Cond. Block #113
Resistor
Panel #127
.00025 Cond.
#126
.02 Cond.
#129
Filter Choke
#110
#112
Filter Block
Volume Control
#108
500-Ohm
Resistor #128
Ant. Shield #117
Ant. Coil #124
1st and 2nd
R.F. Shield and Coil
#117 #125

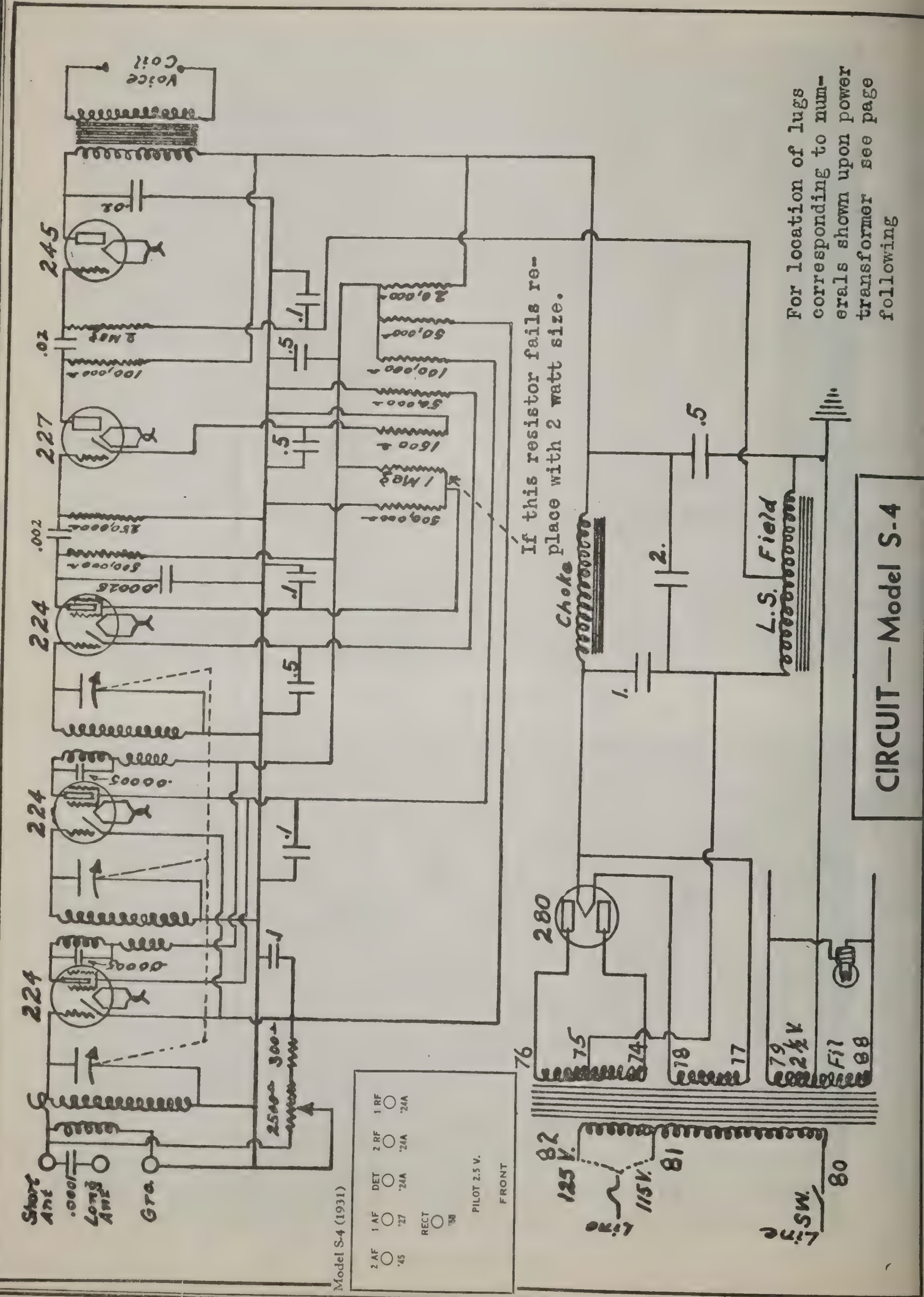
ECHOPHONE — Model S-3


Type 280 Tube
Type 245 Tube
Type 224 Tube
#131
1.5 Amp. Fuse
#109
Power
Transformer
#114
Variable
Condenser
Drum
Scale
#104
Tuning
Drum

ECHOPHONE — Model S-3

MODEL S-4
Schematic

ECHOPHONE RADIO MFG. CO.


245
227
224
224
224
280
Voice Coil
.02
2 Meg
.02
100,000
.1
.5
20,000
50,000
100,000
54000
1600
1 Meg
500,000
.002
250,000
500,000
.00025
.5
.00005
.1
.00005
.1
250
300
Short Ant
.0001
Long Ant
Gnd
Choke
1.
2.
.5
L.S.
Field
76
75
74
78
17
79
2½ V
Fil
88
82
125 V.
115 V.
81
80
SW.
Line
Line
Model S-4 (1931)
2 AF
'45
1 AF
'27
DET
'24A
2 RF
'24A
1 RF
'24A
RECT
'80
PILOT 2.5 V.
FRONT

If this resistor fails replace with 2 watt size.

For location of lugs corresponding to numerals shown upon power transformer see page following

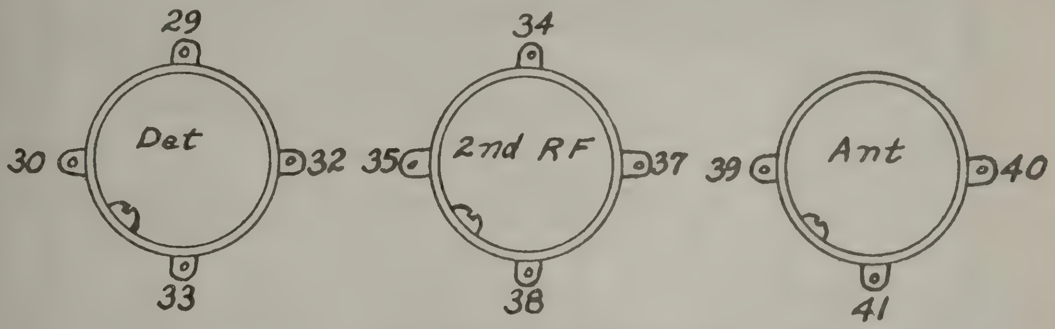
CIRCUIT—Model S-4

ECHOPHONE RADIO MFG. CO.

MODEL S-4
Voltage
Data

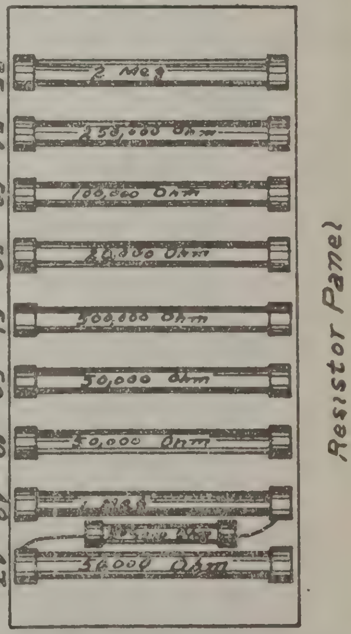
The Antenna coil has a bobbin primary and also a single close-coupled incomplete turn around grid end of secondary coil. The R. F. coils have a bobbin primary and also a close-coupled primary. A .00005 condenser is connected across the bobbin primary.

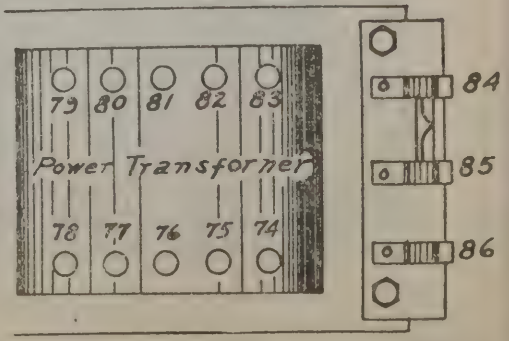
In some of the later S-4 models bank-wound "Litz" wire coils are used. These R. F. coils have a small honey-comb primary coil mounted in the ground end of the secondary coil and a capacitor across the plate and grid terminals of the coil. The "Litz" antenna coil has a tight-coupled primary wound over the ground end of the secondary coil.


29
30
Det
32
33
34
35
2nd RF
37
38
39
Ant
40
41

Continuity Chart For
Litz Wire Bank Wound Coils
Echophone
Model – S4

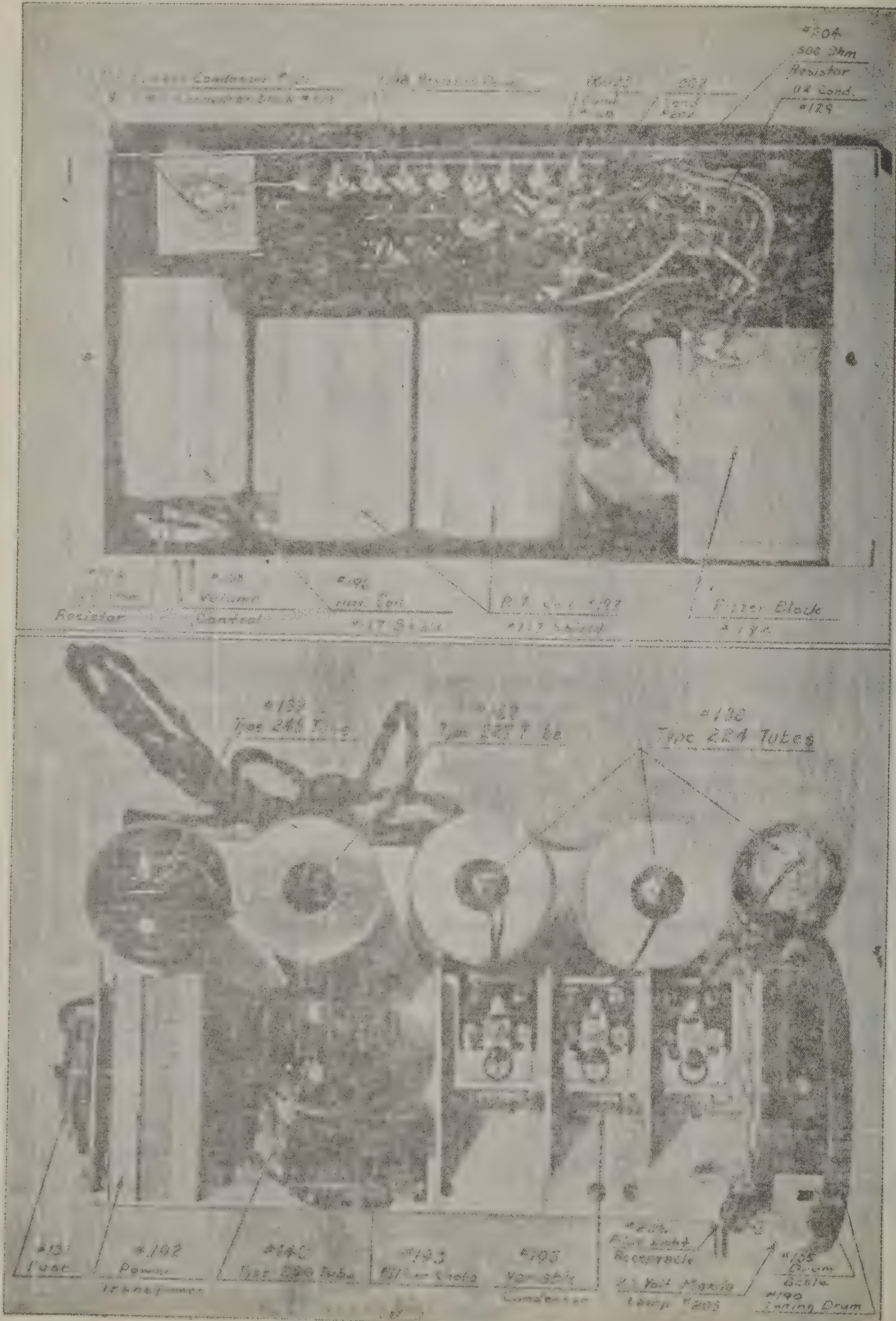
1. **Plate of 245 Tube.**
   #5 to ground
   Normal—225 volts
   Low— 200 volts
   High— 250 volts
2. **R. F. Plate.**
   #25 to ground
   Normal—110 volts
   Low— 100 volts
   High— 120 volts
3. **R. F. Screen.**
   #14 to ground
   Normal—50 volts
   Low— 40 volts
   High— 60 volts
4. **Detector Plate.**
   #13 to ground
   Normal—30 volts
   Low— 25 volts
   High— 50 volts
5. **Detector Screen.**
   #9 to ground
   Normal—20 volts
   Low— 15 volts
   High— 30 volts
6. **Detector Cathode**
   #10 to ground
   3 to 6 volts
7. **R. F. Cathode.**
   #15 to ground
   1.5 to 2.5 volts
8. **245 Bias.**
   #48 to ground
   Normal—50 volts
   Low— 40 volts
   High— 55 volts


55
2 Meg
54
250,000 Ohm
53
100,000 Ohm
52
25,000 Ohm
51
500,000 Ohm
50
50,000 Ohm
49
50,000 Ohm
48
47
36,000 Ohm
Resistor Panel


79
80
81
82
83
Power Transformer
78
77
76
75
74
84
85
86

MODEL S-4
Chassis

ECHOPHONE RADIO MFG. CO.


#204
500 Ohm
Resistor
.01 Cond.
#129
Resistor
Volume
Control
#196
... Coil
#117 Shield
R.F. Coil #197
#117 Shield
Filter Block
#199
Type 245 Tube
Type 227 Tube
#198
Type 224 Tubes
#131
Fuse
#192
Power
Transformer
Type 280 Tube
#193
Filter Choke
#195
Variable
Condenser
Pilot Light
Receptacle
2.5 Volt Mazda
Lamp #205
#135
Drum
Cable
#190
Tuning Drum

ECHOPHONE Model S-4

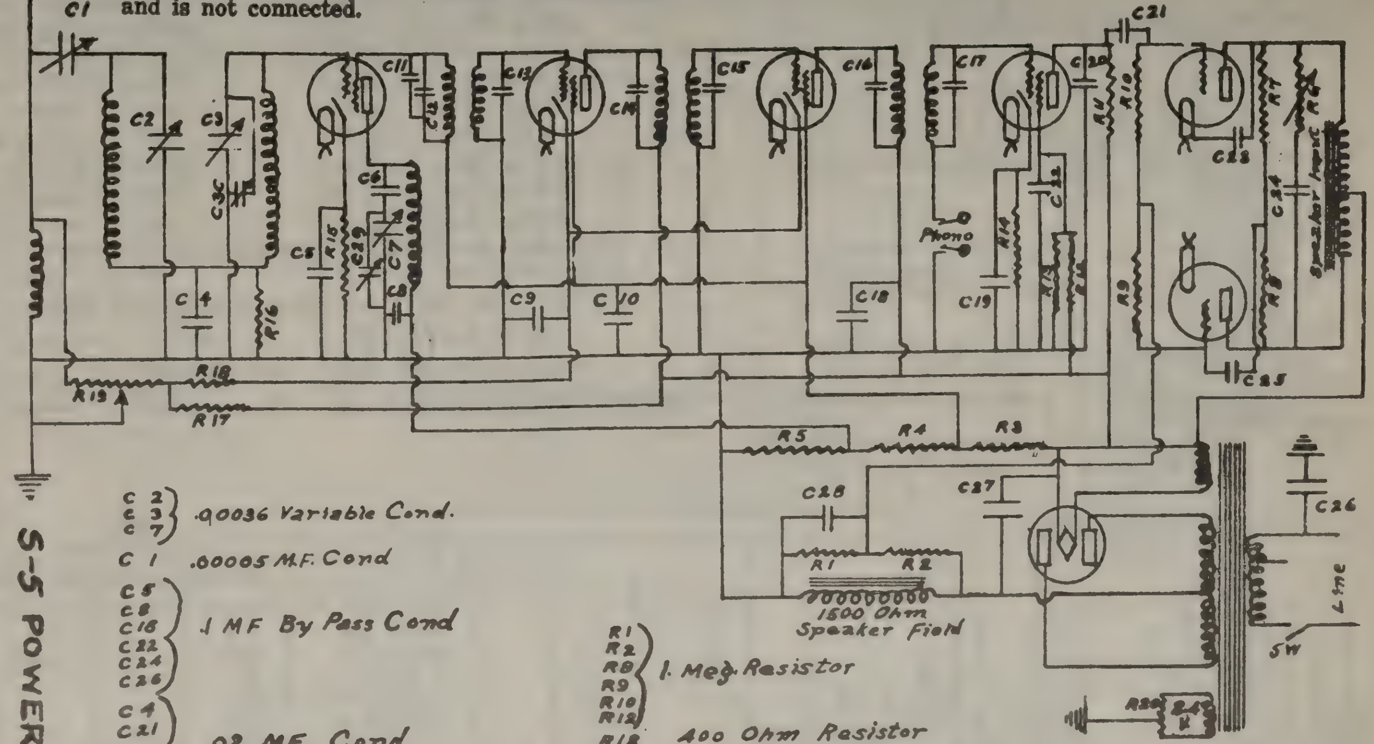
ECHOPHONE RADIO MFG. CO.

MODEL S-5
(Dynatron)
Schematic

On all sets having serial numbers above 100050, two wires are brought through the chassis pan from the primary lugs on the transformer.

One of these (for 115-130 volts) is connected to one of the service cord wires and the other is taped up and is not connected.

To change set for 100 to 115 volts, disconnect the service cord from transformer lead and connect to taped lead from transformer. Be sure to retape end of transformer lead which is not used.


C1
C2
C3
C3C
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
R3
R4
R5
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
Phono
Speaker input
R1
R2
1500 Ohm
Speaker Field
Line
SW

C 2 C 3 C 7	.00036 Variable Cond.
C 1	.00005 M.F. Cond
C5 C8 C16 C22 C24 C26	.1 MF By Pass Cond
C4 C21 C23 C25 C28	.02 MF Cond
C6 C11	.001 MF Cond
C20	00025 MF Cond
C9 C18 C19	.5 MF By Pass Cond
C27	8 MF Filter Cond.

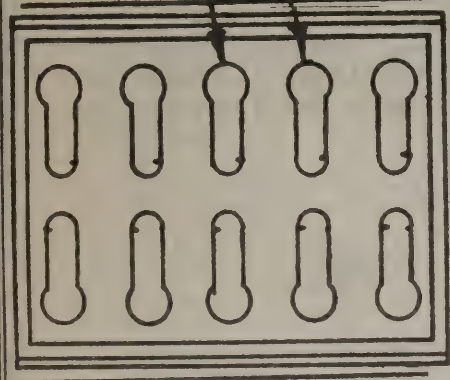
R1 R2 R8 R9 R10 R12	1. Meg. Resistor
R18	400 Ohm Resistor
R17	.5 Meg. Resistor
R19	15000 Ohm Potentiometer
R20	20 Ohm Center tapped Resistor
R11 R13	.5 Meg Resistors
R7	25 Meg Resistor
R6	15000 Ohm Variable Resistor
R3	20000 Ohm Resistor
R4	20000 Ohm Resistor
R5	10000 Ohm Resistor
R14	50000 Ohm Resistor
R15	1500 Ohm Res
R16	1000 Ohm Resistor

ECHOPHONE SUPERHETERODYNE S-5—CIRCUIT DIAGRAM

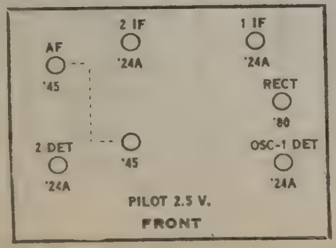
With DYNATRON Oscillator

PEAK FREQUENCY
175 KC

S-5 POWER TRANSFORMER

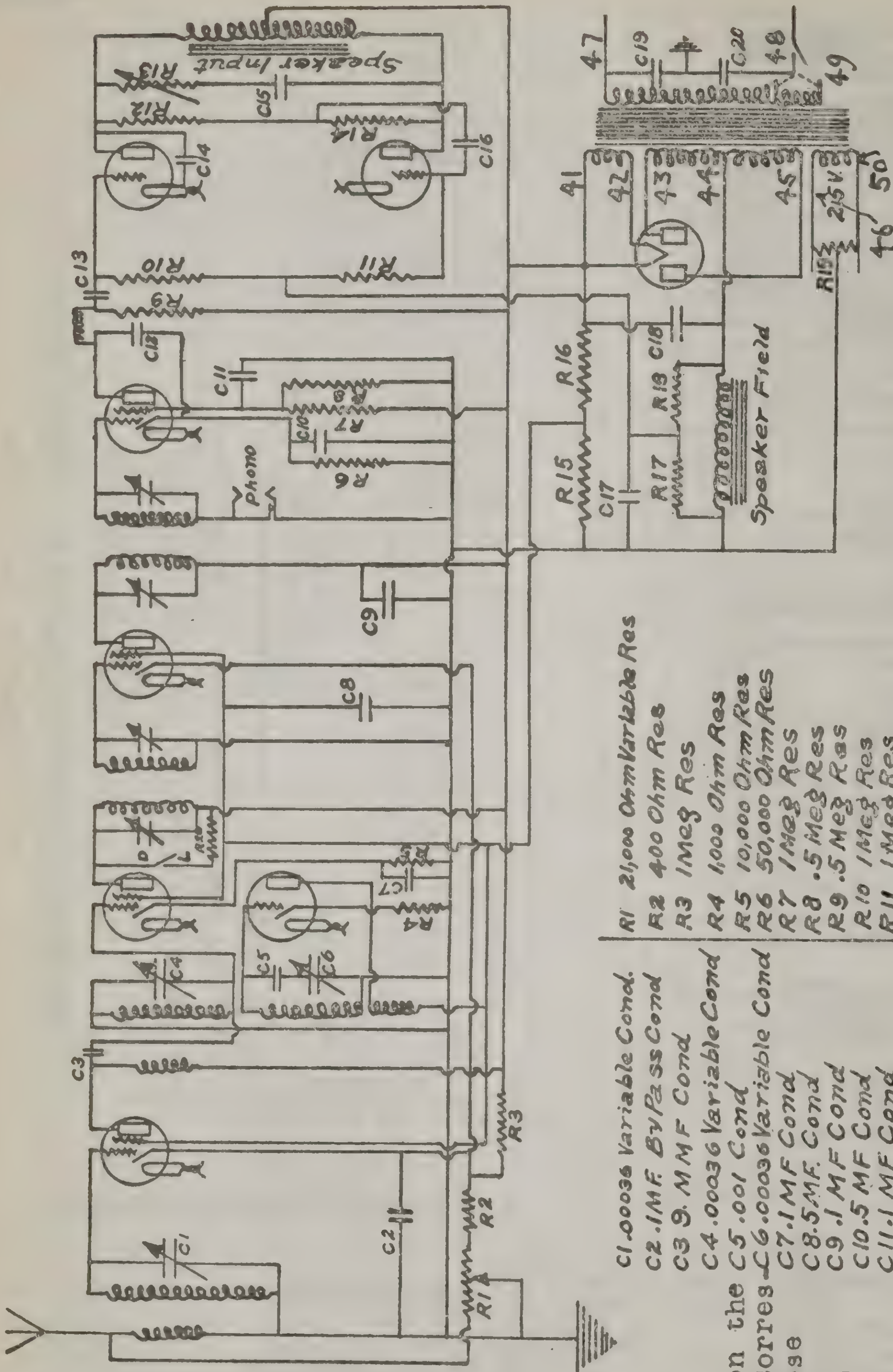

2.5 VOLT FILAMENT
FOR 100 TO 115 VOLT LINE REMOVE WIRE FROM THIS TERMINAL
AND CONNECT TO THIS TERMINAL
BEGINNING PRIMARY
2.5 VOLT FILAMENT
HIGH VOLTAGE
C.T. HIGH VOLTAGE
HIGH VOLTAGE
280 FILAMENT
280 FILAMENT

Model S-5 Special (1931)


AF
'45
2 IF
'24A
1 IF
'24A
RECT
'80
2 DET
'24A
'45
OSC-1 DET
'24A
PILOT 2.5 V.
FRONT

MODEL S-5 (Rev.)
Schematic

ECHOPHONE RADIO MFG. CO.


Speaker Input
R13
R12
C15
C14
R14
C16
C13
R10
R11
R9
C12
C11
R8
R7
C10
R6
Phono
C9
C8
R20
L
D
C7
R5
R4
C4
C5
C6
C3
R3
R2
C2
C1
R1
R15
R16
C17
R17
R19
C18
Speaker Field
R18
41
42
43
44
45
46
47
48
49
50
C19
C20
2.5V.

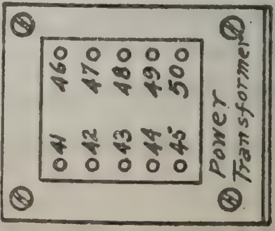
Echophone Superheterodyne

Model S-5

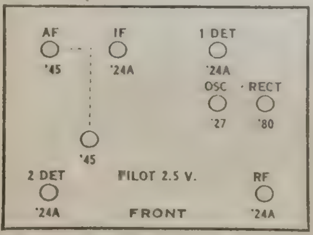
CIRCUIT DIAGRAM

C1	.00036 Variable Cond.	R1	21,000 Ohm Variable Res
C2	.1 MF. By Pass Cond	R2	400 Ohm Res
C3	9. M MF Cond	R3	1 Meg Res
C4	.00036 Variable Cond	R4	1,000 Ohm Res
C5	.001 Cond	R5	10,000 Ohm Res
C6	.00036 Variable Cond	R6	50,000 Ohm Res
C7	.1 MF Cond	R7	1 Meg Res
C8	.5 MF. Cond	R8	.5 Meg Res
C9	.1 MF Cond	R9	.5 Meg Res
C10	.5 MF Cond	R10	1 Meg Res
C11	.1 MF Cond	R11	1 Meg Res
C12	.00025 Cond	R12	.25 Meg Res
C13	.02 MF Cond	R13	15,000 Ohm Variable Res
C14	.02 MF Cond	R14	1 Meg Res
C15	.1 MF Cond	R15	50,000 Ohm Res
C16	.02 MF Cond	R16	20,000 Ohm Res
C17	.02 MF Cond	R17	1 Meg Res
C18	8. MF Cond	R18	1 Meg Res
C19	.05 MF Cond	R19	20 Ohm Center Tapped Res
C20	.05 MF Cond	R20	5,000 Ohm Res.

The numbers on the Pwr. Trans. corres pond with those shown below.


041 460
042 470
043 480
044 490
045 500
Power Transformer

Model S-5 (1931)

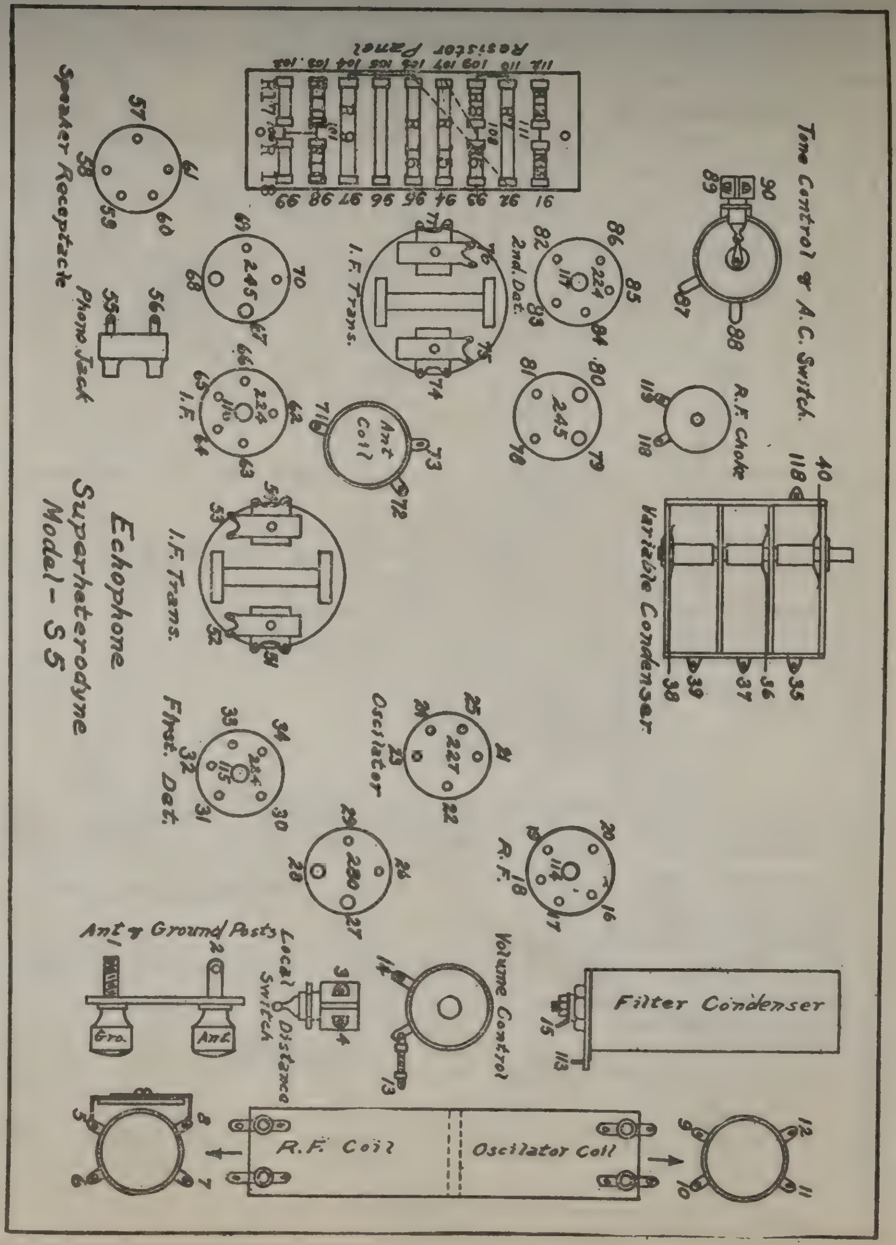

AF
'45
IF
'24A
1 DET
'24A
OSC
'27
RECT
'80
'45
2 DET
'24A
PILOT 2.5 V.
RF
'24A
FRONT

PEAK
FREQUENCY

175 KC

ECHOPHONE RADIO MFG. CO.

MODEL S-5
Voltage
Data


Tone Control & A.C. Switch
90
89
88
87
R.F. Choke
119
118
40
118
35
36
37
39
38
Variable Condenser
Filter Condenser
15
113
12
11
9
10
Oscilator Coil
R.F. Coil
8
7
5
6
Resistor Panel
111 110 109 107 106 105 104 103 102
R12 R13
R7
R8 R6
R15
R16
R9
R10 R11
R17 R18
91 92 93 94 95 96 97 98 99
86
85
84
224
117
82
83
2nd. Det.
80
79
245
81
78
20
16
114
17
19
18
R.F.
Volume Control
14
13
21
25
227
22
24
23
Oscilator
26
29
280
27
28
3
4
Local Distance Switch
Ant & Ground Posts
2
1
Ant
Gnd
34
30
33
224
115
31
32
First. Det.
76
75
77
74
I.F. Trans.
73
72
Ant Coil
71
54
51
53
52
I.F. Trans.
70
69
245
67
68
62
66
224
116
63
65
64
I.F.
61
60
57
59
58
Speaker Receptacle
56
55
Phono Jack
Echophone
Superheterodyne
Model- S 5

Model S-5

VOLTAGE TESTS

Voltages given are tested on 250-volt scale of 1000 ohms, per volt meter.

All voltage tests were made with volume control on full and tone control in off position, no signal in receiver, line voltage 115 volts with A. C. line connected to terminals 47-49 on power transformer.

Speaker must be connected to receiver.

R. F. Plate
#19 to ground
Low 210 volts
Normal 220 volts
High 230 volts

R. F. Screen
#20 to ground
Low 75 volts
Normal 80 volts
High 90 volts

R. F. Cathode
#16 to ground 1.5 to 3 volts

Oscillator Plate
#21 to ground
Low 75 volts
Normal 80 volts
High 90 volts

Oscillator Cathode
#23 to ground 4 to 6 volts

I. F. Plate
#66 to ground
Low 210 volts
Normal 220 volts
High 230 volts

I. F. Screen
#62 to ground
Low 75 volts
Normal 80 volts
High 90 volts

I. F. Cathode
#63 to ground 1.5 to 3 volts

First Detector Plate
#84 to ground
Low 210 volts
Normal 220 volts
High 230 volts

First Detector Screen
#80 to ground
Low 75 volts
Normal 80 volts
High 90 volts

First Detector Cathode
#31 to ground 5 to 7 volts

Second Detector Plate
#83 to ground 60 to 80 volts

Second Detector Screen
#82 to ground
Low 25 volts
Normal 30 volts
High 35 volts

Second Detector Cathode
#86 to ground 5 to 7 volts

245 Plates
#61-58 to ground
Low 210 volts
Normal 220 volts
High 230 volts

245 Bias
#101 to ground Neg. 20 to 40 volts

Speaker Field Voltage Drop
#60-59
Low 90 volts
Normal 100 volts
High 110 volts

280 Filament
#27-28 4.5 to 5.2 volts

Filaments for All 2.5 Volt Tubes
#67-68 2.2 to 2.5 volts

THOMAS A. EDISON, INC.

MODEL C-1
CHASSIS SC
Schematic

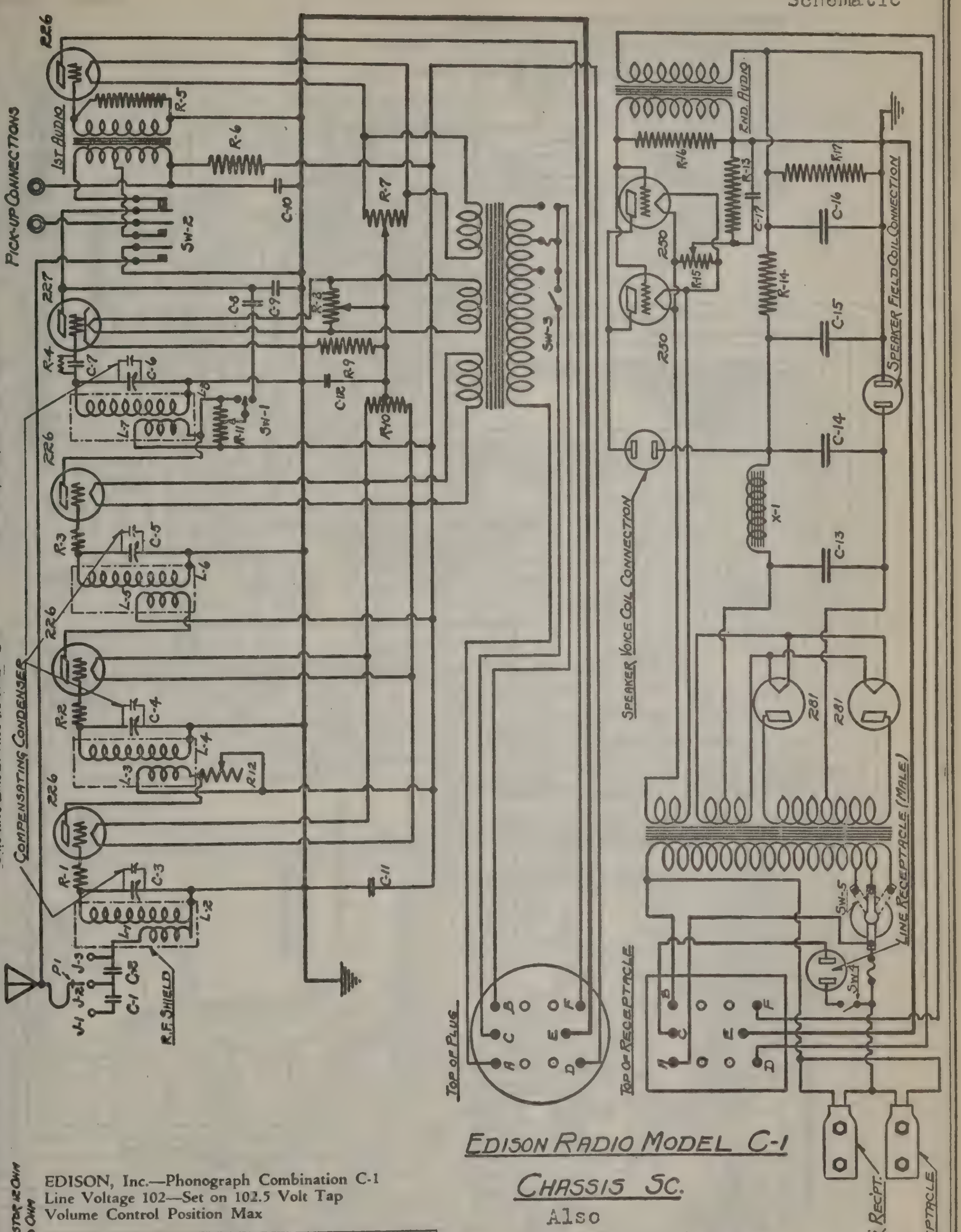
R-1 R-2 R-3 600 OHM GRID SUPPRESSORS
R-4 DETECTOR GRID LEAK 2 MEG. OHM
R-5 LOADING RESISTOR .5 MEG. OHM
R-6 DETECTOR PLATE RESISTOR 50,000 OHM
R-7 20 OHM HUM ADJUSTER 1ST. A.F.
R-8 20 OHM HUM ADJUSTER (DETECTOR)
R-9 226 BIAS RESISTOR 600 OHM
R-10 R.F. FILAMENT CENTER-TAP RESISTOR 12 OHM
R-11 REGENERATION CONTROL 3000 OHM

R-12 VOLUME CONTROL 2000 OHM
R-14 226 PLATE RESISTOR 18,500 OHM
R-13 250 BIAS RESISTOR 750 OHM
R-15 250 HUM ADJUSTER 50 OHM
R-16 LOADING RESISTOR 2 MEG.
C-1 C-2 ANTENNA SERIES CONDENSER .00025

C-3 C-4 C-5 C-6 VARIABLE TUNING CONDENSER .00025
C-7 GRID CONDENSER .00025
C-8 REGENERATION FEED CONDENSER .002
C-9 DETECTOR PLATE R.F. BY-PASS .00025
C-10 DETECTOR PLATE A.F. BY-PASS 1.5 MFD. "A"
C-11 226 PLATE BY-PASS 1.5 MFD. "A"
C-12 226 BIAS BY-PASS 1.5 MFD. "D"

C-13 FILTER CONDENSER 2.5 MFD.
C-14 FILTER CONDENSER 2.5 MFD.
C-15 FILTER CONDENSER 2.5 MFD.
C-16 226 A.F. BY-PASS CONDENSER 4.0 MFD.
C-17 250 BIAS BY-PASS CONDENSER 4.0 MFD.
J-1 J-2 J-3 ANTENNA JACKS
SW-1 REGENERATION SWITCH

SW-2 PHONO-RADIO SWITCH
SW-3 ON + OFF SWITCH
SW-4 SAFETY SWITCH
SW-5 LINE VOLTAGE CONTROL
X-1 FILTER CHOKE 250. OHM
R17 50,000 OHM. LOSS CURRENT RES.


PICK-UP CONNECTIONS
226
1ST AUDIO
R-5
R-6
C-10
SW-2
R-7
227
R-4
C-7
C-6
C-8
C-9
R-8
R-9
C-12
SW-1
R-11
L-7
L-8
R-10
SW-3
226
R-3
C-5
L-5
L-6
COMPENSATING CONDENSER
226
R-2
C-4
L-3
L-4
R12
226
R-1
C-3
L-1
L-2
C-11
P1
J-3
J-2
J-1
C-1
C-2
R.F. SHIELD
TOP OF PLUG
A
B
C
D
E
F
2ND AUDIO
R-16
R-13
C-17
R-17
C-16
250
R-15
250
R-14
C-15
SPEAKER FIELD COIL CONNECTION
C-14
SPEAKER VOICE COIL CONNECTION
X-1
C-13
281
281
SW-5
LINE RECEPTACLE (MALE)
SW-4
TOP OF RECEPTACLE

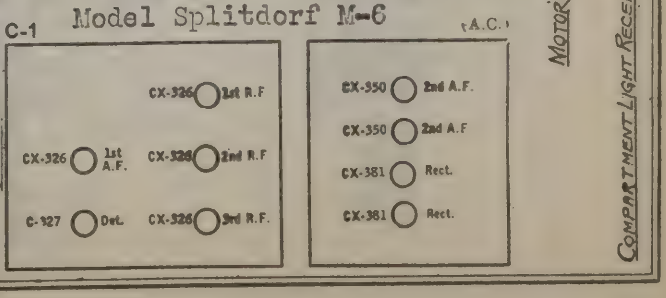
EDISON RADIO MODEL C-1

CHASSIS SC.

Also
Model Splitdorf M-6

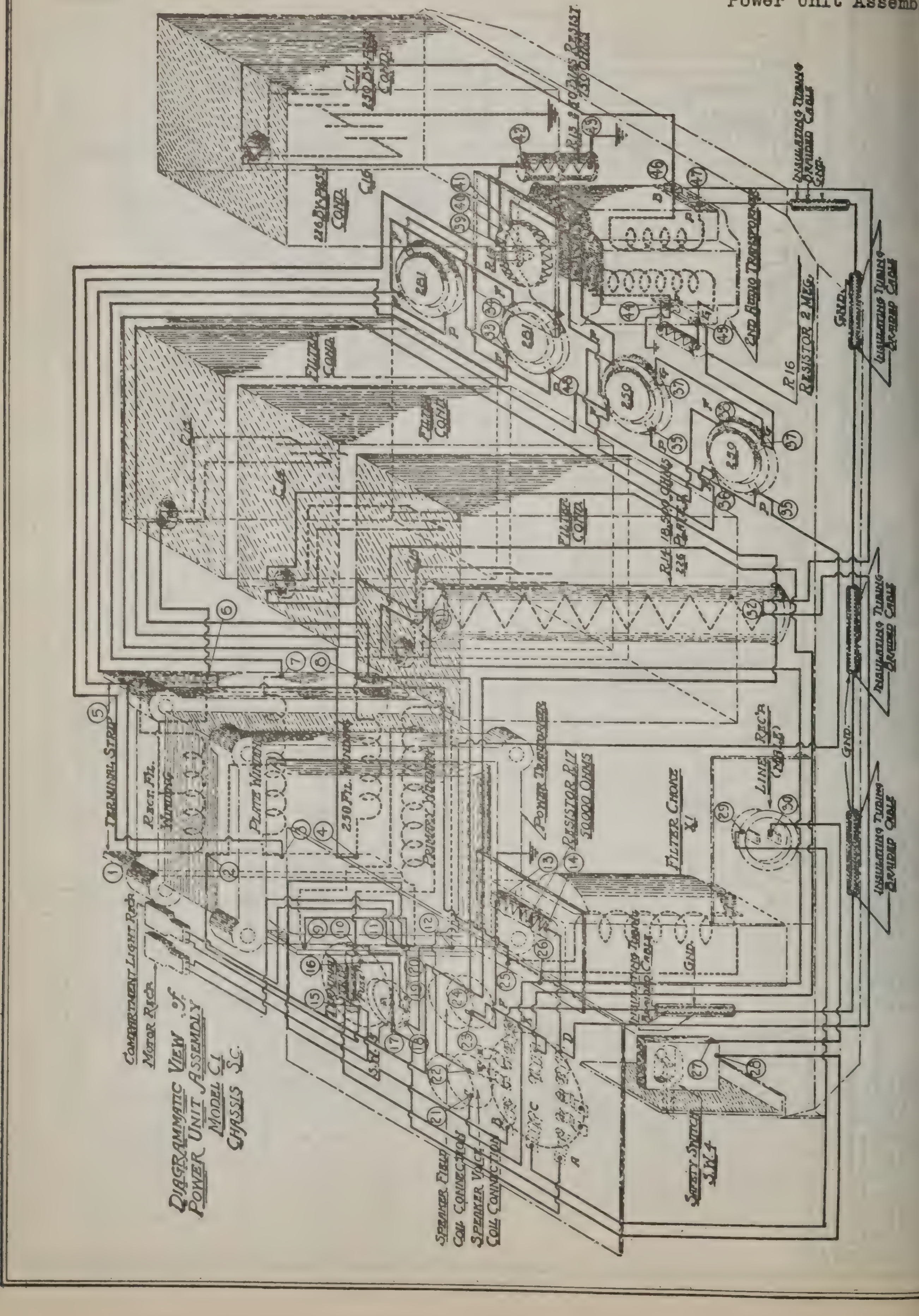
EDISON, Inc.—Phonograph Combination C-1
Line Voltage 102—Set on 102.5 Volt Tap
Volume Control Position Max

① Tube No. in Order	② Type of Tube	③ Position of Tube 1st RF Det Etc	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			④ A Volts	⑤ B Volts	⑥ A Volts	⑦ B Volts	⑧ C Volts (Control Grid)	⑨ Cathode-Heater Volts	⑩ Normal Plate MA	⑪ Plate MA Grid Test	⑫ Plate Change MA	⑬ Screen Grid Volts
1	226	1 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
2	226	2 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
3	226	3 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
4	227	Det.	-	-	2.1	33	-	9.5	2	-	-	-
5	226	1 A.F.	-	-	1.4	116	9	-	3	10	7	-
6	250	2 A.F.	-	-	7.25	406	70	-	96	130	33	-
7	250	2 A.F.	-	-	7.25	406	70	-	96	130	33	-
8	281	Rect.	-	-	7.2	-	-	-	124	-	-	-
9	281	Rect.	-	-	7.2	-	-	-	124	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-


C-1
(A.C.)
CX-326 1st R.F.
CX-326 2nd R.F.
CX-326 3rd R.F.
CX-326 1st A.F.
C-327 Det.
CX-350 2nd A.F.
CX-350 2nd A.F
CX-381 Rect.
CX-381 Rect.
MOTOR RECPT.
COMPARTMENT LIGHT RECEPTACLE

THOMAS A. EDISON, INC.

MODEL C-1
CHASSIS SC
Power Unit Assembl


Diagrammatic View of Power Unit Assembly Model C1 Chassis SC
Compartment Light Rec'p
Motor Rec'p
Terminal Strip
Rect. Fil. Winding
Plate Winding
250 Fil. Winding
Primary Winding
Power Transformer
Resistor R17 50000 Ohms
Filter Choke X1
Line Rec'p
Gnd.
Insulating Tubing Braided Cable
Safety Switch S.W.4
Speaker Field Coil Connection
Speaker Voice Coil Connection
Filter Cond.
C17 250 By-Pass Cond.
226 By-Pass Cond.
R15 Bias Resist 1350 Ohms
2nd Audio Transformer
R16 Resistor 2 Meg.
R14 18,500 Ohms
226 Plate
281
281
250
250
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
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29
30
31
32
33
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41
42
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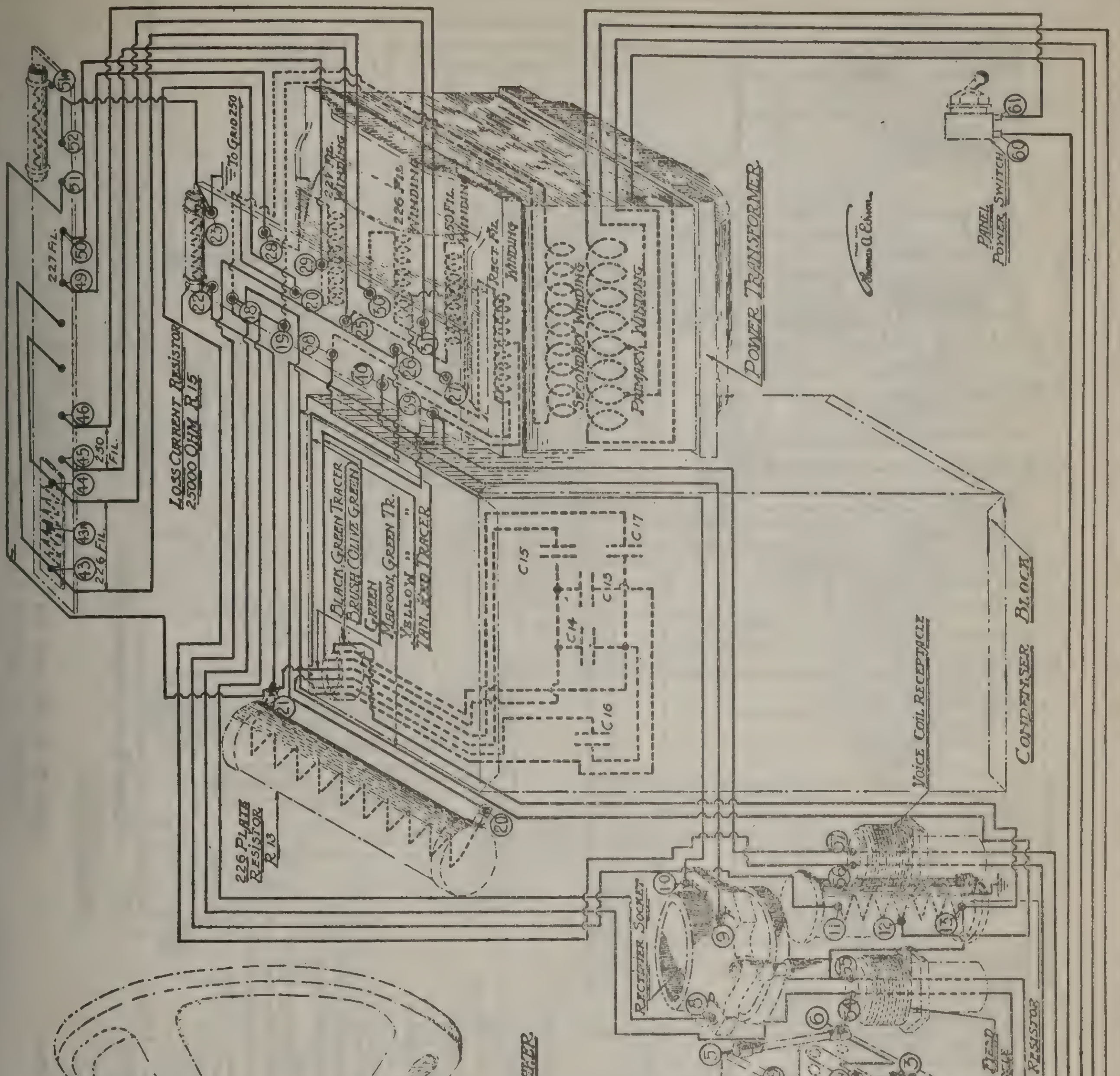
44
45
46
47
P
F
G
D

THOMAS A. EDISON, INC.

MODELS R1,R2,C2
CHASSIS Jr and Jc
Power Unit Assembly


To Grid 250
227 Fil. Winding
226 Fil. Winding
250 Fil. Winding
Rect. Fil. Winding
Secondary Winding
Primary Winding
Power Transformer
Panel Power Switch
Loss Current Resistor 25000 Ohm R15
227 Fil.
250 Fil.
226 Fil.
Black Green Tracer
Brush (Olive Green)
Green
Maroon Green Tr.
Yellow "
Tan Red Tracer
C15
C17
C14
C13
C16
Condenser Block
Voice Coil Receptacle
226 Plate Resistor R13
Rectifier Socket
Fuse
Speaker Field Receptacle
R14 250 Bias Resistor
A.C. Line Connection Receptacle
Dynamic Speaker
1
2
3
4
5
6
9
10
11
12
13
18
19
20
21
22
23
25
26
27
28
29
30
31
38
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44
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46
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51
52
53
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55
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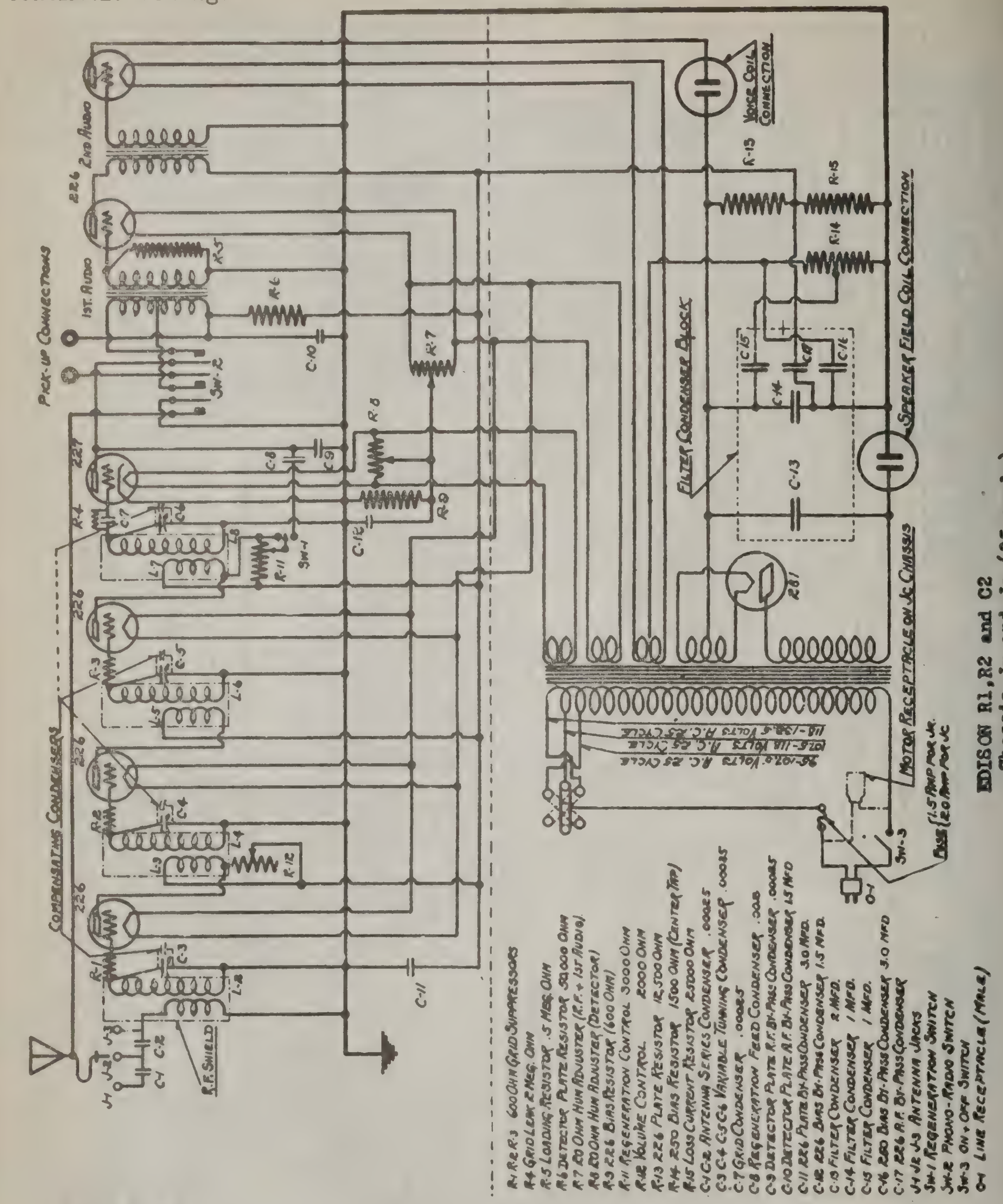
57
58
59
60
61

DIAGRAMMATIC VIEW OF POWER UNIT, DYNAMIC SPEAKER CONNECTED.

MODELS R1, R2 AND C2
CHASSIS JR AND JC
25 CYCLE

MODELS R1,R2,C2
CHASSIS Jr and Jc
Schematic Voltage

THOMAS A. EDISON, INC.

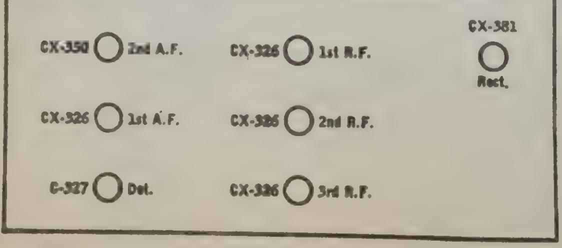

2nd Audio
226
1st Audio
227
226
226
226
Pick-up Connections
Sw-2
R-5
R-6
C-10
R-7
R-8
C-8
C-9
R-9
C-12
R-4
C-7
C-6
L-6
L-7
R-11
Sw-1
R-3
C-5
L-5
L-4
R-2
C-4
L-3
R-12
R-1
C-3
L-2
L-1
C-1
C-2
J-1
J-2
J-3
R.F. Shield
C-11
Combinating Condensers
Voice Coil Connection
R-13
R-15
R-14
Filter Condenser Block
C-15
C-17
C-16
C-14
C-13
Speaker Field Coil Connection
281
Motor Receptacle on Jc Chassis
96-102.5 Volts A.C. 25 Cycle
102.5-114 Volts A.C. 25 Cycle
114-128.5 Volts A.C. 25 Cycle
Sw-3
Fuse 1.5 Amp for Jr. 2.0 Amp for Jc
O-1

R-1 R-2 R-3 600 Ohm Grid Suppressors
R-4 Grid Leak 2 Meg. Ohm
R-5 Loading Resistor .5 Meg. Ohm
R-6 Detector Plate Resistor 50,000 Ohm
R-7 20 Ohm Hum Adjuster (R.F. + 1st Audio)
R-8 20 Ohm Hum Adjuster (Detector)
R-9 226 Bias Resistor (600 Ohm)
R-11 Regeneration Control 3000 Ohm
R-12 Volume Control 2000 Ohm
R-13 226 Plate Resistor 12,500 Ohm
R-14 250 Bias Resistor 1500 Ohm (Center Tap)
R-15 Loss Current Resistor 25000 Ohm
C-1 C-2 Antenna Series Condenser .00025
C-3 C-4 C-5 C-6 Variable Tuning Condenser .00035
C-7 Grid Condenser .00025
C-8 Regeneration Feed Condenser .0005
C-9 Detector Plate R.F. By-Pass Condenser .00025
C-10 Detector Plate A.F. By-Pass Condenser 1.5 Mfd
C-11 226 Plate By-Pass Condenser 3.0 Mfd.
C-12 226 Bias By-Pass Condenser 1.5 Mfd.
C-13 Filter Condenser 2 Mfd.
C-14 Filter Condenser 1 Mfd.
C-15 Filter Condenser 1 Mfd.
C-16 250 Bias By-Pass Condenser 3.0 Mfd
C-17 226 R.F. By-Pass Condenser
J-1 J-2 J-3 Antenna Jacks
Sw-1 Regeneration Switch
Sw-2 Phono-Radio Switch
Sw-3 On + Off Switch
O-1 Line Receptacle (Male)

EDISON R1,R2 and C2
Chassis Jr and Jc (25 cycle)

R-1, R-2, C-2

(A.C.)

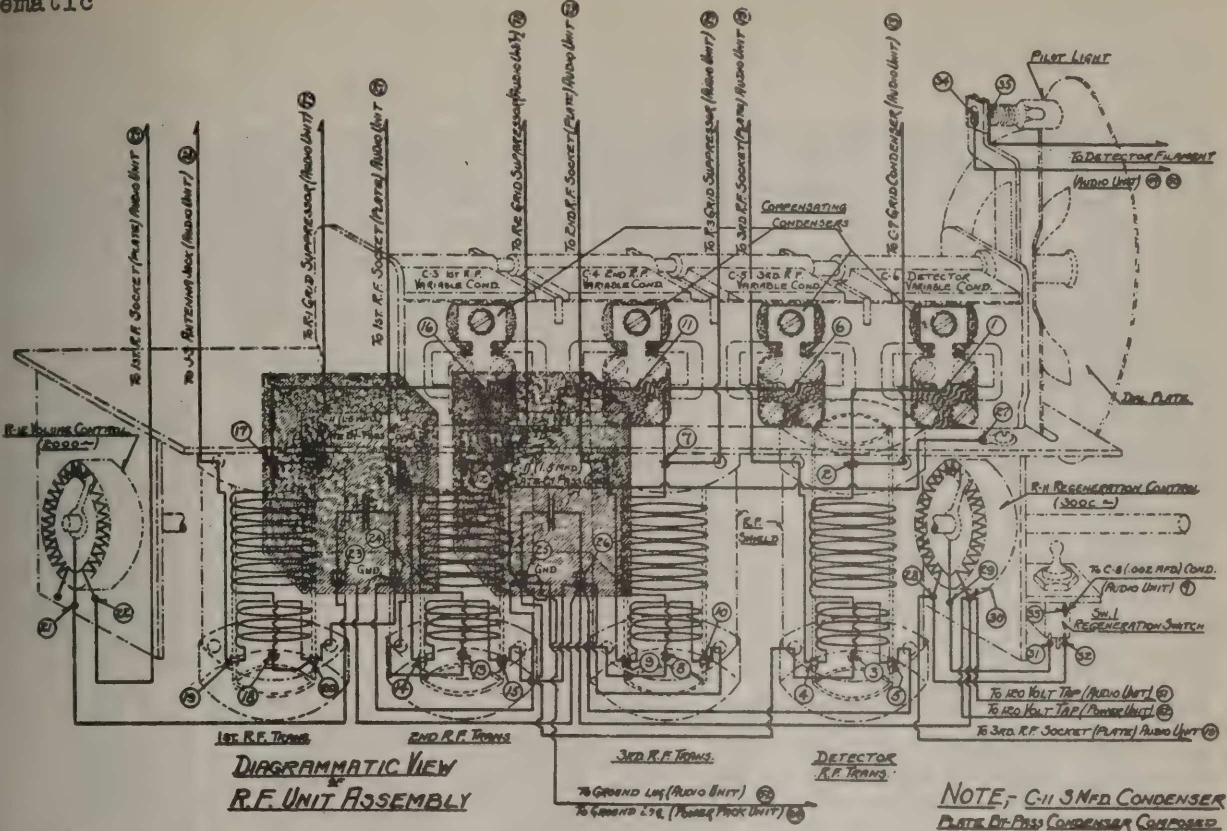

CX-350 2nd A.F.
CX-326 1st R.F.
CX-381 Rect.
CX-326 1st A.F.
CX-326 2nd R.F.
C-327 Det.
CX-326 3rd R.F.

EDISON, Inc.—Models R-1, R-2 and Edison Radio Phonograph Combination C-2
Line Voltage 102—Set on 102.5
Volume Control Position Max

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det Etc ③	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate MA ⑩	Plate MA Grid Test ⑪	Plate Change MA ⑫	Screen Grid Volts ⑬
1	226	1 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
2	226	2 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
3	226	3 R.F.	-	-	1.45	120	9.5	-	3.5	10	6.5	-
4	227	Det.	-	-	1.9	33		-9.5	1.5	-	-	-
5	226	1 A.F.	-	-	1.35	115	8.5	-	2.5	10	7.5	-
6	250	2 A.F.	-	-	7.2	320	55	-	36	56	20	-
7	281	Rect.	-	-	7.2	-	-	-	100	-	-	-

ODELS R1,R2,C2(60 cyc.)
iagram
chematic

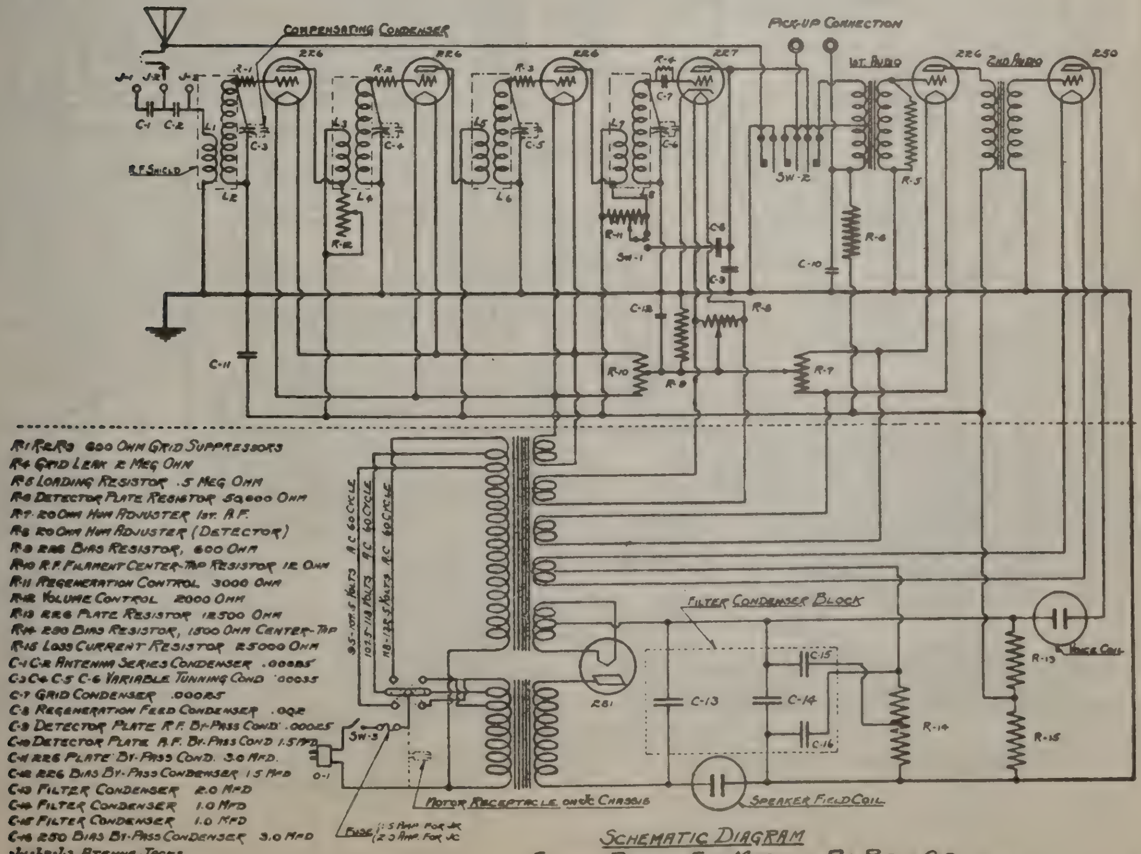
THOMAS A. EDISON, INC.


To 1st. R.F. Socket (Plate) Audio Unit
To J-3 Antenna Jack (Audio Unit)
To R-1 Grid Suppressor (Audio Unit)
To 1st. R.F. Socket (Plate) Audio Unit
To R-2 Grid Suppressor (Audio Unit)
To 2nd R.F. Socket (Plate) Audio Unit
To R-3 Grid Suppressor (Audio Unit)
To 3rd R.F. Socket (Plate) Audio Unit
To C-7 Grid Condenser (Audio Unit)
Compensating Condensers
C-3 1st R.F. Variable Cond.
C-4 2nd R.F. Variable Cond.
C-5 3rd R.F. Variable Cond.
C-6 Detector Variable Cond.
Pilot Light
To Detector Filament (Audio Unit)
Dial Plate
R-12 Volume Control (2000 ~)
R.F. Shield
GND
R-11 Regeneration Control (3000 ~)
To C-8 (.002 MFD) Cond. (Audio Unit)
SW. 1 Regeneration Switch
To 120 Volt Tap (Audio Unit)
To 120 Volt Tap (Power Unit)
To 3rd. R.F. Socket (Plate) Audio Unit
1st. R.F. Trans.
2nd R.F. Trans.
3rd R.F. Trans.
Detector R.F. Trans.
To Ground Lug (Audio Unit)
To Ground Lug (Power Pack Unit)
1
2
5
6
7
11
16
17
23
24
25
26
28
29
30
31
32
33
34
35
37

DIAGRAMMATIC VIEW
of
R.F. UNIT ASSEMBLY

NOTE;- C-11 3 MFD CONDENSER PLATE BY-PASS CONDENSER COMPOSED OF TWO 1.5 MFD. CONDENSERS IN PARALLEL

MODELS R-1 R-2 + C-2
CHASSIS JK + JC


Compensating Condenser
Pick-up Connection
226
226
226
227
1st. Audio
226
2nd Audio
250
J-1
J-2
J-3
C-1
C-2
R-1
R-2
R-3
R-4
C-3
C-4
C-5
C-6
C-7
L-1
L-2
L-4
L-6
L-8
R.F. Shield
R-12
R-11
SW-1
SW-2
C-8
C-9
C-10
C-11
C-12
R-5
R-6
R-7
R-8
R-9
R-10
95-107.5 Volts A.C. 60 Cycle
107.5-118 Volts A.C. 60 Cycle
118-125.5 Volts A.C. 60 Cycle
SW-3
O-1
281
Filter Condenser Block
C-13
C-14
C-15
C-16
R-13
R-14
R-15
Voice Coil
Speaker Field Coil
Motor Receptacle on JC Chassis
Fuse (1.5 Amp. for JK / 2.0 Amp. for JC)

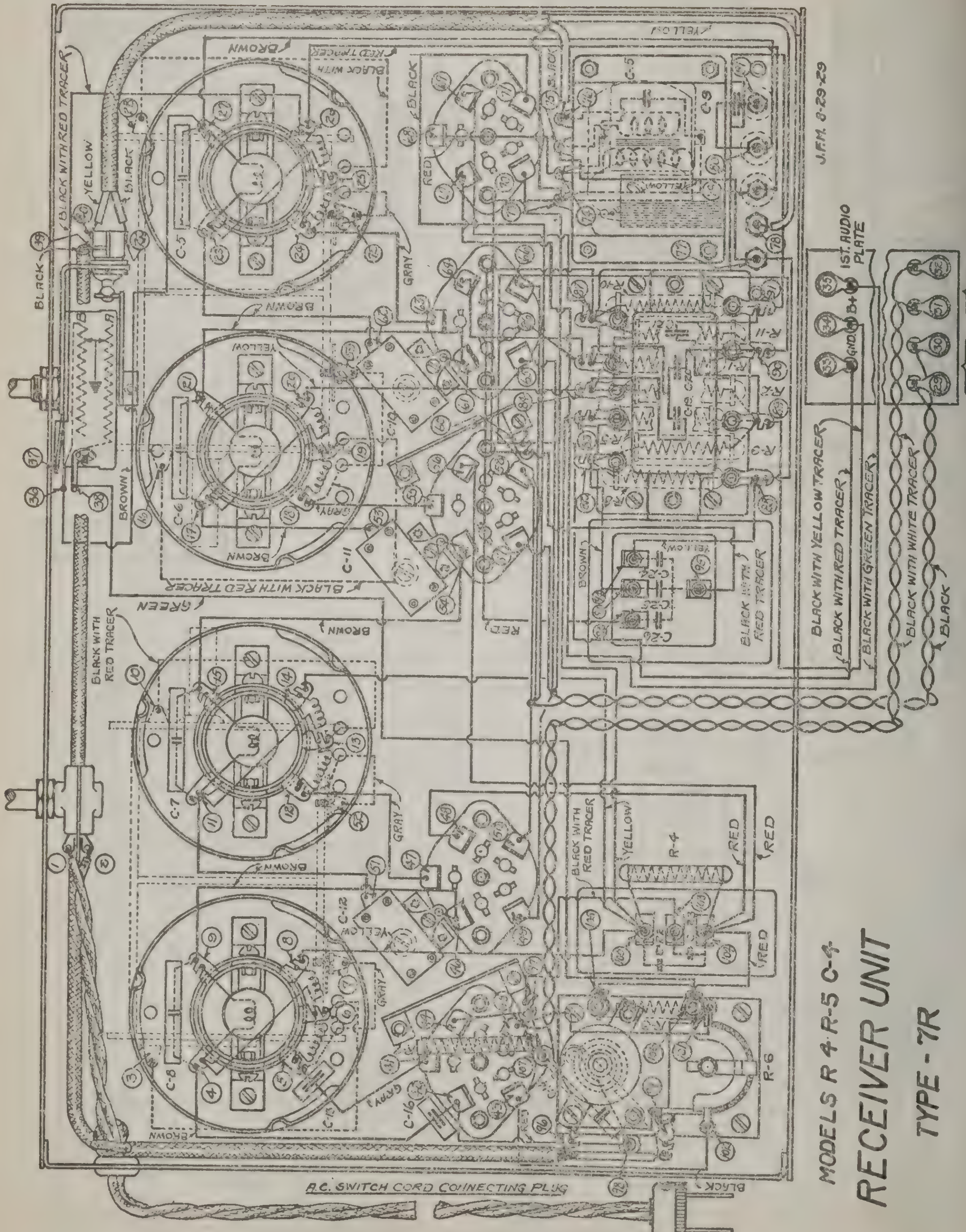
R-1 R-2 R-3 600 OHM GRID SUPPRESSORS
R-4 GRID LEAK 2 MEG OHM
R-5 LOADING RESISTOR .5 MEG OHM
R-6 DETECTOR PLATE RESISTOR 50,000 OHM
R-7 20 OHM HUM ADJUSTER 1st. A.F.
R-8 20 OHM HUM ADJUSTER (DETECTOR)
R-9 226 BIAS RESISTOR, 600 OHM
R-10 R.F. FILAMENT CENTER-TAP RESISTOR 12 OHM
R-11 REGENERATION CONTROL 3000 OHM
R-12 VOLUME CONTROL 2000 OHM
R-13 226 PLATE RESISTOR 12500 OHM
R-14 250 BIAS RESISTOR, 1500 OHM CENTER-TAP
R-15 LOSS CURRENT RESISTOR 25000 OHM
C-1 C-2 ANTENNA SERIES CONDENSER .00025
C-3 C-4 C-5 C-6 VARIABLE TUNNING COND .00035
C-7 GRID CONDENSER .00025
C-8 REGENERATION FEED CONDENSER .002
C-9 DETECTOR PLATE R.F. BY-PASS COND. .00025
C-10 DETECTOR PLATE A.F. BY-PASS COND 1.5 MFD
C-11 226 PLATE BY-PASS COND. 3.0 MFD.
C-12 226 BIAS BY-PASS CONDENSER 1.5 MFD
C-13 FILTER CONDENSER 2.0 MFD
C-14 FILTER CONDENSER 1.0 MFD
C-15 FILTER CONDENSER 1.0 MFD
C-16 250 BIAS BY-PASS CONDENSER 3.0 MFD
J-1 J-2 J-3 ATENNA JACKS
SW-1 REGENERATION-SWITCH
SW-2 PHONO-RADIO SWITCH
SW-3 ON-OFF SWITCH
O-1 LINE RECEPTACLE (MALE)

SCHEMATIC DIAGRAM
EDISON RADIO FOR MODELS R-1 R-2 + C-2
CHASSIS JK + JC

Also
Model Splitdorf M-5

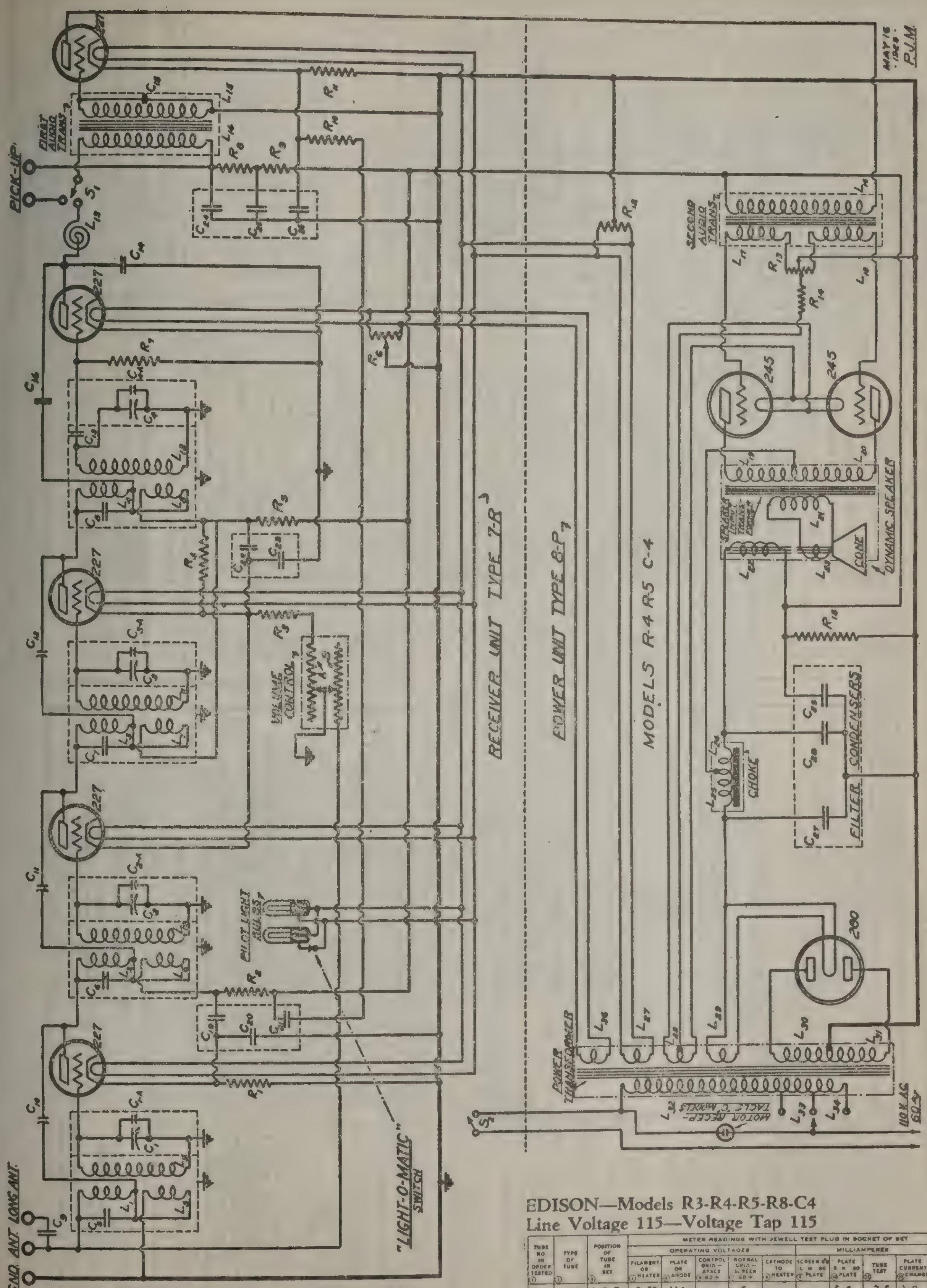
MODELS R4,R5,C4
Receiver Chassis Wiring

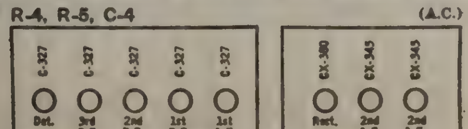
THOMAS A. EDISON, INC.


MODELS R 4 R-5 C-4
RECEIVER UNIT
TYPE - 7R
J.F.M. 8-29-29
A.C. SWITCH CORD CONNECTING PLUG
BLACK WITH RED TRACER
BLACK WITH YELLOW TRACER
BLACK WITH GREEN TRACER
BLACK WITH WHITE TRACER
BLACK
YELLOW
BROWN
GRAY
GREEN
RED
1ST. AUDIO PLATE
GND
B+
R.F. FIL.
DET. FIL.
C-5
C-6
C-7
C-8
C-9
C-10
C-11
C-12
C-15
C-16
C-24
C-25
C-26
R-4
R-6
R-11

THOMAS A. EDISON, INC.

MODELS R4,R5,C4
Schematic


227
227
227
227
227
FIRST AUDIO TRANS.
PICK-UP
S1
L15
C24
C25
C26
R8
R9
R10
R11
R12
C14
C15
C16
C17
C9
C10
C11
C12
C13
R1
R2
R3
R4
R5
R6
VOLUME CONTROL
PILOT LIGHT BULBS
"LIGHT-O-MATIC" SWITCH
GND. ANT.
LONG ANT.
RECEIVER UNIT TYPE 7-R3
POWER UNIT TYPE 8-P7
MODELS R-4 R-5 C-4
SECOND AUDIO TRANS.
R13
R14
L16
L17
L18
245
245
L19
L20
L21
L22
L23
SPEAKER FIELD TRANS.
CONE
DYNAMIC SPEAKER
R16
C27
C28
C29
CHOKE
L24
L25
FILTER CONDENSERS
280
L26
L27
L28
L29
L30
L31
L32
L33
L34
POWER TRANSFORMER
MOTOR RECEP-TACLE
S2
110 V AC 60~
MAY 16 1929 P.J.M.


R-4, R-5, C-4
(A.C.)
C-327
C-327
C-327
C-327
C-327
Det.
3rd R.F.
2nd R.F.
1st R.F.
1st A.F.
CX-380
CX-345
CX-345
Rect.
2nd A.F.
2nd A.F.

EDISON—Models R3-R4-R5-R8-C4
Line Voltage 115—Voltage Tap 115

TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET										
			OPERATING VOLTAGES					MILLIAMPERES					
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE GD+ ⑥	NORMAL GRID—SCREEN GD+ ⑦	CATHODE TO HEATER ⑧	SCREEN GD L N 80 PLATE ⑨	PLATE R N 80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫	⑬
1	227	1 R.F	2.35	114	-	6	-	-	5.6	7.5	1.9	
2	227	2 R.F.	2.35	114	-	6	-	-	5.6	9.5	3.9	
3	227	3 R.F.	2.35	114	-	6	-	-	5.6	9.5	3.9	
4	227	Det.	2.35	28	-	-	-	-	2.0	2.0	0	
5	227	1 A.F.	2.35	110	-	6.5	-	-	3.7	5.0	1.3	
6	245	PP-AF	2.4	250	-	46	-	-	27.5	32	4.5	
7	245	PP-AF	2.4	250	-	46	-	-	27.5	32	4.5	
8	280	Rect.	4.9	-	-	-	50.4	50.4	-	-	-	

MODELS R4,R5,C4
Parts List

THOMAS A. EDISON, INC.

IDENTIFICATION OF PARTS

TO ACCOMPANY PLATE No. 1-A

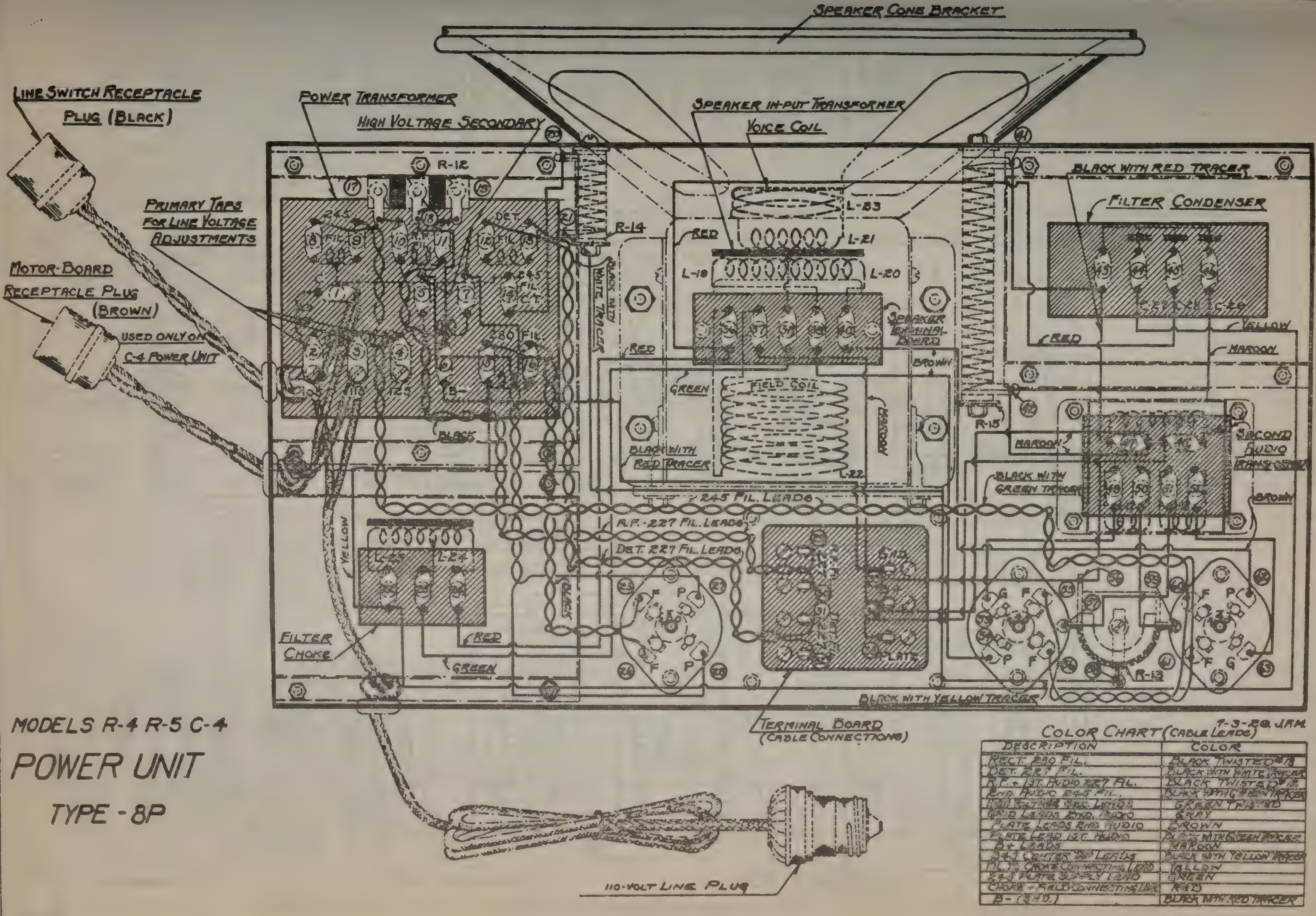
"LIGHT-O-MATIC" MODELS R-4, R-5 and C-4

NO.	NAME AND FUNCTION	ELECTRICAL VALUE
C-1	Tuning condenser, 1st r. f. stage.	2-gang variable condenser, maximum capacity, each section 355 mmfds.
C-2	Tuning condenser, 2nd r. f. stage.	
C-3	Tuning condenser, 3rd r. f. stage.	2-gang variable condenser, maximum capacity. each section 355 mmfds.
C-4	Tuning condenser, detector stage.	
C-5 C-6 C-7 C-8	Each a fixed condenser tuning the long wave primary circuit of the associated transformer to approximately 450 kilocycles.	Each a .00025 mfd. fixed moulded mica condenser.
C-9	Long antenna series condenser.	.000125 mfd. fixed moulded mica condenser.
C-10 C-11 C-12	Neutralizing condensers, 1st, 2nd and 3rd r. f. stages, respectively.	Each an adjustable condenser, 40 to 80 mmfds.
C-13	Detector grid condenser.	.0001 mfd. fixed moulded mica condenser.
C-14	Detector plate condenser.	.001 mfd. fixed moulded mica condenser.
C-15	High frequency cut-off condenser.	.00045 mfd. fixed moulded mica condenser.
C-16	Detector Neutralizing Condenser	.000125 Mfd. fixed condenser.
C-19	Plate by-pass condenser, 1st r. f. stage.	.1 mfd. 300v. paper condenser.
C-20	Bias by-pass condenser, 1st r. f. stage.	.1 mfd. 300v. paper condenser.
C-21	Hum balance condenser (1st a. f.)	.16 mfd. 300v. paper condenser. (C-19, 20 and 21 in same can.)
C-22	Plate by-pass condenser, 2nd and 3rd r. f.	.1 mfd. 300v. paper condenser.
C-23	Bias by-pass condenser, 2nd and 3rd r. f.	1. mfd. 150v. paper condenser. (C-22 and 23 in same can.)
C-24	A. f. by-pass condenser, detector plate.	1. mfd. 300v. paper condenser.
C-25	Filter condenser, detector plate supply	.5 mfd. 300v. paper condenser.
C-26	Bias by-pass condenser, 1st a. f. stage.	1. mfd. 150v. paper condenser. (C-24, 25 and 26 in same can.)
C-27	1st filter condenser.	2. mfd. 600v. paper condenser.
C-28	2nd filter condenser.	2. mfd. 600v. paper condenser.
C-29	3rd filter condenser.	1. mfd. 300v. paper condenser. (C-27, 28 and 29 in same can.)
C-1A	Tuning compensator, 1st r. f.	Each an adjustable air and mica dielectric condenser mounted on side of variable condenser section which it shunts.
C-2A	Tuning compensator, 2nd r. f.	
C-3A	Tuning compensator, 3rd r. f.	
C-4A	Tuning compensator, detector.	
R-1	Bias resistor, 1st r. f. stage.	1,000 ohm resistance, 1 watt.
R-2	Isolating resistor, 1st r. f.	1,000 ohm resistance, 1 watt.
R-3	Minimum bias resistor, 2nd and 3rd r. f.	400 ohm resistance, 1 watt.
R-4	Bleeder resistor.	40,000 ohm resistance, 1 watt.
R-5	Isolating resistor, 2nd and 3rd r. f.	400 ohm resistance, 1 watt.
R-6	Detector heater hum adjuster.	20 ohm potentiometer.
R-7	Detector grid leak.	1.5 megohm resistance, 1 watt.
R-8	2nd section detector filter resistor.	25,000 ohm resistance, 1 watt.
R-9	1st section detector filter resistor.	25,000 ohm resistance, 1 watt.

IDENTIFICATION OF PARTS (Continued)

NO.	NAME AND FUNCTION	ELECTRICAL VALUE
R-10	Hum balance resistor (1st a. f.)	6,000 ohm resistance, 1 watt.
R-11	Bias resistor, 1st a. f. stage.	2,000 ohm resistance, 1 watt.
R-12	R. f. and a. f. heater center tapped resistor.	20 ohm fixed center-tapped resistance.
R-13	Push-pull balancing resistor.	200 ohm center-tapped potentiometer.
R-14	Bias resistor, 2nd a. f. stage.	780 ohm, 5 watt resistance.
R-15	Power supply loss current resistor.	10,000 ohm, 5 watt resistance.
L-1	Long wave primary, 1st r. f. transformer.	Each a 500 microhenry coil.
L-2	Long wave primary, 2nd r. f. transformer.	
L-3	Long wave primary, 3rd r. f. transformer.	
L-4	Long wave primary, detector input transformer.	
L-5	Short wave primary, 1st r. f. transformer.	Each a 7½ turn coil.
L-6	Short wave primary, 2nd r. f. transformer.	
L-7	Short wave primary, 3rd r. f. transformer.	
L-8	Short wave primary, detector input transformer.	
L-9	Secondary, 1st r. f. transformer.	Each a 245 microhenry coil, (measured in sheld).
L-10	Secondary, 2nd r. f. transformer.	
L-11	Secondary, 3rd r. f. transformer.	
L-12	Secondary, detector input transformer.	
L-13	Detector plate r. f. choke.	50 to 65 millihenry choke.
L-14	Primary, 1st a. f. transformer.	4:1 ratio a. f. transformer.
L-15	Secondary, 1st a. f. transformer.	
L-16	Primary, 2nd a. f. transformer.	5:1 ratio a. f. transformer with separate secondaries connected in series by variable resistance R-13.
L-17	Secondary, 2nd a. f. transformer.	
L-18	Secondary, 2nd a. f. transformer.	
L-19	Half primary, speaker input transformer.	Speaker input transformer, mounted in speaker frame, utilizing center tapped primary.
L-20	Half primary, speaker input transformer.	
L-21	Secondary, speaker input transformer.	
L-22	Field coil, dynamic speaker.	4,500 ohm field coil.
L-23	Voice coil, dynamic speaker.	
L-24	Inside third of filter choke.	20 henry, 375 ohm choke.
L-25	Outside two-thirds of filter choke.	
L-26	Detector heater secondary winding.	Power transformer.
L-27	R. f. and a. f. heater secondary winding.	
L-28	2nd a. f. fil. secondary winding.	
L-29	Rectifier fil. secondary winding.	
L-30	Half high voltage secondary winding.	
L-31	Half high voltage secondary winding.	
L-32	Low line voltage primary winding.	
L-33	Additional section of primary winding for medium voltage.	
L-34	Additional section of primary winding for high line voltage.	
S-1	Radio-phono. switch.	S. P. D. T. toggle switch, operated by volume control shaft.
S-2	Line switch.	S. P. S. T. toggle switch.
	Light-O-Matic Switch.	Located in dial mechanism, operating Light-O-Matic pilot light.
	Motor Receptacle (Brown).	This plug provides 110 volts A. C. for operation of phonograph motor in radio phonograph combination model.
	Volume Control	A—Wire wound, 5,000 ohms. B—Graphite, 10,000 ohms.

THOMAS A. EDISON, INC. MODELS R4,R5,C4 Power Unit Chassis Wiring


SPEAKER CONE BRACKET
LINE SWITCH RECEPTACLE PLUG (BLACK)
POWER TRANSFORMER
HIGH VOLTAGE SECONDARY
SPEAKER IN-PUT TRANSFORMER
VOICE COIL
BLACK WITH RED TRACER
FILTER CONDENSER
PRIMARY TAPS FOR LINE VOLTAGE ADJUSTMENTS
MOTOR-BOARD RECEPTACLE PLUG (BROWN)
USED ONLY ON C-4 POWER UNIT
R-12
R-14
R-15
R-13
L-83
L-21
L-19
L-20
L-22
L-23
L-24
245 FIL.
DET. FIL.
245 FIL. C.T.
280 FIL.
105
115
125
B-
RED
BLACK WITH WHITE TRACER
SPEAKER TERMINAL BOARD
BROWN
GREEN
FIELD COIL
MAROON
BLACK WITH RED TRACER
YELLOW
RED
MAROON
BLACK WITH GREEN TRACER
SECOND AUDIO TRANSFORMER
BROWN
BLACK
245 FIL. LEADS
R.F.-227 FIL. LEADS
DET. 227 FIL. LEADS
FILTER CHOKE
RED
GREEN
BLACK
F
P
G
PLATE
BLACK WITH YELLOW TRACER
TERMINAL BOARD (CABLE CONNECTIONS)
110-VOLT LINE PLUG
C-27
C-28
C-29

MODELS R-4 R-5 C-4

POWER UNIT

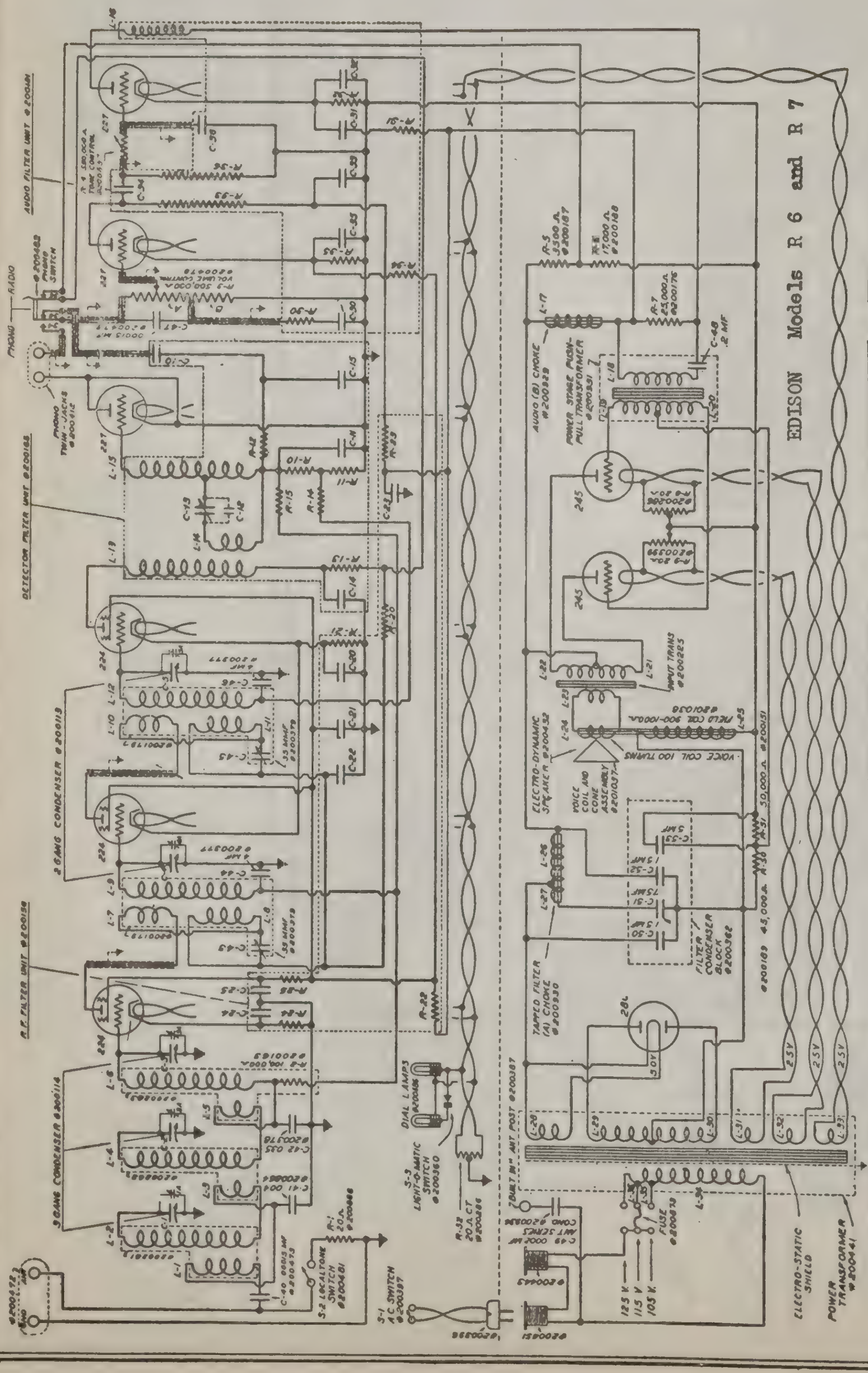
TYPE - 8P

COLOR CHART (CABLE LEADS) 7-3-29 J.R.M.

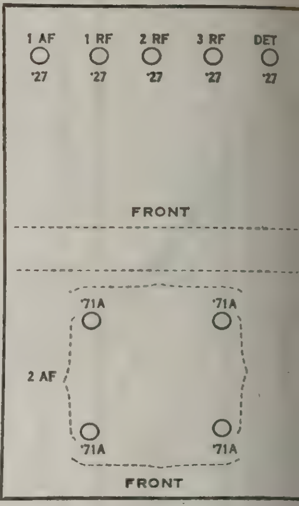
DESCRIPTION	COLOR
RECT. 280 FIL.	BLACK TWISTED #18
DET. 227 FIL.	BLACK WITH WHITE TRACER
R.F. + 1ST. AUDIO 227 FIL.	BLACK TWISTED #12
2ND. AUDIO 245 FIL.	BLACK WITH GREEN TRACER
HIGH VOLTAGE SEC. LEADS	GREEN TWISTED
GRID LEADS 2ND. AUDIO	GRAY
PLATE LEADS 2ND. AUDIO	BROWN
PLATE LEAD 1ST. AUDIO	BLACK WITH GREEN TRACER
B+ LEADS	MAROON
245 CENTER TAP LEADS	BLACK WITH YELLOW TRACER
FILTER CHOKE CONNECTING LEAD	YELLOW
245 PLATE SUPPLY LEAD	GREEN
CHOKE + FIELD CONNECTING LEAD	RED
B- (GND.)	BLACK WITH RED TRACER

MODELS R6,R7
Schematic

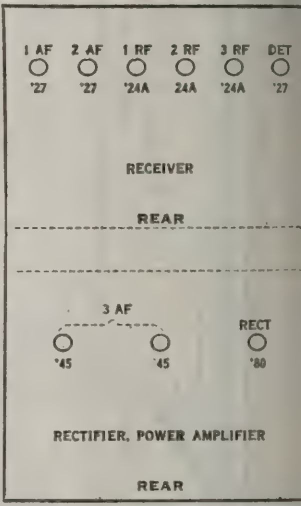
THOMAS A. EDISON,, INC.


EDISON Models R 6 and R 7
AUDIO FILTER UNIT #200141
DETECTOR FILTER UNIT #200135
R.F. FILTER UNIT #200136
3 GANG CONDENSER #200113
3 GANG CONDENSER #200114
PHONO TWIN JACKS #200612
PHONO
RADIO
R-4 500,000 Ω TONE CONTROL
R-3 500,000 Ω VOLUME CONTROL
AUDIO (B) CHOKE #200229
POWER STAGE PUSH-PULL TRANSFORMER #200231
INPUT TRANS #200225
FIELD COIL 900-1000 Ω
VOICE COIL 100 TURNS
ELECTRO-DYNAMIC SPEAKER #200432
VOICE COIL AND CONE ASSEMBLY
FILTER CONDENSER BLOCK #200362
TAPPED FILTER (A) CHOKE #200230
DIAL LAMPS
S-3 LIGHT-O-MATIC SWITCH #200360
S-2 LOCALTONE SWITCH #200481
S-1 AC SWITCH #200387
FUSE #200012
125 V
115 V
105 V
ELECTRO-STATIC SHIELD
POWER TRANSFORMER #200441
"BUILT IN" ANT. POST #200387
C-49 .0002 MF ANT. SERIES COND.
224
227
245
280
2.5V
5.0V

Models Edisons R4, R5 (DC)


1 AF
'27
1 RF
'27
2 RF
'27
3 RF
'27
DET
'27
FRONT
'71A
'71A
2 AF
'71A
'71A
FRONT

Models Edisons R6, R7

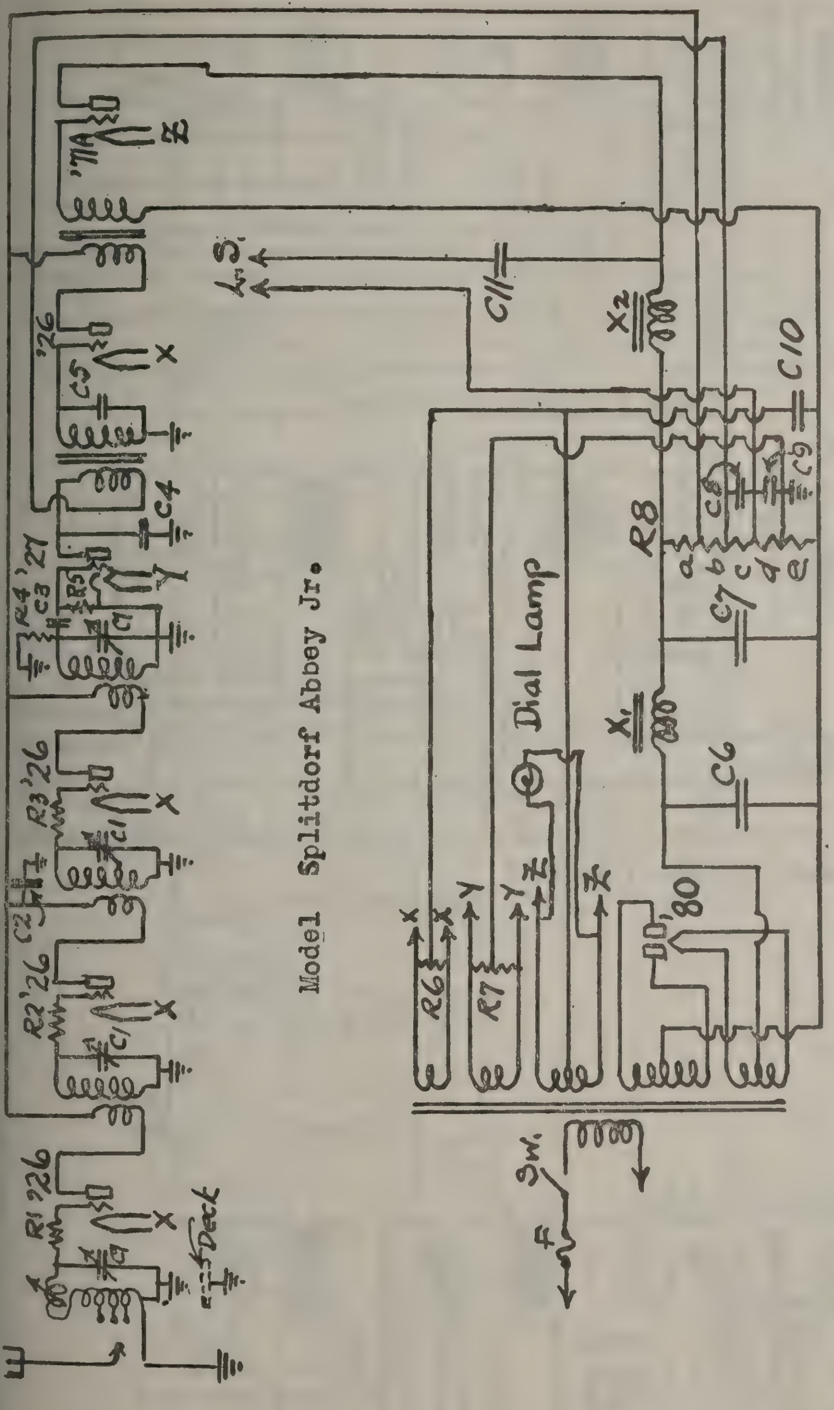

1 AF
'27
2 AF
'27
1 RF
'24A
2 RF
24A
3 RF
'24A
DET
'27
RECEIVER
REAR
3 AF
'45
'45
RECT
'80
RECTIFIER, POWER AMPLIFIER
REAR

EDISON—Models R6 and R7
Line Voltage 115—Voltage Tap 115
*Grid Volts 8-10 on Strong Signal
†Volume Control Minimum 2.5—Maximum .5

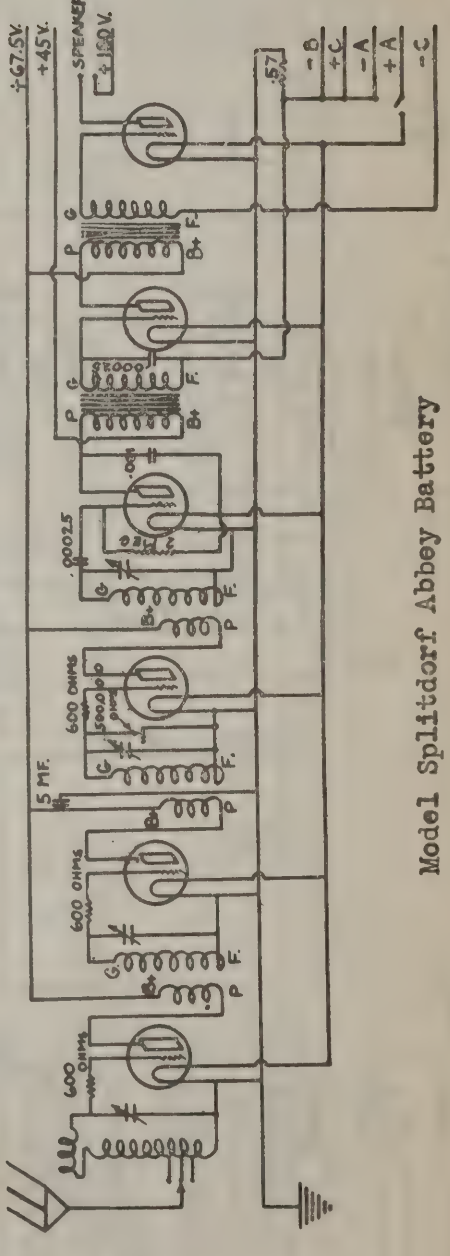
Tube No. in Order Tested ①	Type of Tube ②	Position of Tube in Set ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES						MILLIAMPERES		
			Filament or Heater ④	Plate or Anode ⑤	Control Grid—Space ⑥ 60+	Normal Grid—Screen ⑦ 60+	Cathode to Heater ⑧	Screen or L.H. or Plate ⑨	Plate E.H. or Plate ⑩	Tube Test ⑪	Plate Current Change ⑫
1	224	1 R.F.	2.2	190	.2	80	2.5	.9	3.5	6.0	2.5
2	224	2 R.F.	2.2	190	.2	80	2.5	.9	3.5	6.0	2.5
3	224	3 R.F.	2.2	190	.2	80	2.5	.9	3.5	6.0	2.5
4	227	Det.	2.2	-	-	.9	-	-	-*	-	-
5	227	1 A.F.	2.2	40	-	.5-2.5†	3.0	-	1.1	1.4	3.0
6	227	2 A.F.	2.2	115	-	.5	6.0	-	3.8	4.8	1.0
7	245	PP-AF	2.46	260	-	43	-	-	31.0	36.0	5.0
8	245	PP-AF	2.46	260	-	46	-	-	31.0	36.0	5.0

THOMAS A. EDISON, INC.

MODEL Splitdorf Abbey Jr.
MODEL Splitdorf Abbey Bat
Schematic

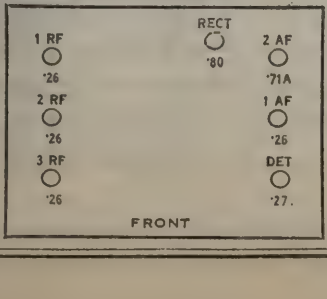

R1 '26
R2 '26
R3 '26
R4 '27
R5
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
'26
'71A
X
Y
Z
Det.
L.S.
X1
X2
R8
a
b
c
d
e
Dial Lamp
R6
R7
'80
Sw.
F

Model Splitdorf Abbey Jr.

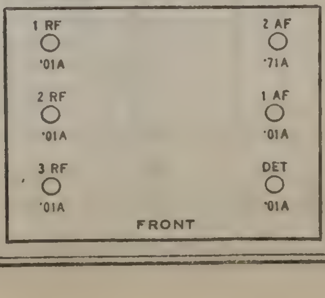

+67.5V.
+45V.
-SPEAKER
+180V.
.57
-B
+C
-A
+A
-C
G
P
F
F-
B+
.002
.00025
600 OHMS
5000
5 MF.

Model Splitdorf Abbey Battery

Model Splitdorf Abbey Jr.

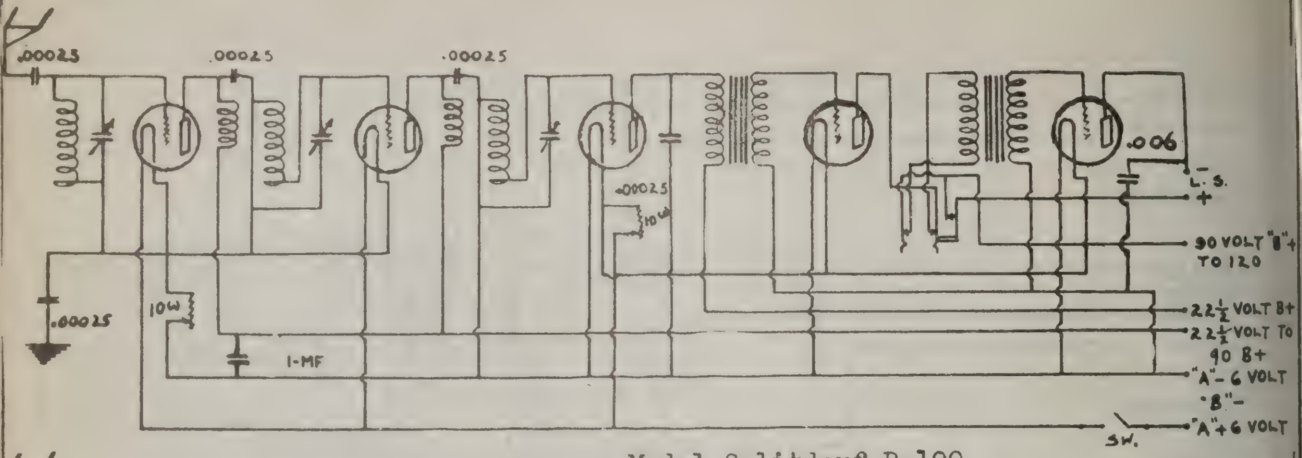

1 RF
'26
2 RF
'26
3 RF
'26
RECT
'80
2 AF
'71A
1 AF
'26
DET
'27.
FRONT

Model Splitdorf Abbey—Battery

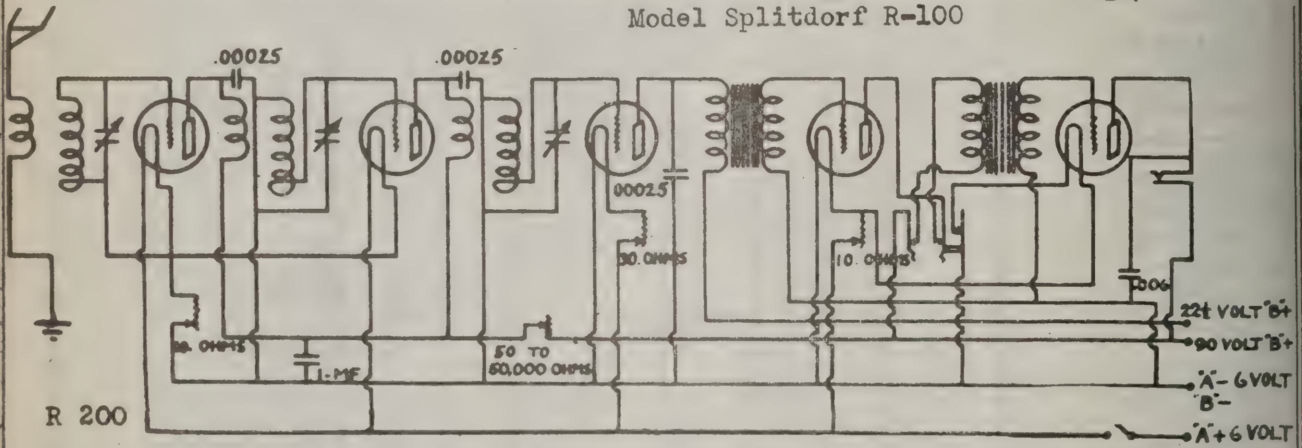

1 RF
'01A
2 RF
'01A
3 RF
'01A
2 AF
'71A
1 AF
'01A
DET
'01A
FRONT

MODEL Splitdorf R-100
MODEL Splitdorf R-200
MODEL Splitdorf RV-695
Schematic

THOMAS A. EDISON, INC.

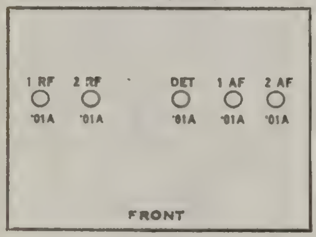

.00025
.00025
.00025
.00025
.00025
10ω
10W
1-MF
.006
L.S.
+
90 VOLT "B"+ TO 120
22½ VOLT B+
22½ VOLT TO 90 B+
"A"- 6 VOLT
"B"-
"A"+6 VOLT
SW.

Model Splitdorf R-100

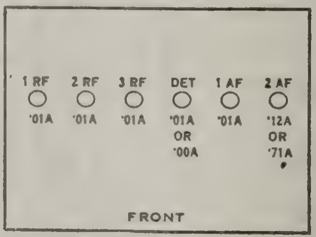

.00025
.00025
00025
30. OHMS
10. OHMS
30. OHMS
1-MF
50 TO 50,000 OHMS
.006
22½ VOLT "B"+
90 VOLT "B"+
"A"- 6 VOLT
"B"-
"A"+6 VOLT
R 200

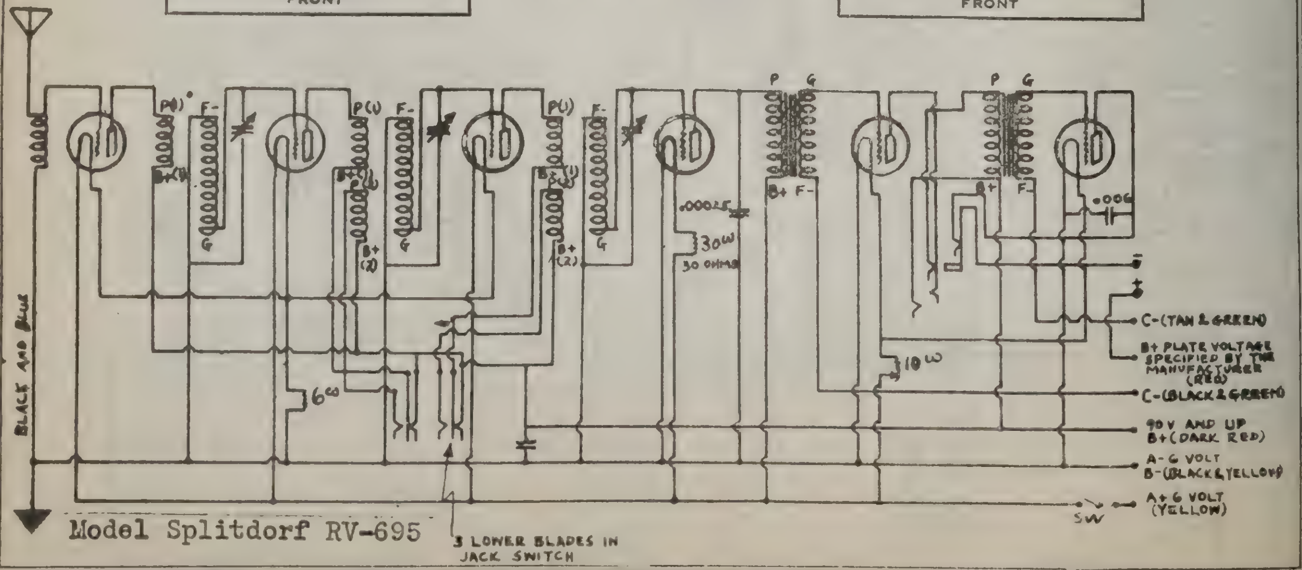
Model Splitdorf R-200

Models Splitdorfs R100, R200,


1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'01A
FRONT

Model Splitdorf RV695

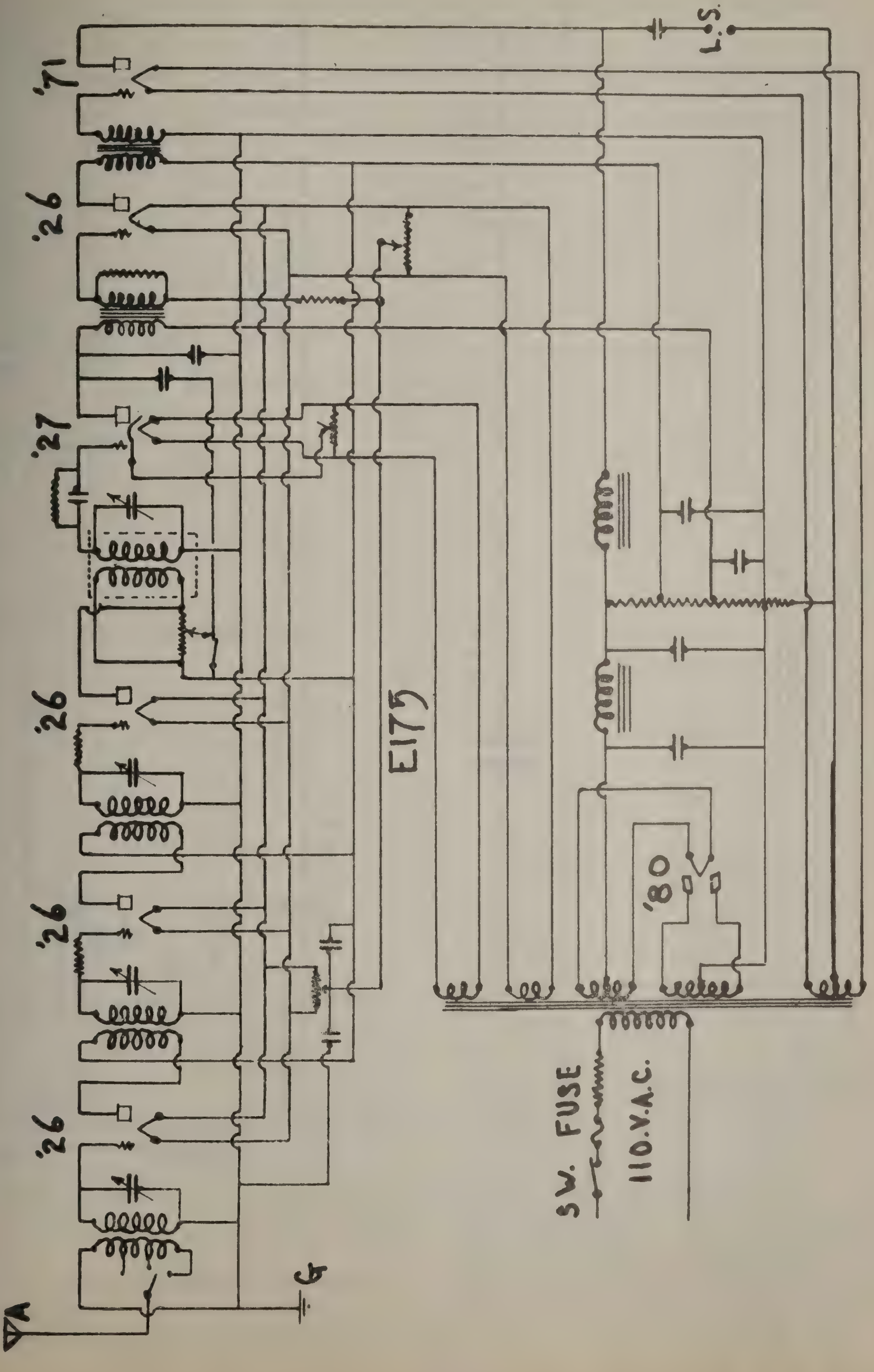

1 RF
'01A
2 RF
'01A
3 RF
'01A
DET
'01A OR '00A
1 AF
'01A
2 AF
'12A OR '71A
FRONT


P(1)
F-
G
B+(1)
B+(2)
P(1)
F-
G
B+(1)
B+(2)
P(1)
F-
G
B+(1)
B+(2)
P
G
B+
F-
P
G
B+
F-
.00025
30ω
30 OHMS
.006
6ω
10ω
C-(TAN & GREEN)
B+ PLATE VOLTAGE SPECIFIED BY THE MANUFACTURER (RED)
C-(BLACK & GREEN)
90 V AND UP B+(DARK RED)
A- 6 VOLT B-(BLACK & YELLOW)
A+ 6 VOLT (YELLOW)
SW
BLACK AND BLUE
3 LOWER BLADES IN JACK SWITCH

Model Splitdorf RV-695

MODEL Splitdorf E-175
Schematic

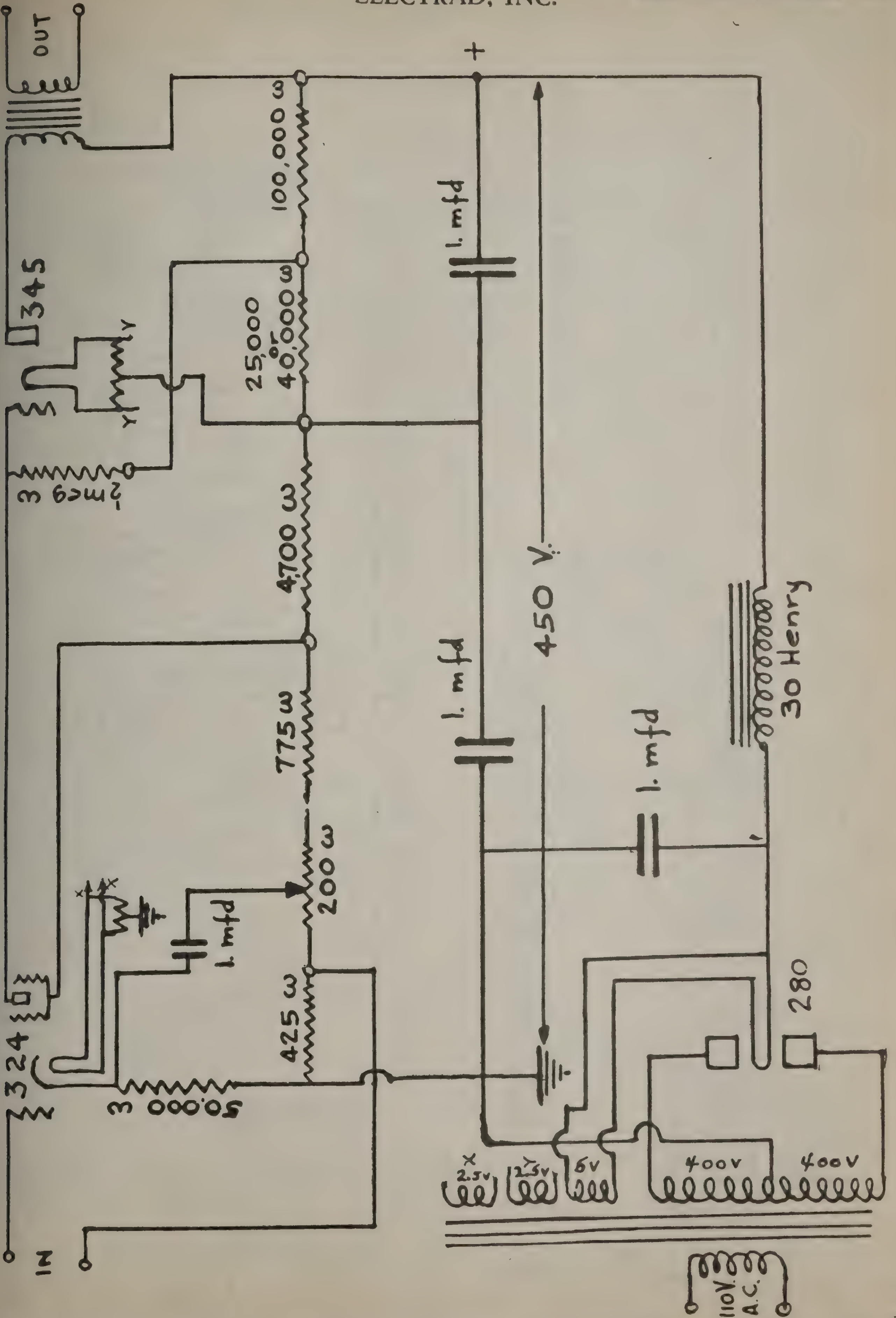
THOMAS A. EDISON, INC.


'71
'26
'27
'26
'26
'26
L.S.
E175
'80
SW. FUSE
110.V.A.C.
A
G

Model Splitdorf E-175

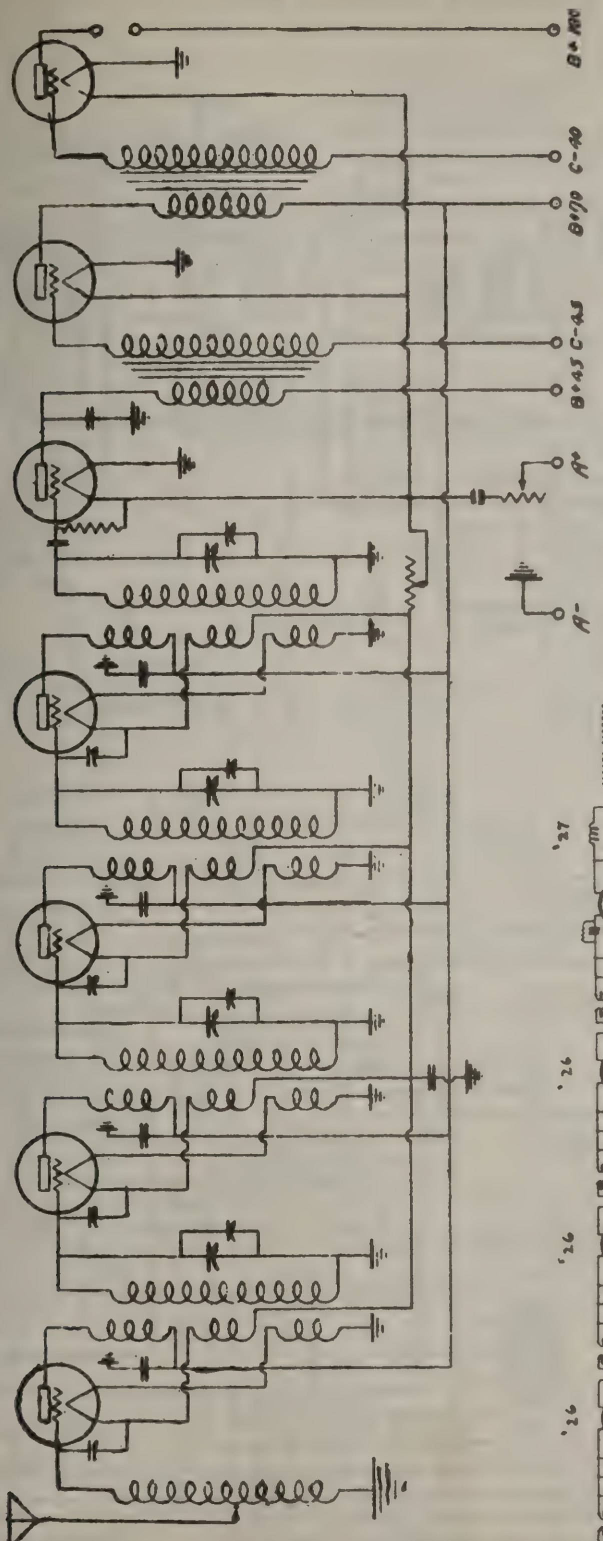
ELECTRAD, INC.

MODEL Loftin-White '45

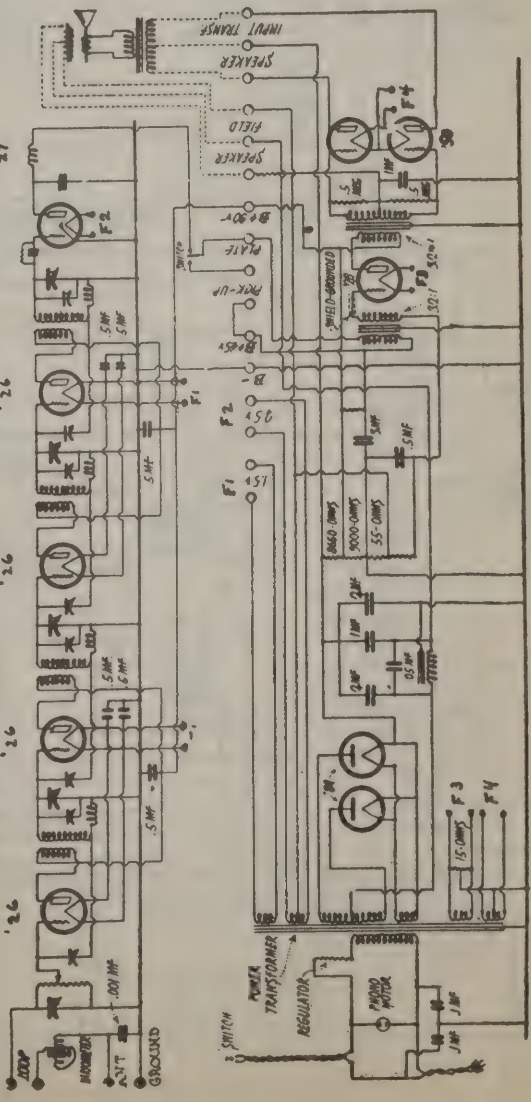

OUT
345
100,000 ω
25,000 or 40,000 ω
Y
Y
3
½ meg
4700 ω
+
1. mfd
1. mfd
450 V.
1. mfd
30 Henry
775 ω
200 ω
1. mfd
X
X
425 ω
324
3
50,000
IN
280
X
2.5v
Y
2.5v
5v
400v
400v
110V. A.C.

ELECTRICAL RESEARCH LABORATORIES, Inc.

MODEL S-61
MODEL R-1
Schematic

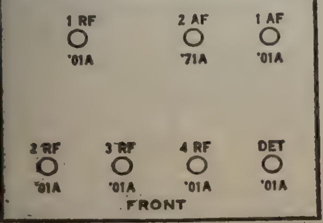

B+ PWR
C-90
B+90
C-4.5
B+45
A+
A-

ERLA S-61 RFL SET RADIO RECEIVER CIRCUIT

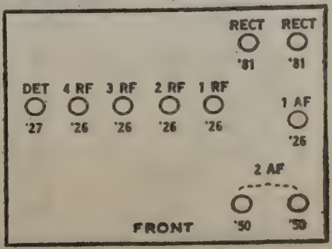

INPUT TRANSF.
SPEAKER
FIELD
SPEAKER
B+90V
PLATE
SWITCH
PICK-UP
B+45V
B-
F1
F2
F3
F4
'27
'26
'26
'26
'26
'81
'81
'50
'50
.5MF
.5MF
1MF
2MF
.001MF
8650-OHMS
9000-OHMS
55-OHMS
15-OHMS
32:1
LOOP
BUZZER
ANT
GROUND
POWER TRANSFORMER
REGULATOR
SWITCH
PHONO MOTOR

ERLA Model R-1 and Model A Power Unit

Model Erla S61 (1927)

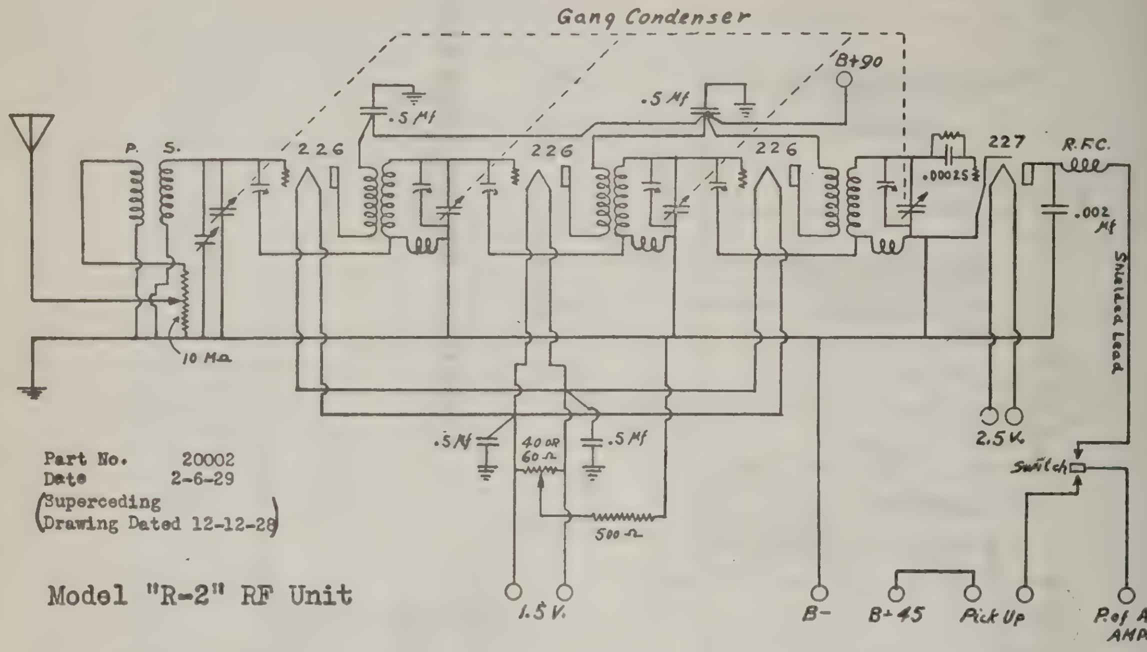

1 RF
'01A
2 AF
'71A
1 AF
'01A
2 RF
'01A
3 RF
'01A
4 RF
'01A
DET
'01A
FRONT

Model Erla R1-A (1928)


RECT
'81
RECT
'81
DET
'27
4 RF
'26
3 RF
'26
2 RF
'26
1 RF
'26
1 AF
'26
2 AF
'50
'50
FRONT

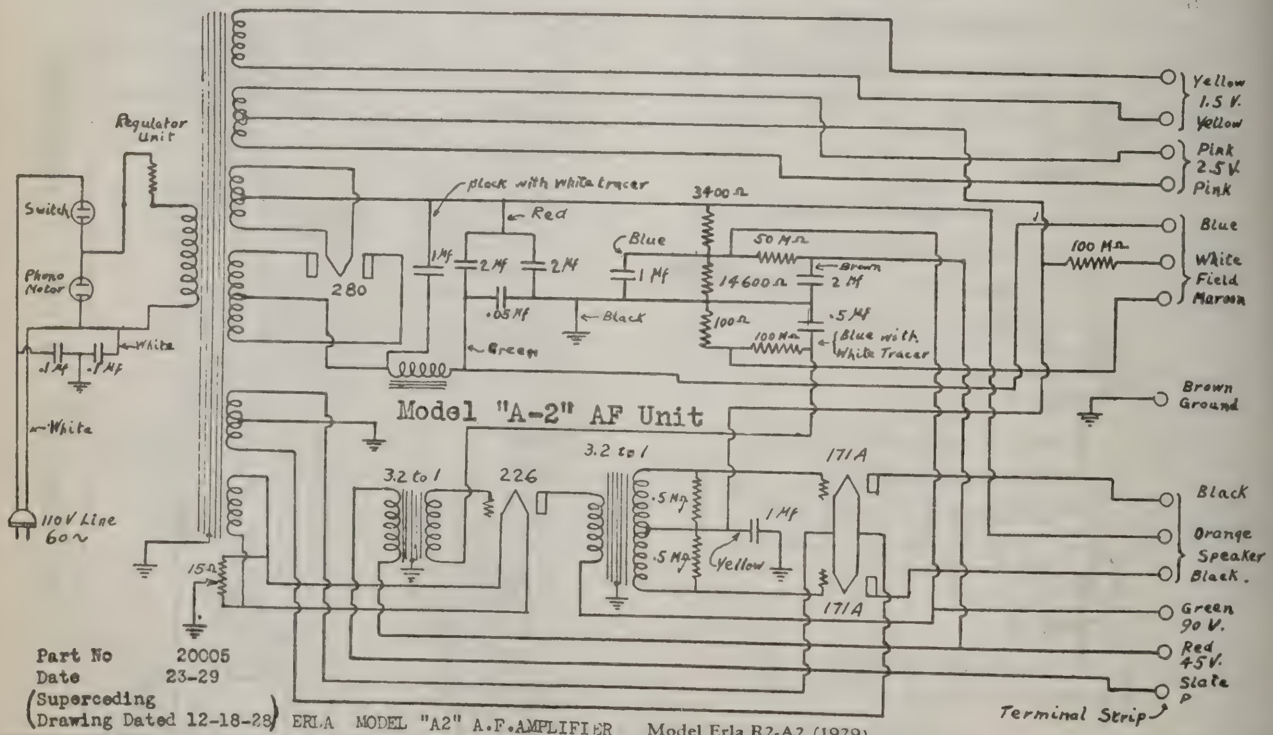
MODEL RF Unit
MODEL AF Unit
Schematic

ELECTRICAL
RESEARCH LABORATORIES, Inc.


Gang Condenser
B+90
.5 Mf
.5 Mf
P.
S.
226
226
226
227
R.F.C.
.00025
.002 Mf
Shielded Lead
10 MΩ
.5 Mf
40 or 60 Ω
.5 Mf
500 Ω
2.5 V.
Switch
1.5 V.
B-
B+45
Pick Up
P. of A.F AMP.

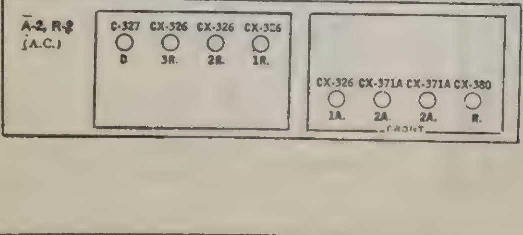
Part No. 20002
Date 2-6-29
(Superceding
Drawing Dated 12-12-28)

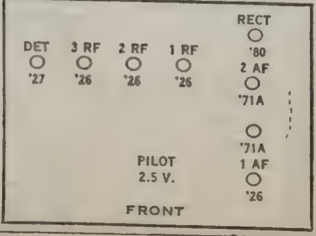
Model "R-2" RF Unit


Regulator Unit
Switch
Phono Motor
White
.1 Mf
.1 Mf
White
110 V Line 60~
Black with White tracer
Red
3400 Ω
Blue
50 MΩ
1 Mf
2 Mf
2 Mf
1 Mf
14600 Ω
Brown
2 Mf
280
.05 Mf
Black
100 Ω
.5 Mf
100 MΩ
Blue with White Tracer
Green
100 MΩ
Yellow
1.5 V.
Yellow
Pink
2.5 V.
Pink
Blue
White
Field
Maroon
Brown
Ground
3.2 to 1
3.2 to 1
226
171A
171A
.5 MΩ
.5 MΩ
1 Mf
Yellow
15 Ω
Black
Orange
Speaker
Black.
Green
90 V.
Red
45 V.
Slate
P
Terminal Strip

Model "A-2" AF Unit

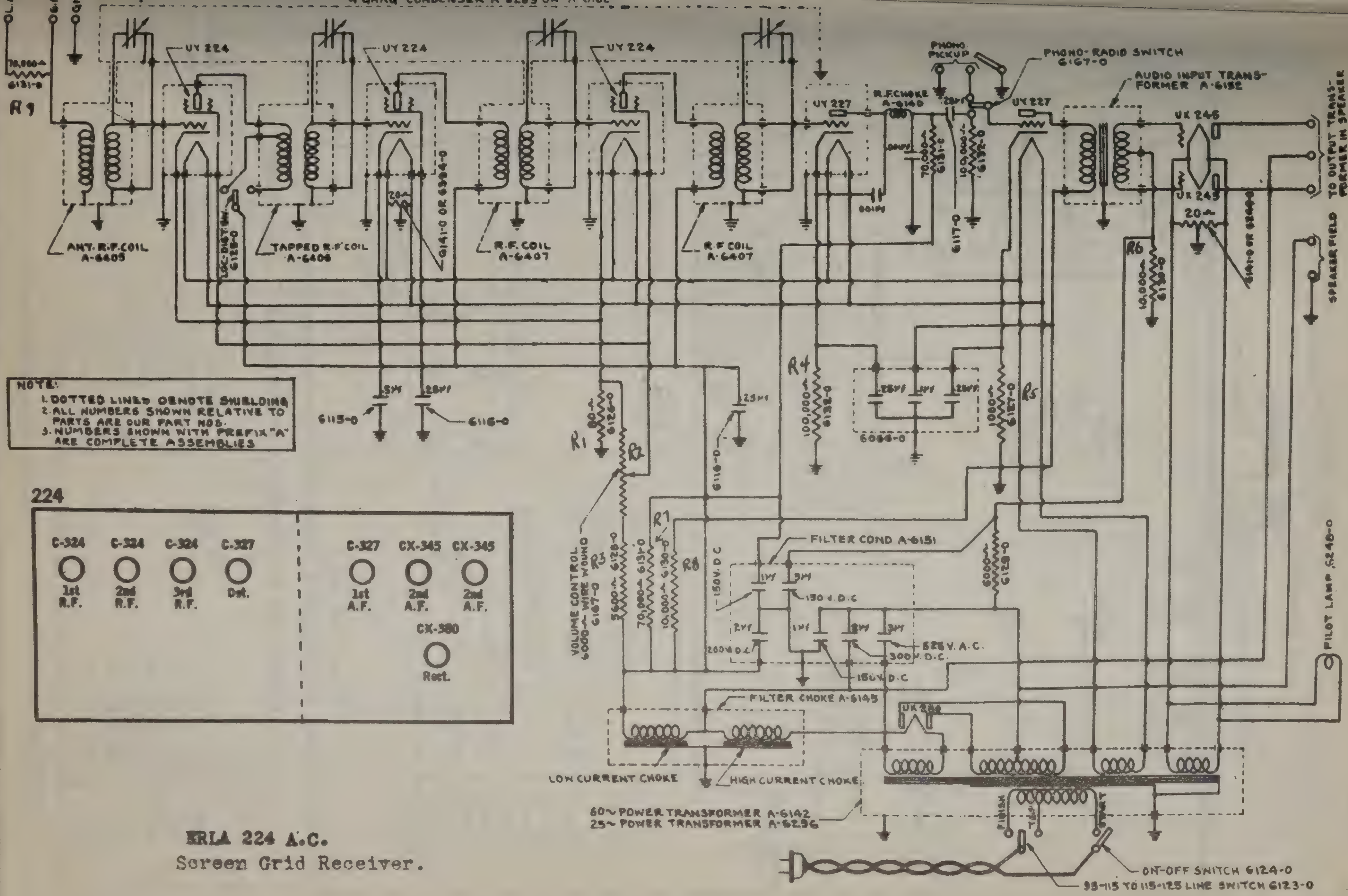
Part No 20005
Date 23-29
(Superceding
Drawing Dated 12-18-28) ERLA MODEL "A2" A.F.AMPLIFIER Model Erla R2-A2 (1929)


A-2, R-2
(A.C.)
C-327
CX-326
CX-326
CX-326
D
3R.
2R.
1R.
CX-326
CX-371A
CX-371A
CX-380
1A.
2A.
2A.
R.
FRONT


RECT
'80
DET
'27
3 RF
'26
2 RF
'26
1 RF
'26
2 AF
'71A
'71A
PILOT
2.5 V.
1 AF
'26
FRONT

ELECTRICAL RESEARCH LABORATORIES, Inc.

MODEL 224 AC
Schematic

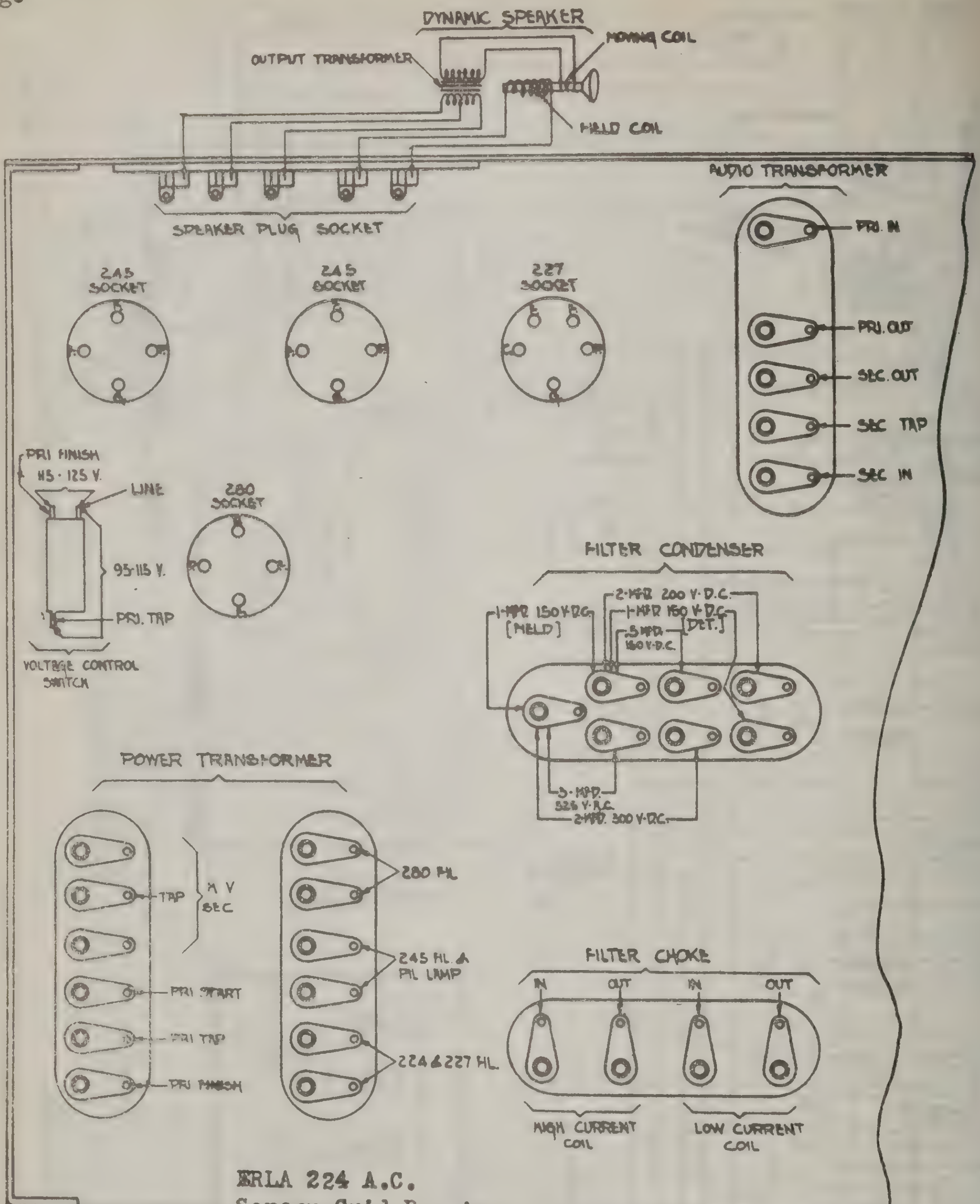

70,000-Ω
6131-0
R9
ANT. R.F. COIL
A-6405
UY 224
LOC.-DIST. SW.
6125-0
TAPPED R.F. COIL
A-6406
UY 224
20-Ω
6141-0 OR 6364-0
R.F. COIL
A-6407
UY 224
R.F. COIL
A-6407
UY 227
R.F. CHOKE
A-6140
.001 MF
70,000-Ω
6131-0
PHONO PICKUP
.25 MF
6117-0
100,000-Ω
6132-0
PHONO-RADIO SWITCH
6167-0
UY 227
AUDIO INPUT TRANSFORMER A-6152
UX 245
UX 245
20-Ω
6141-0 OR 6364-0
TO OUTPUT TRANSFORMER IN SPEAKER
R6
10,000-Ω
6133-0
SPEAKER FIELD
.5 MF
.25 MF
6115-0
6116-0
R1
80-Ω
6126-0
R2
VOLUME CONTROL
6000-Ω WIRE WOUND
6167-0
R3
5600-Ω 6128-0
R7
70,000-Ω 6131-0
10,000-Ω 6130-0
R8
.25 MF
6116-0
R4
100,000-Ω
6132-0
.25 MF
1 MF
.25 MF
6066-0
R5
1000-Ω
6127-0
FILTER COND A-6151
150 V. D.C
1 MF
3 MF
130 V. D.C
2 MF
200 V. D.C
1 MF
3 MF
3 MF
525 V. A.C.
300 V. D.C.
150 V. D.C
6000-Ω
6129-0
FILTER CHOKE A-6145
UX 280
LOW CURRENT CHOKE
HIGH CURRENT CHOKE
60~ POWER TRANSFORMER A-6142
25~ POWER TRANSFORMER A-6296
FINISH
TAP
START
ON-OFF SWITCH 6124-0
95-115 TO 115-125 LINE SWITCH 6123-0
PILOT LAMP 6248-0
224
C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-327
Det.
C-327
1st A.F.
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-380
Rect.

NOTE:
1. DOTTED LINES DENOTE SHIELDING
2. ALL NUMBERS SHOWN RELATIVE TO PARTS ARE OUR PART NOS.
3. NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES

ERLA 224 A.C.
Screen Grid Receiver.

MODEL 224 AC
Chassis
Voltage

ELECTRICAL RESEARCH LABORATORIES, Inc.


DYNAMIC SPEAKER
OUTPUT TRANSFORMER
MOVING COIL
FIELD COIL
SPEAKER PLUG SOCKET
AUDIO TRANSFORMER
PRI. IN
PRI. OUT
SEC. OUT
SEC TAP
SEC IN
245 SOCKET
245 SOCKET
227 SOCKET
280 SOCKET
PRI FINISH
115 - 125 V.
LINE
95-115 V.
PRI. TAP
VOLTAGE CONTROL SWITCH
FILTER CONDENSER
1-MFD 150 V-D.C. [FIELD]
2-MFD 200 V-D.C.
1-MFD 150 V-D.C. [DET.]
.5 MFD. 150 V-D.C.
.5-MFD. 525 V-D.C.
2-MFD. 300 V-D.C.
POWER TRANSFORMER
TAP
H V SEC
PRI START
PRI TAP
PRI FINISH
280 FIL
245 FIL. & PIL LAMP
224 & 227 FIL.
FILTER CHOKE
IN
OUT
IN
OUT
HIGH CURRENT COIL
LOW CURRENT COIL

ERLA 224 A.C.
Screen Grid Receiver.

Details of Power Supply Terminal Connections

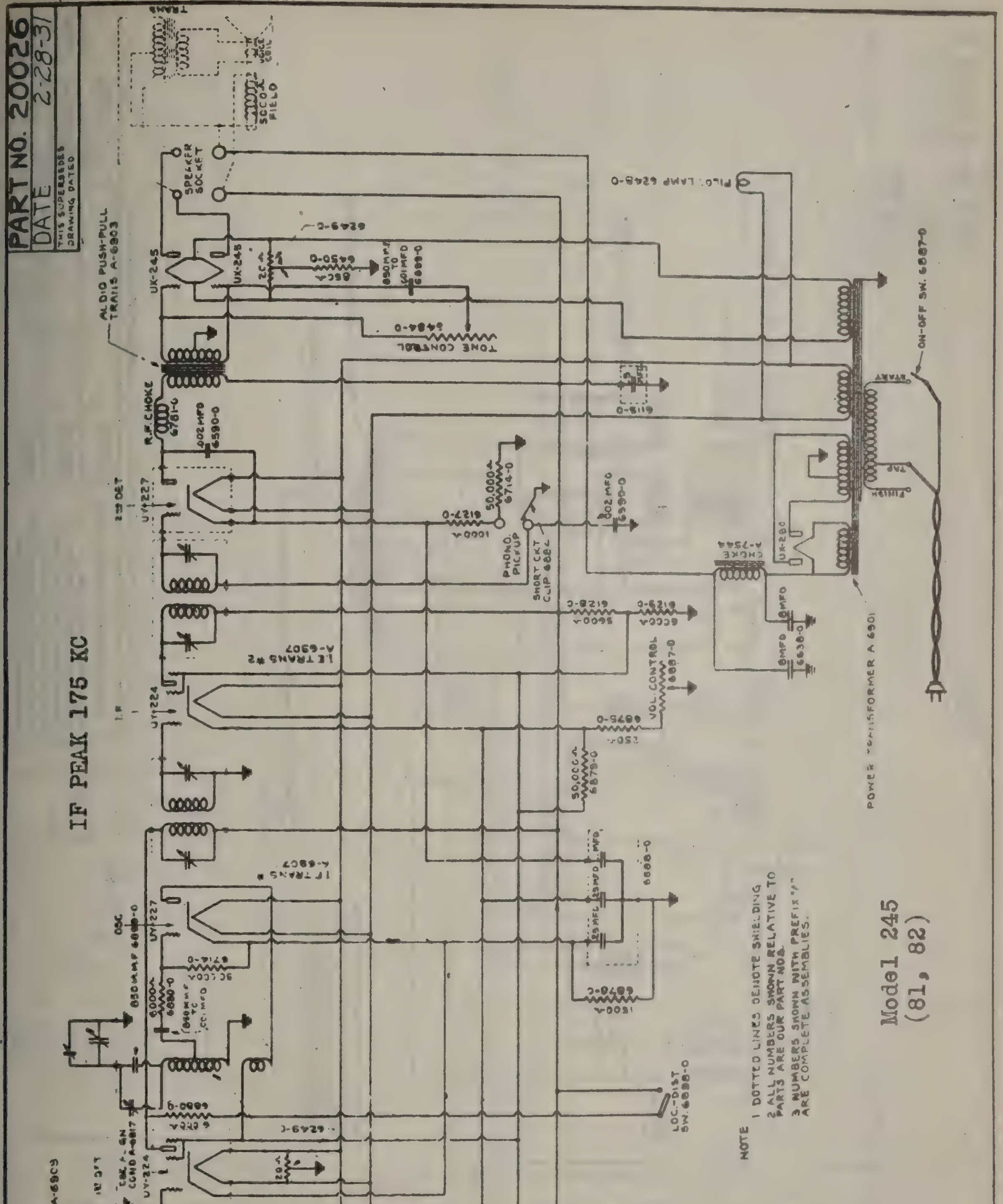
	Tube	Fil.	Screen Grid to cathode	Plate to cathode	Ground to cathode	Grid to Filament
	280	4.8 to 5v AC		340 to 360v DC		
	245	2.4 to 2.5v AC		240 to 250v DC		45 to 50v
Audio	227	2.35 to 2.4v AC		90 to 100v DC	4.5v DC	
DET.	227	2.35 to 2.4v AC		60 to 75v DC	6 to 7.5v DC	
	224	2.35 to 2.4v AC	75 to 80v DC	160 to 170v DC	1.5 to 2v DC	

(The above are based on line voltage of 110 volts and the switch in the 95-115 position.)

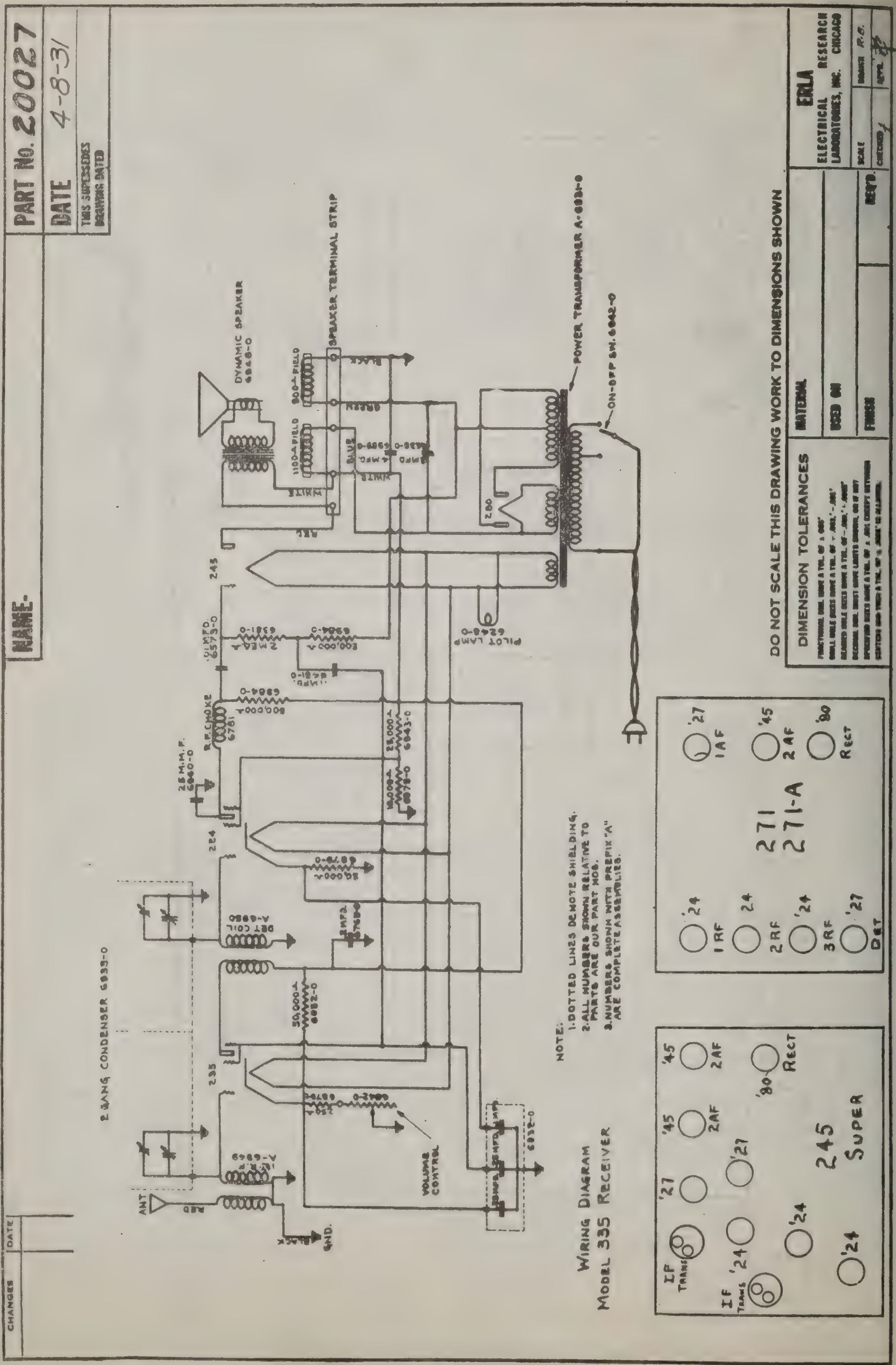
(Volume control set to full volume position.)

ELECTRICAL RESEARCH LABORATORIES, Inc.

MODEL 81, 82 (245)
Schematic


PART NO. 20026
DATE 2-28-31
THIS SUPERSEDES DRAWING DATED
IF PEAK 175 KC
AUDIO PUSH-PULL TRANS A-6903
UX-245
UX-245
SPEAKER SOCKET
SOCOX FIELD
VOICE COIL
PILOT LAMP 6248-0
TONE CONTROL 6484-0
R.F. CHOKE 6781-0
.002 MFD 6590-0
2ND DET UY-227
50,000Ω 6714-0
PHONO PICKUP
SHORT CKT CLIP 6884
1000Ω 6127-0
.002 MFD 6590-0
CHOKE A-7544
UX-280
ON-OFF SW. 6887-0
START
TAP
FINISH
POWER TRANSFORMER A 6901
I.F. TRANS #2 A-6907
UY-224
I.F.
VOL CONTROL 6897-0
250Ω
50,000Ω 6879-0
5600Ω 6128-0
6000Ω 6129-0
I.F. TRANS #1 A-6907
OSC UY-227
6888-0
1500Ω 6897-0
LOC.-DIST SW. 6888-0
3 GANG COND A-6909
UY-224
1ST DET
OSC & 1ST DET COIL A-6915
2 MFD 6765-0
UY-224
R.F.
ANT
GND
NOTE 1 DOTTED LINES DENOTE SHIELDING
2 ALL NUMBERS SHOWN RELATIVE TO PARTS ARE OUR PART NOS.
3 NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES.
Model 245 (81, 82)
Models 81, 82 (245) (1931)
RF '24A
1 DET '24A
IF '24A
OSC '27
2 DET '27
AF '45 '45
RECT '80
PILOT 2.5 V.
FRONT

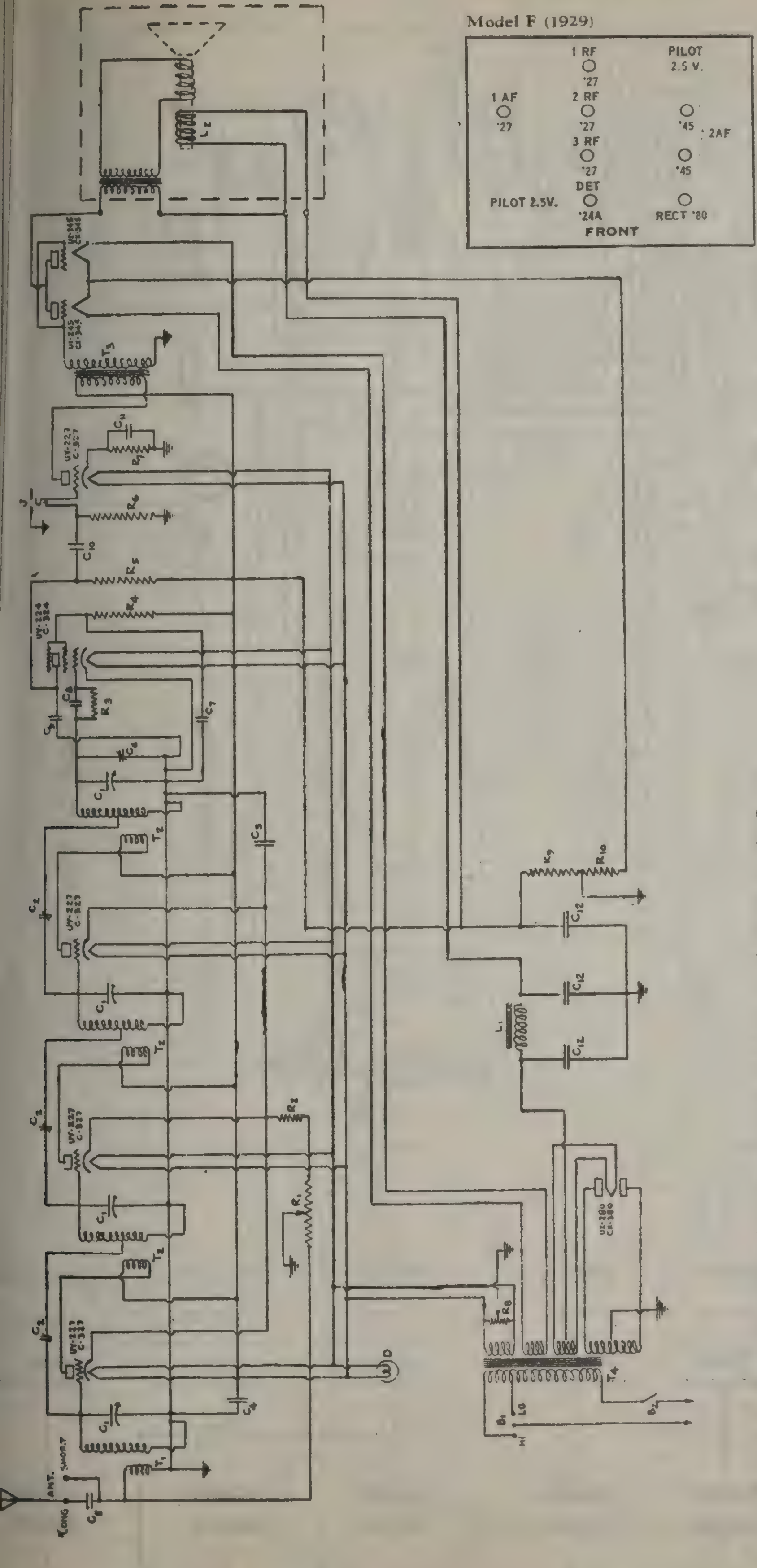
ELECTRICAL
RESEARCH LABORATORIES, Inc.


PART No. 20027
DATE 4-8-31
THIS SUPERSEDES DRAWING DATED
NAME-
CHANGES
DATE
WIRING DIAGRAM
MODEL 335 RECEIVER
NOTE:
1-DOTTED LINES DENOTE SHIELDING.
2-ALL NUMBERS SHOWN RELATIVE TO PARTS ARE OUR PART NOS.
3-NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES.
2 GANG CONDENSER 6833-0
ANT.
RED
BLACK
GND.
VOLUME CONTROL
235
DET COIL A-6880
50,000Ω 6882-0
224
25 M.M.F. 6860-0
R.F. CHOKE 6781
500,000Ω 6884-0
25,000Ω 6843-0
10,000Ω 6878-0
.1 MFD. 6581-0
2 MEG Ω 6381-0
500,000Ω 6884-0
.01 MFD. 6573-0
245
PILOT LAMP 6248-0
280
DYNAMIC SPEAKER 6848-0
1100 Ω FIELD
800 Ω FIELD
WHITE
BLUE
GREEN
BLACK
4 MFD.
8 MFD.
SPEAKER TERMINAL STRIP
POWER TRANSFORMER A-6831-0
ON-OFF SW. 6842-0
DO NOT SCALE THIS DRAWING WORK TO DIMENSIONS SHOWN
DIMENSION TOLERANCES
MATERIAL
USED ON
FINISH
REQ'D.
ERLA
ELECTRICAL RESEARCH LABORATORIES, INC. CHICAGO
SCALE
DRAWN R.S.
CHECKED
APPD.
'24 1 RF
'24 2 RF
'24 3 RF
'27 DET
'27 1 AF
'45 2 AF
'80 RECT
271
271-A
IF TRANS
'24
'27
'45
2AF
'80
RECT
245
SUPER

MODEL F
Schematic
Data

EMERSON RADIO AND PHONOGRAPH CORPORATION

Model F (1929)


1 RF
'27
PILOT
2.5 V.
1 AF
'27
2 RF
'27
'45
2AF
3 RF
'27
'45
DET
PILOT 2.5V.
'24A
RECT '80
FRONT

L2
UX-245 CX-345
UX-245 CX-345
T3
UY-227 C-327
C11
R7
J
R6
C10
R5
UY-224 C-324
R4
C8
R3
C9
C7
C6
C1
T2
C3
C2
UY-227 C-327
C1
T2
R9
R10
C12
C12
L1
C12
C2
UY-227 C-327
R2
C1
T2
R1
UX-280 CX-380
R8
C2
UY-227 C-327
D
C4
C1
T1
T4
B1
LO
HI
B2
ANT.
SHORT
LONG
C5

Model "F"

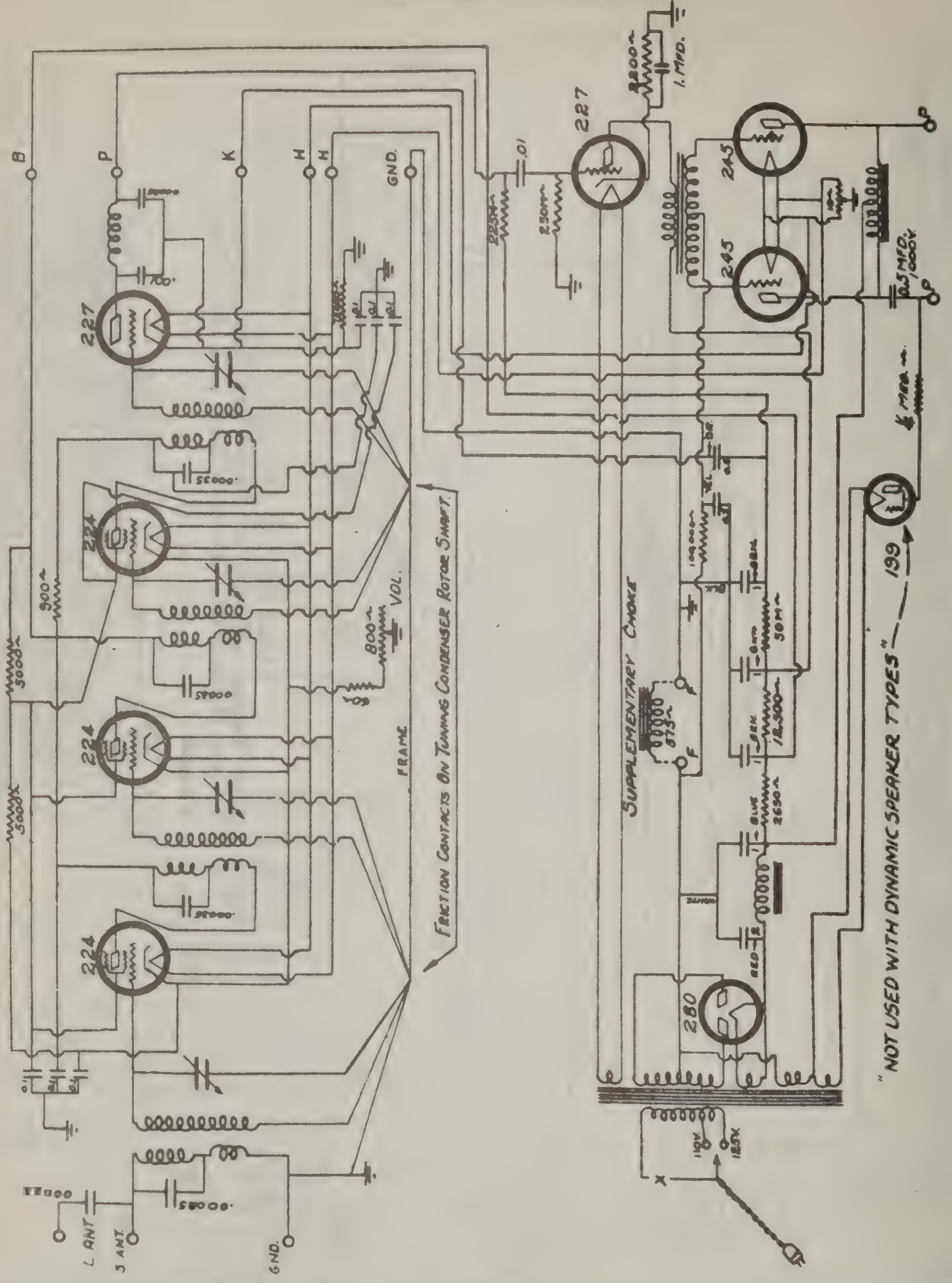
Line Voltage 115—Set on High Volt Tap—Volume Control Position Full On *Last Stage Is 2 No. 245 in Parallel

			TUBE OUT		READINGS PLUG IN SOCKET OF SET							
					TUBE IN TESTER							
TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET. ETC. ③	A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	227	1st RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
2	227	2nd RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
3	227	3rd RF	2.4	119	2.3	115	7	7	3.8	4.6	.8	-
4	224	Det.	2.4	50	2.3	50	0.8	-	0.7	0.7	-	5.
5	227	1st A	2.4	188	2.3	100	8.5	8.5	6.2	7.5	1.3	-
6	245	2nd A*	5.2	220	2.4	175	31	-	24.	58	4.	-
7	245	2nd A*	5.2	220	2.4	175	31	-	24.	28	4	-
8	280	Rect.	-	-	4.75	-	-	-	80.	-	-	-
9												
10												

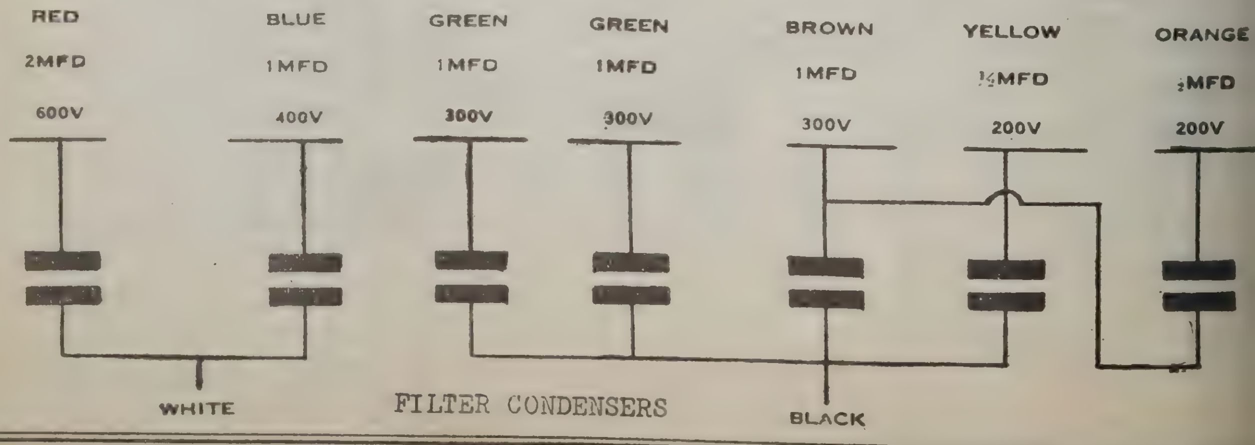
C_1	Tuning Condenser.
C_2	Neutralizing Condenser.
C_3	R.F. Grid Bias Condenser .25 MF.
C_4	R.F. Plate By-Pass Condenser .25 MF.
C_5	Antenna Condenser .00025 MF.
C_6	Det. Padding Condenser.
C_7	Det. Screen Grid Bias Condenser .25 MF.
C_8	Det. Control Grid Condenser .0001 MF.
C_9	Det. Plate Condenser .0005 MF.
C_{10}	1st Audio Coupling Condenser 0.1 MF.
C_{11}	1st Audio Grid Condenser 0.5 MF.
C_{12}	Filter Condensers 8.0 MF Each.
L_1	Filter Choke.
L_2	Speaker Field 2500 Ohms.
J	Phonograph Jack.
D	Dial Lamp.
R_1	Volume Control 15,000 Ohms.
R_2	R.F. Grid Bias Resistance 620 Ohms.
R_3	Det. Control Grid Resistance .5 Megohm.
R_4	Det. Screen Grid Resistance .5 Megohm.
R_5	1st Audio Coupling Resistance .1 Megohm.
R_6	1st Audio Grid Resistance .5 Megohm.
R_7	1st Audio Grid Bias Resistance 1750 Ohms.
R_8	Hum Control 20 Ohms.
R_9	Loss Current Resistance 4500 Ohms.
R_{10}	245 Grid Bias Resistance 650 Ohms.
T_1	Antenna Transformer.
T_2	R.F. Inter stage Transformer.
T_3	Input Audio Transformer.
T_4	Power Transformer.
B_1	Hi-Lo S.P.D.T. Toggle Switch.
B_2	S.P.S.T. Toggle Switch.

MODEL 65
Schematic

EMERSON RADIO AND PHONOGRAPH CORPORATION


B
P
K
H
H
GND.
227
224
224
224
.01
225M
250M
227
2000
1.MFD.
245
245
.5 MFD. 1000V
199
"NOT USED WITH DYNAMIC SPEAKER TYPES"
4 MEG.
280
SUPPLEMENTARY CHOKE
FRICTION CONTACTS ON TUNING CONDENSER ROTOR SHAFT.
FRAME
VOL.
800
900
3000
3000
58000
58000
58000
58000
30M
12,500
2650
110V
125V
X
L ANT
S ANT.
GND.

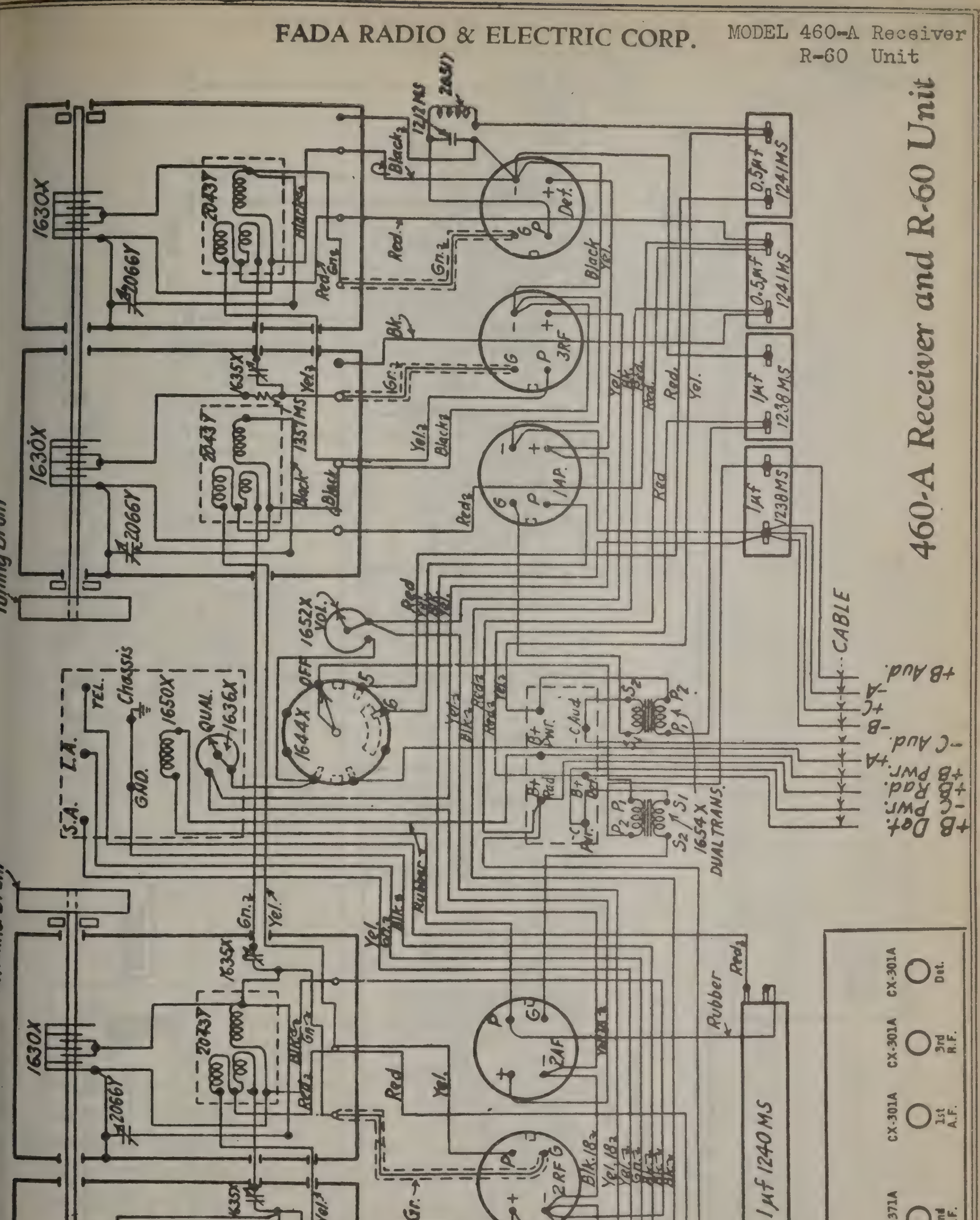
Voltage Data On Next Page


RED
2MFD
600V
BLUE
1MFD
400V
GREEN
1MFD
300V
GREEN
1MFD
300V
BROWN
1MFD
300V
YELLOW
½MFD
200V
ORANGE
½MFD
200V
WHITE
BLACK

FILTER CONDENSERS

FADA RADIO & ELECTRIC CORP.

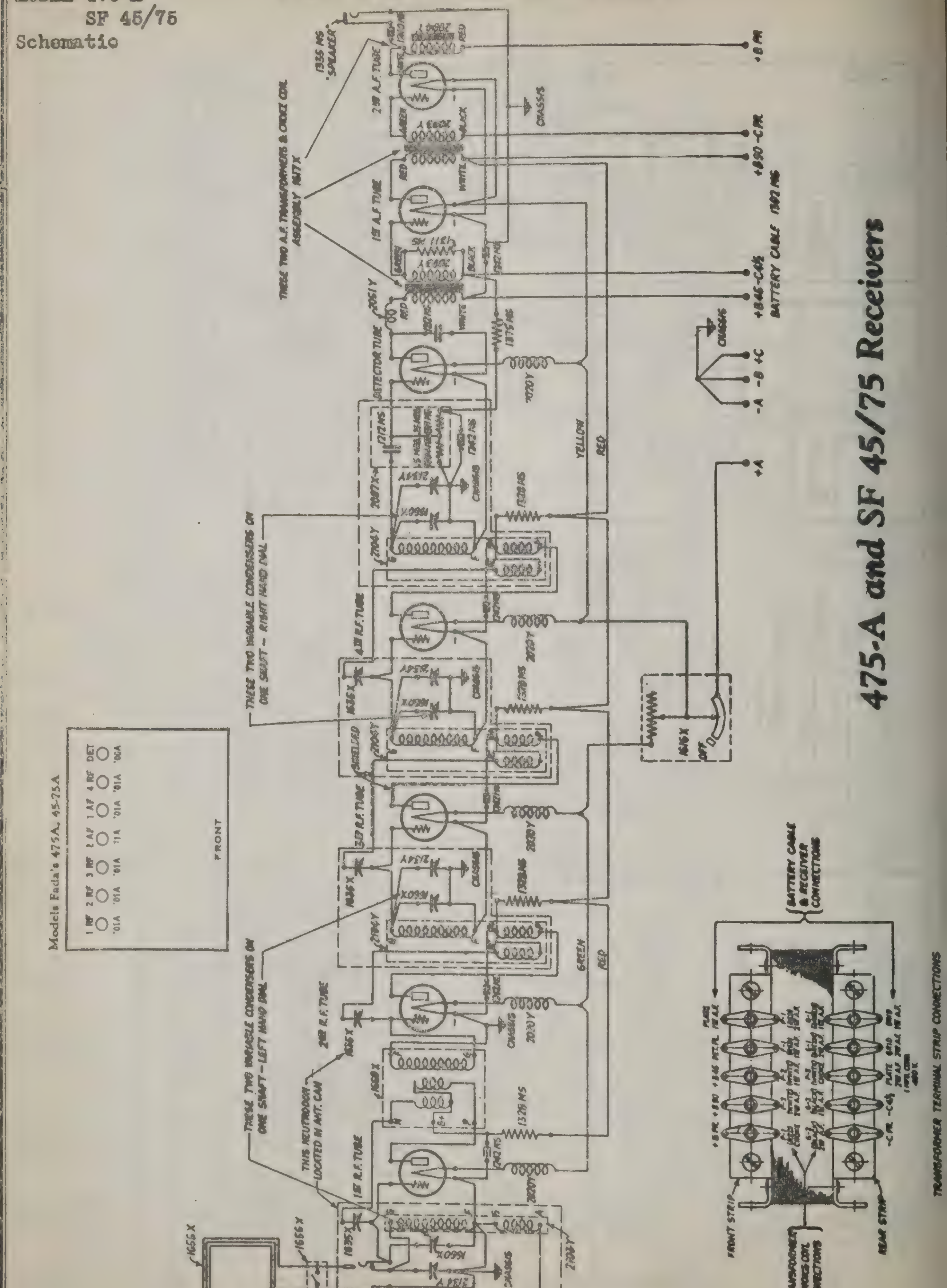
MODEL 460-A Receiver
R-60 Unit


1630X
2066Y
2043Y
Black
Red
Gn.
Tuning Drum
135X
1351MS
Yel.
1212MS
2051Y
Det.
3RF
1AP.
0.5μf 1241MS
1μf 1238MS
Black
Yel.
Bk.
Red.
1652X VOL.
1644X
OFF
Chassis
Yel.
T.A.
S.A.
GND.
1650X
QUAL.
1636X
B+ Pwr.
-C Aud.
B+ Rad.
B+ Det.
-C Pwr.
1654X DUAL TRANS.
CABLE
+B Aud.
-A
+C
-B
-C Aud.
+A
+B Pwr.
+B Rad.
-C Pwr.
+B Det.
Antenna Drum
Gn.
Yel.
Rubber
2AF
2RF
1RF
Gr.
Blk.
Rubber
1μf 1240MS
0.5μf 1241MS
134MS
2052Y
CX-301A 1st R.F.
CX-301A 2nd R.F.
CX-371A 2nd A.F.
CX-301A 1st A.F.
CX-301A 3rd R.F.
CX-301A Det.

460-A Receiver and R-60 Unit

MODEL 475-A
SF 45/75
Schematic

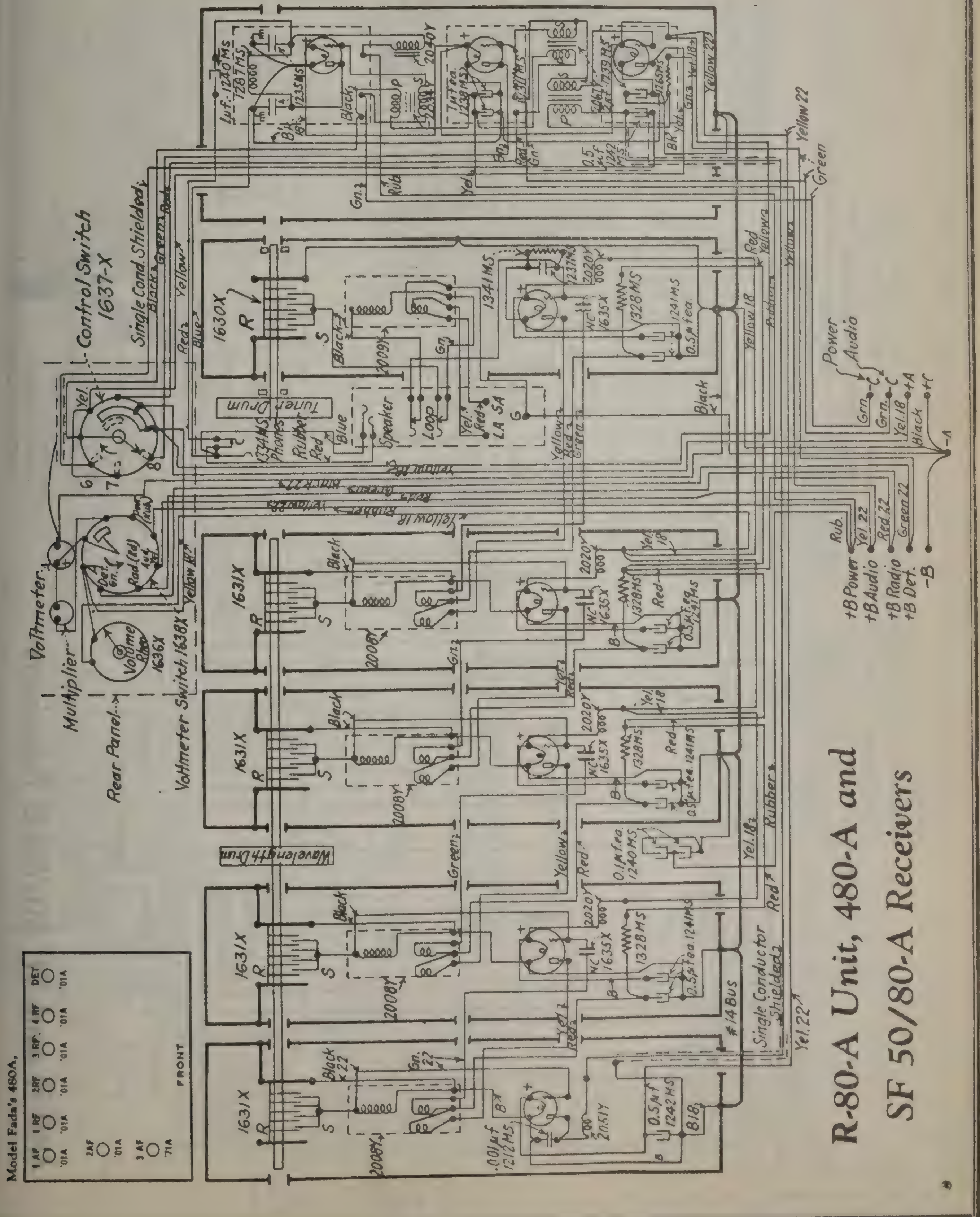
FADA RADIO & ELECTRIC CORP


Models Fada's 475A, 45-75A
1 RF 2 RF 3 RF 2 AF 1 AF 4 RF DET
'01A '01A '01A '71A '01A '01A '00A
FRONT
1355 MS "SPEAKER"
THESE TWO A.F. TRANSFORMERS & CHOKE COIL ASSEMBLY 1617 X
2ND A.F. TUBE
1ST A.F. TUBE
DETECTOR TUBE
4TH R.F. TUBE
3RD R.F. TUBE
2ND R.F. TUBE
1ST R.F. TUBE
THESE TWO VARIABLE CONDENSERS ON ONE SHAFT – RIGHT HAND DIAL
THESE TWO VARIABLE CONDENSERS ON ONE SHAFT – LEFT HAND DIAL
THIS NEUTRODON LOCATED IN ANT. CAN
SHIELDED
CHASSIS
RED
WHITE
GREEN
BLACK
YELLOW
1616 X
OFF
ANT.
GND.
1655 X
1656 X
+B PR.
-C PR.
+B90
+B45 -C4½
BATTERY CABLE 1362 MS
+A
-A -B +C
BATTERY CABLE & RECEIVER CONNECTIONS
TRANSFORMER & CHOKE COIL CONNECTIONS
FRONT STRIP
REAR STRIP
TRANSFORMER TERMINAL STRIP CONNECTIONS

475-A and SF 45/75 Receivers

FADA RADIO & ELECTRIC CORP.

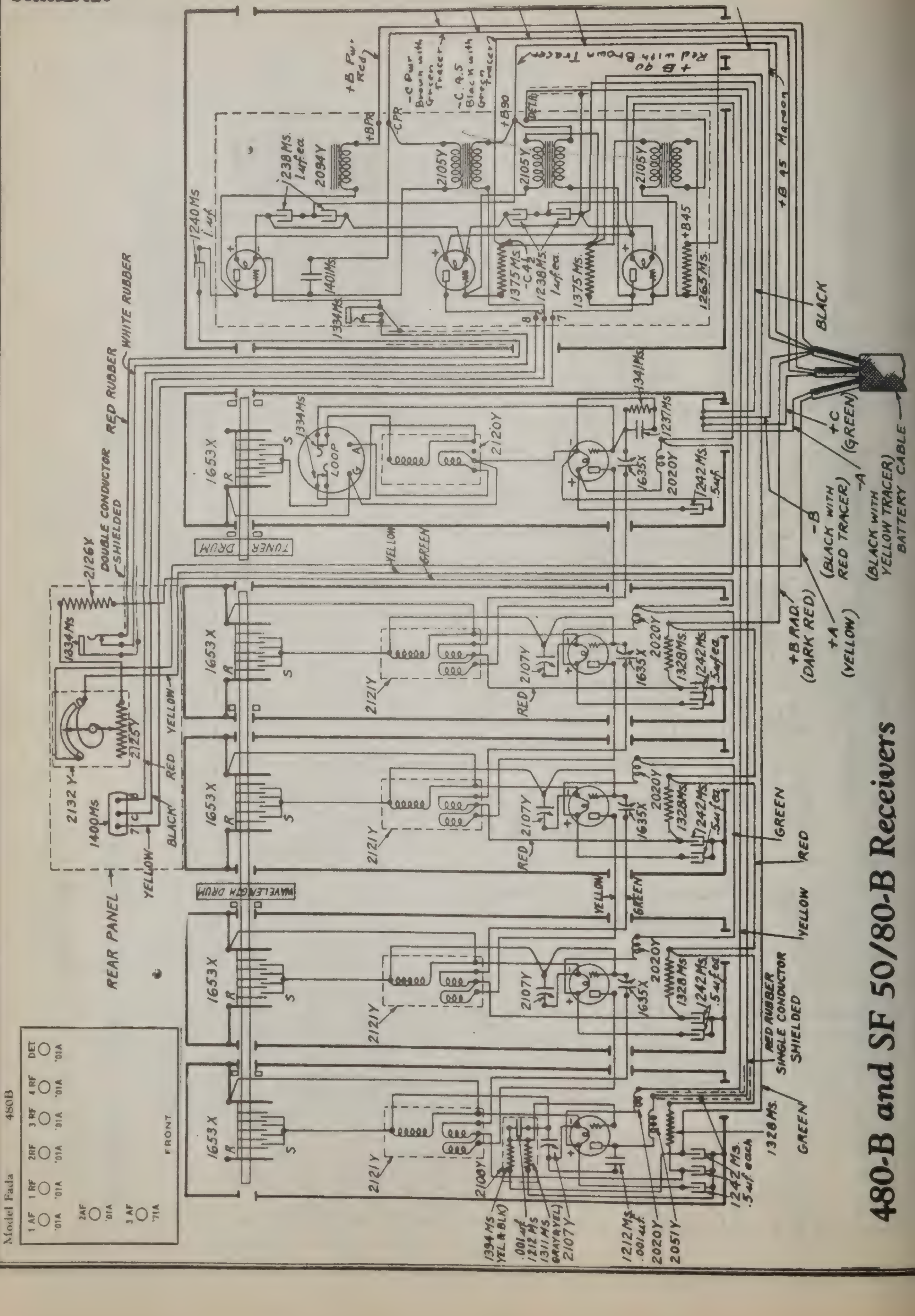
MODEL R-80-A Unit
480-A
SF 50/80-A
Schematic


Control Switch 1637-X
Single Cond. Shielded
Voltmeter
Multiplier
Rear Panel
Volume Rheo.
1636X
Voltmeter Switch 1638X
1630X
1631X
Tuner Drum
Wavelength Drum
Phones
Speaker
Loop
LA SA
G
2020Y
2009Y
2008Y
1635X
1328MS
1241MS
1240MS
1242MS
1341MS
1212MS
2051Y
2040Y
#14 Bus
Single Conductor Shielded
Power
Audio
Grn.
Yel. 18
Black
+A
-A
+C
Rub.
Yel. 22
Red 22
Green 22
+B Power
+B Audio
+B Radio
+B Det.
-B
Model Fada's 480A.
1 AF
1 RF
2 RF
3 RF
4 RF
DET
'01A
2 AF
3 AF
'71A
FRONT

R-80-A Unit, 480-A and SF 50/80-A Receivers

MODEL 480-B
SF 50/80-B
Schematic

FADA RADIO & ELECTRIC CORP.


+B Pwr. Red
-C Pwr. Brown with Green Tracer
-C 4.5 Black with Green Tracer
Red with Brown Tracer +B 90
+BPR
-CPR
+B90
DET.A
+B 45 Maroon
+B45
1238 MS. 1 uf ea.
2094Y
2105Y
1240 MS 1 uf
1401 MS
1334 MS
1375 MS. -C 4.5
1238 MS. 1 uf ea.
1375 MS.
1263 MS.
BLACK
WHITE RUBBER
RED RUBBER
DOUBLE CONDUCTOR SHIELDED
2126Y
1334 MS
1653X
LOOP
2120Y
1341 MS
1237 MS
1635X
2020Y
1242 MS. .5 uf.
TUNER DRUM
YELLOW
GREEN
+C (GREEN)
-A
-B (BLACK WITH RED TRACER)
(BLACK WITH YELLOW TRACER) BATTERY CABLE
+B RAD. (DARK RED)
+A (YELLOW)
2125Y
2132Y
1400 MS
RED
YELLOW
BLACK
2121Y
2107Y
1328 MS.
1242 MS. .5 uf ea.
WAVELENGTH DRUM
REAR PANEL
GREEN
RED
YELLOW
RED RUBBER SINGLE CONDUCTOR SHIELDED
1394 MS. YEL & BLK
.001 uf
1212 MS
1311 MS GRAY & YEL
2107Y
2108Y
1212 MS .001 uf
2020Y
2051Y
1328 MS.
1242 MS. .5 uf each
Model Fada 480B
1 AF '01A
1 RF '01A
2RF '01A
3 RF '01A
4 RF '01A
DET '01A
2AF '01A
3 AF '71A
FRONT
S
R

480-B and SF 50/80-B Receivers

FADA RADIO & ELECTRIC CORP.

MODEL 475UA
472UA
475CA
472CA

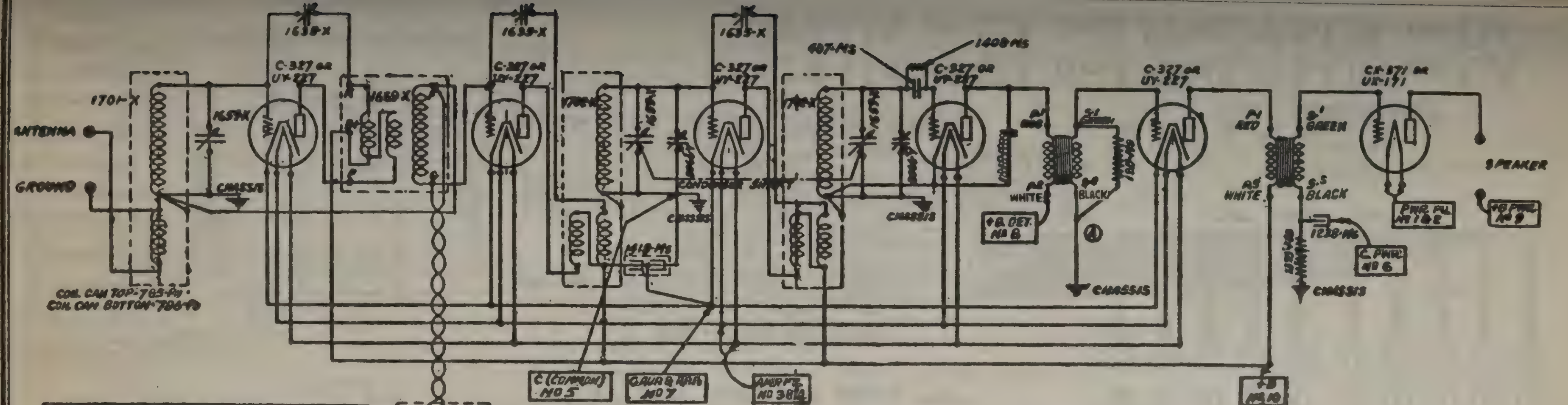
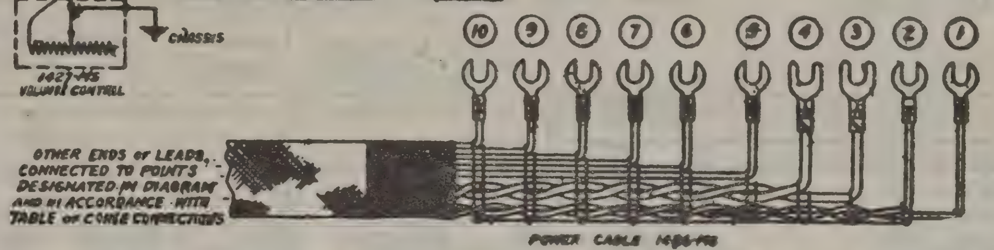

ANTENNA
GROUND
1701-X
1659-X
1639-X
1639-X
1639-X
1660-X
C-327 OR UX-227
C-327 OR UX-227
C-327 OR UX-227
C-327 OR UX-227
C-327 OR UY-227
CX-371 OR UX-171
CHASSIS
COIL CAN TOP-765-PN
COIL CAN BOTTON-766-PN
CONDENSER SHAFT
1412-MS
407-MS
1408-MS
P1 RED
P2 WHITE
S1 GREEN
S2 BLACK
+B. DET. No 8
1238-MS
P1 RED
P2 WHITE
S1 GREEN
S.S BLACK
C. PWR. No 6
PWR. FIL. No 1 & 2
+B PWR. No 9
SPEAKER
C (COMMON) No 5
GAUR & RAR No 7
AMP FIL. No 3 & 4
+B No 10

TABLE OF CABLE CONNECTIONS		
No		COLOR
1	PWR. FIL.	BLACK } LIGHT TWISTED
2	PWR. FIL.	BLACK }
3	AMP. FIL.	BLACK }
4	AMP. FIL.	BLACK } HEAVY TWISTED
5	C (COMMON)	GREEN
6	C PWR.	BROWN WITH WIDE GREEN TRACER
7	C AMP & RAD	BLACK WITH WIDE GREEN TRACER
8	+B DET.	MAROON
9	+B PWR.	RED
10	+B	RED WITH WIDE BLACK TRACER


CHASSIS
1427-MS
VOLUME CONTROL
10
9
8
7
6
5
4
3
2
1
OTHER ENDS OF LEADS, CONNECTED TO POINTS DESIGNATED IN DIAGRAM AND IN ACCORDANCE WITH TABLE OF CABLE CONNECTIONS

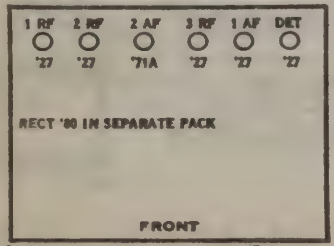
POWER CABLE 1486-MS

"Special" A.C. Receiver 265-UA or CA and RP-65-UA or CA
262-UA or CA and RP-62-UA or CA

For Power Unit See Model "C"

1212-Ms	Condenser - Detector filter - .001 mfd
1238-Ms	Condenser - By-pass - 1.0 mfd - 200 Volts (small)
1242-Ms	Condenser - By-pass - 0.5 mfd - 200 Volts (small)
1311-Ms	Resistance - carbon - 250,000 ohms (yellow)
1375-Ms	Resistance - carbon - 125,000 ohms (grey)
1407-Ms	Grid Condenser - .000125 mfd
1408-Ms	Grid Leak - 2 meg
1418-Ms	Condenser - By-pass - 0.25 - 0.25 mfd 200-400V.
1341-Ms	Resistance - carbon (green) 20,000 ohms
1410-Ms	Main filter condenser block - 10½ mfd
1414-Ms	Resistance - W.W. (yellow & white) - 250 ohms
1415-Ms	Resistance - W.W. (green & white) 2,000 ohms
1416-Ms	Resistance - W.W. (white & white) 3,000 ohms
1417-Ms	Resistance - carbon (blue) - 50,000 ohms
1419-Ms	Condenser (line buffer) - 0.5 mfd - 400 volts

Model Fada's 262UA, 265UA, 262CA, 265CA

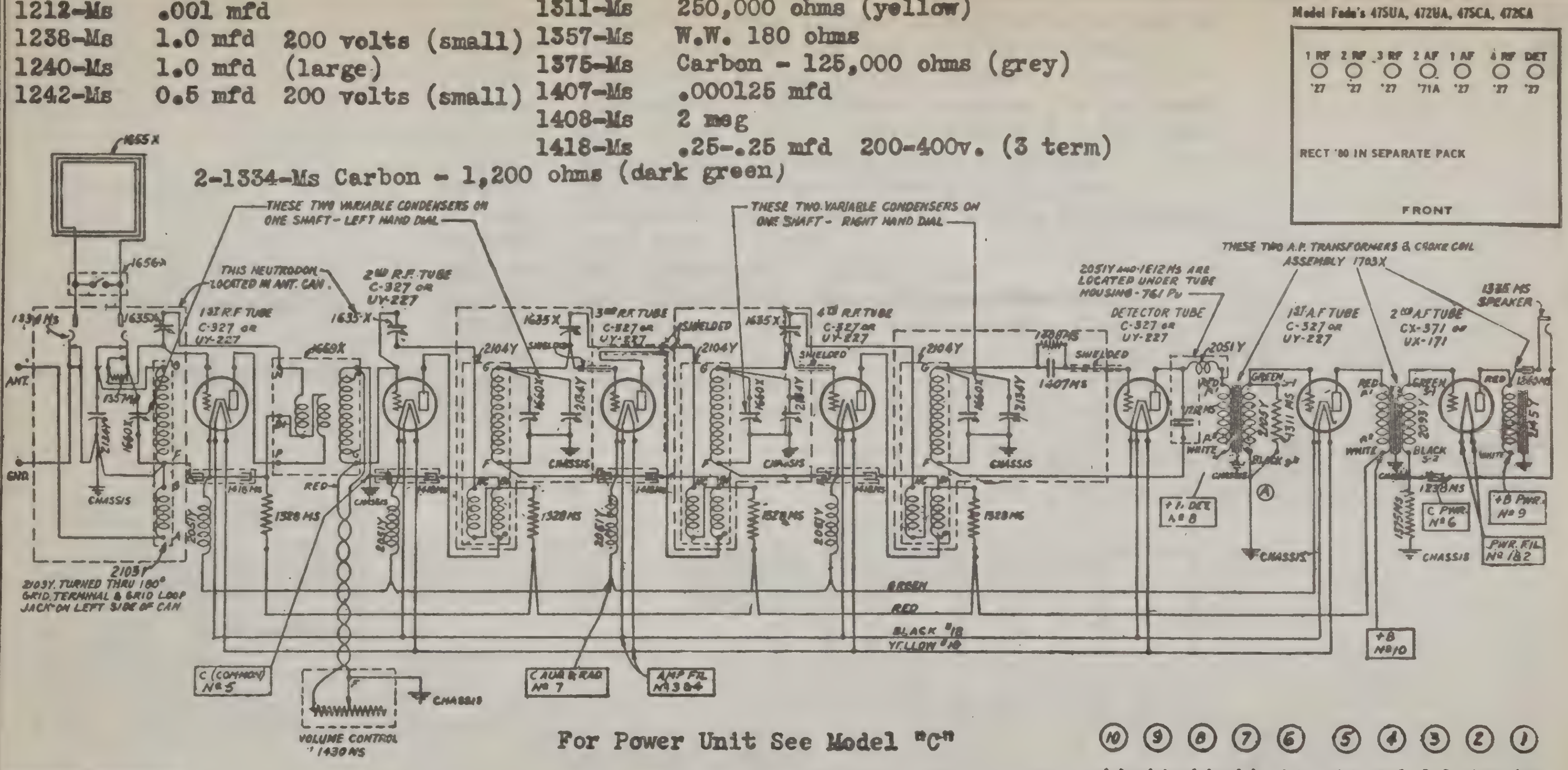

1 RF
2 RF
2 AF
3 RF
1 AF
DET
'27
'27
'71A
'27
'27
'27
RECT '80 IN SEPARATE PACK
FRONT

MODEL 262UA, 262CA
265UA, 265CA

FADA RADIO & ELECTRIC CORP.

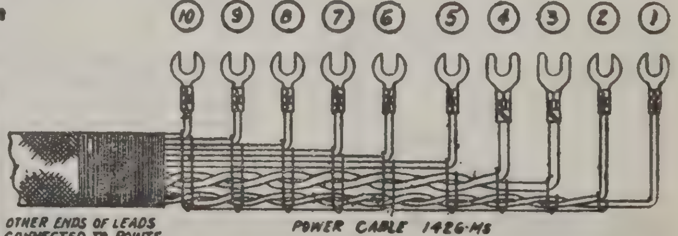
1212-Ms	.001 mfd	
1238-Ms	1.0 mfd	200 volts (small)
1240-Ms	1.0 mfd	(large)
1242-Ms	0.5 mfd	200 volts (small)
1311-Ms	250,000 ohms (yellow)	
1357-Ms	W.W. 180 ohms	
1375-Ms	Carbon - 125,000 ohms (grey)	
1407-Ms	.000125 mfd	
1408-Ms	2 meg	
1418-Ms	.25-.25 mfd	200-400v. (3 term)

2-1334-Ms Carbon - 1,200 ohms (dark green)

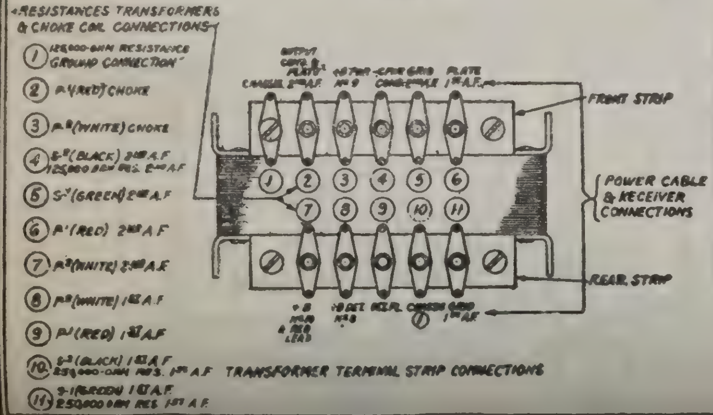

Model Fada's 475UA, 472UA, 475CA, 472CA
1 RF '27
2 RF '27
3 RF '27
2 AF '71A
1 AF '27
4 RF '27
DET '27
RECT '80 IN SEPARATE PACK
FRONT
1655X
1656A
1635X
1336 MS
ANT.
GND.
CHASSIS
1357MS
1660X
2134Y
2103Y
2103Y. TURNED THRU 180° GRID, TERMINAL & GRID LOOP JACK ON LEFT SIDE OF CAN
THESE TWO VARIABLE CONDENSERS ON ONE SHAFT - LEFT HAND DIAL
THIS NEUTRODON LOCATED IN ANT. CAN.
1ST R.F. TUBE C-327 OR UY-227
2ND R.F. TUBE C-327 OR UY-227
3RD R.F. TUBE C-327 OR UY-227
4TH R.F. TUBE C-327 OR UY-227
1660X
1635X
2104Y
2051Y
SHIELDED
1418 MS
1328 MS
RED
C (COMMON) Nº 5
VOLUME CONTROL 1430 MS
C AUD & RAD Nº 7
AMP FIL Nº 3 & 4
THESE TWO VARIABLE CONDENSERS ON ONE SHAFT - RIGHT HAND DIAL
GREEN
RED
BLACK #18
YELLOW #18
1308 MS
1407 MS
2051Y AND 1212 MS ARE LOCATED UNDER TUBE HOUSING - 761 Pu
DETECTOR TUBE C-327 OR UY-227
1ST A.F. TUBE C-327 OR UY-227
2ND A.F. TUBE CX-371 OR UX-171
THESE TWO A.F. TRANSFORMERS & CHOKE COIL ASSEMBLY 1703X
1335 MS SPEAKER
+ 1. DET Nº 8
+B Nº 10
C PWR Nº 6
+B PWR. Nº 9
PWR. FIL Nº 1 & 2
1311 MS
1375 MS
1238 MS
1360 MS
1243
2093Y
WHITE
BLACK
GREEN
Ⓐ

For Power Unit See Model "C"

TABLE OF CABLE CONNECTIONS		
NR		COLOR
1	PWR. FIL.	BLACK } LIGHT TWISTED
2	PWR. FIL.	BLACK }
3	AMP. FIL	BLACK }
4	AMP. FIL	BLACK } HEAVY TWISTED
5	C (COMMON)	GREEN
6	C PWR.	BROWN WITH WIDE GREEN TRACER
7	C AUD & RAD	BLACK WITH WIDE GREEN TRACER
8	+B DET.	MAROON
9	+B PWR.	RED.
10	+B	RED WITH WIDE BLACK TRACER


⑩
⑨
⑧
⑦
⑥
⑤
④
③
②
①
POWER CABLE 1426-MS

OTHER ENDS OF LEADS CONNECTED TO POINTS DESIGNATED IN DIAGRAM AND IN ACCORDANCE WITH TABLE OF CABLE CONNECTIONS

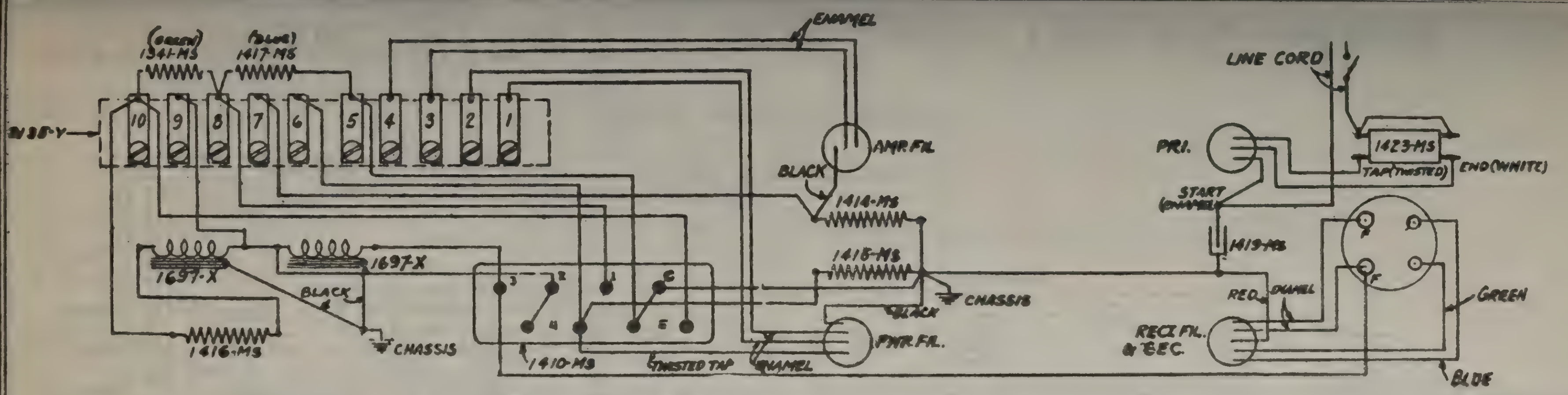

RESISTANCES TRANSFORMERS & CHOKE COIL CONNECTIONS
① 125,000-OHM RESISTANCE GROUND CONNECTION
② P¹(RED) CHOKE
③ P²(WHITE) CHOKE
④ S²(BLACK) 2ND A.F 125,000 OHM RES. 2ND A.F
⑤ S¹(GREEN) 2ND A.F
⑥ P¹(RED) 2ND A.F
⑦ P²(WHITE) 2ND A.F
⑧ P²(WHITE) 1ST A.F
⑨ P¹(RED) 1ST A.F
⑩ S²(BLACK) 1ST A.F 250,000-OHM RES. 1ST A.F
⑪ S¹(GREEN) 1ST A.F 250,000 OHM RES 1ST A.F
CHASSIS
OUTPUT COND. & PLATE 2ND A.F
+B PWR Nº 9
C PWR GRID COND. & PLATE
PLATE 1ST A.F.
FRONT STRIP
POWER CABLE & RECEIVER CONNECTIONS
REAR STRIP
+B NºO & RED LEAD
+B DET. Nº8
RES. PL.
CHOKE
GRID 1ST A.F
TRANSFORMER TERMINAL STRIP CONNECTIONS

"7" AC Receiver

475-UA or CA and SF45/75-UA or CA
472-UA or CA and SF45/72-UA or CA

FADA RADIO & ELECTRIC CORP.

MODEL "C"
Electric Unit

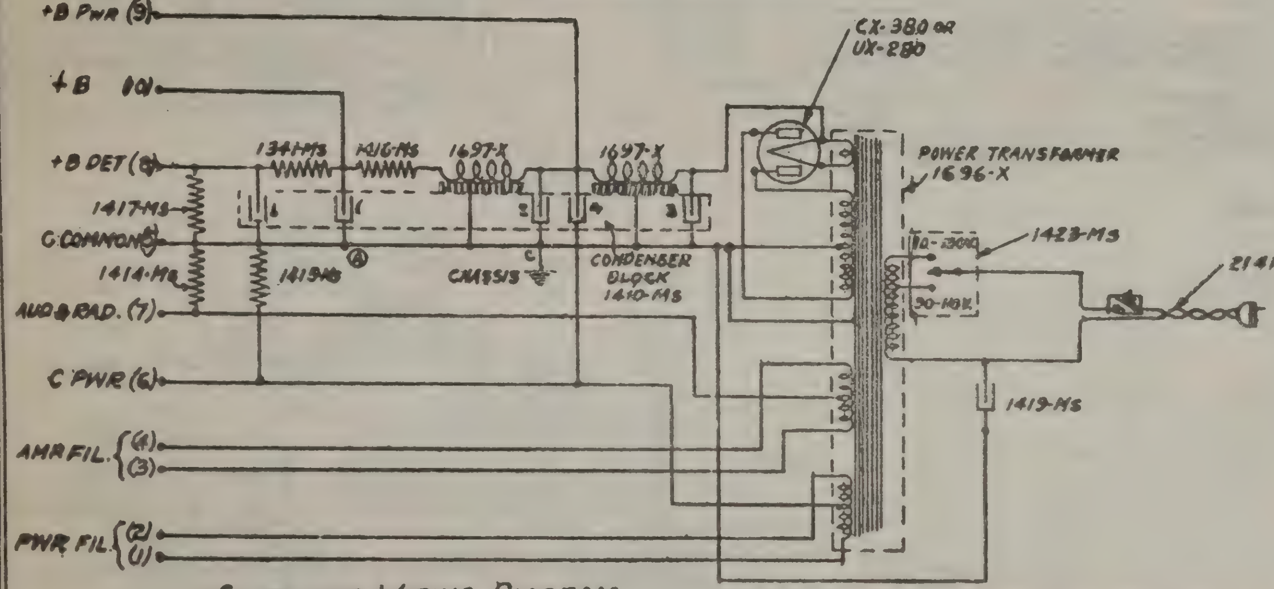

(GREEN) 1341-MS
(BLUE) 1417-MS
ENAMEL
LINE CORD
2138-Y
10
9
8
7
6
5
4
3
2
1
AMP. FIL.
BLACK
1414-MS
1423-MS
PRI.
TAP (TWISTED)
END (WHITE)
START (ENAMEL)
1419-MS
1697-X
1697-X
BLACK
1415-MS
CHASSIS
BLACK
RED
ENAMEL
GREEN
RECT. FIL. & SEC.
PWR. FIL.
1416-MS
CHASSIS
1410-MS
TWISTED TAP
ENAMEL
BLUE

ACTUAL WIRING DIAGRAM

TABLE OF CABLE CONNECTIONS

1, 2 } POWER FILAMENT
3, 4 } AMP. FILAMENT
5- C. COMMON
6- C PWR
7- C AUD. & RAD.
8- +B DET.
9- +B PWR
10- +B

Type "J" unit for 25 cycle current is similar, except that a 1706X power transformer is used instead of the 1696X transformer as indicated on the type "C" unit for 60 cycles.


+B PWR (9)
+B (10)
+B DET (8)
1417-MS
C. COMMON (5)
1414-MS
AUD. & RAD. (7)
C PWR (6)
AMP. FIL. (4) (3)
PWR. FIL. (2) (1)
1341-MS
1416-MS
1697-X
1697-X
1415-MS
A
CHASSIS
C
CONDENSER BLOCK 1410-MS
CX-380 OR UX-280
POWER TRANSFORMER 1696-X
1423-MS
10-130 K
90-140 K
2141-Y
1419-MS

SCHEMATIC WIRING DIAGRAM

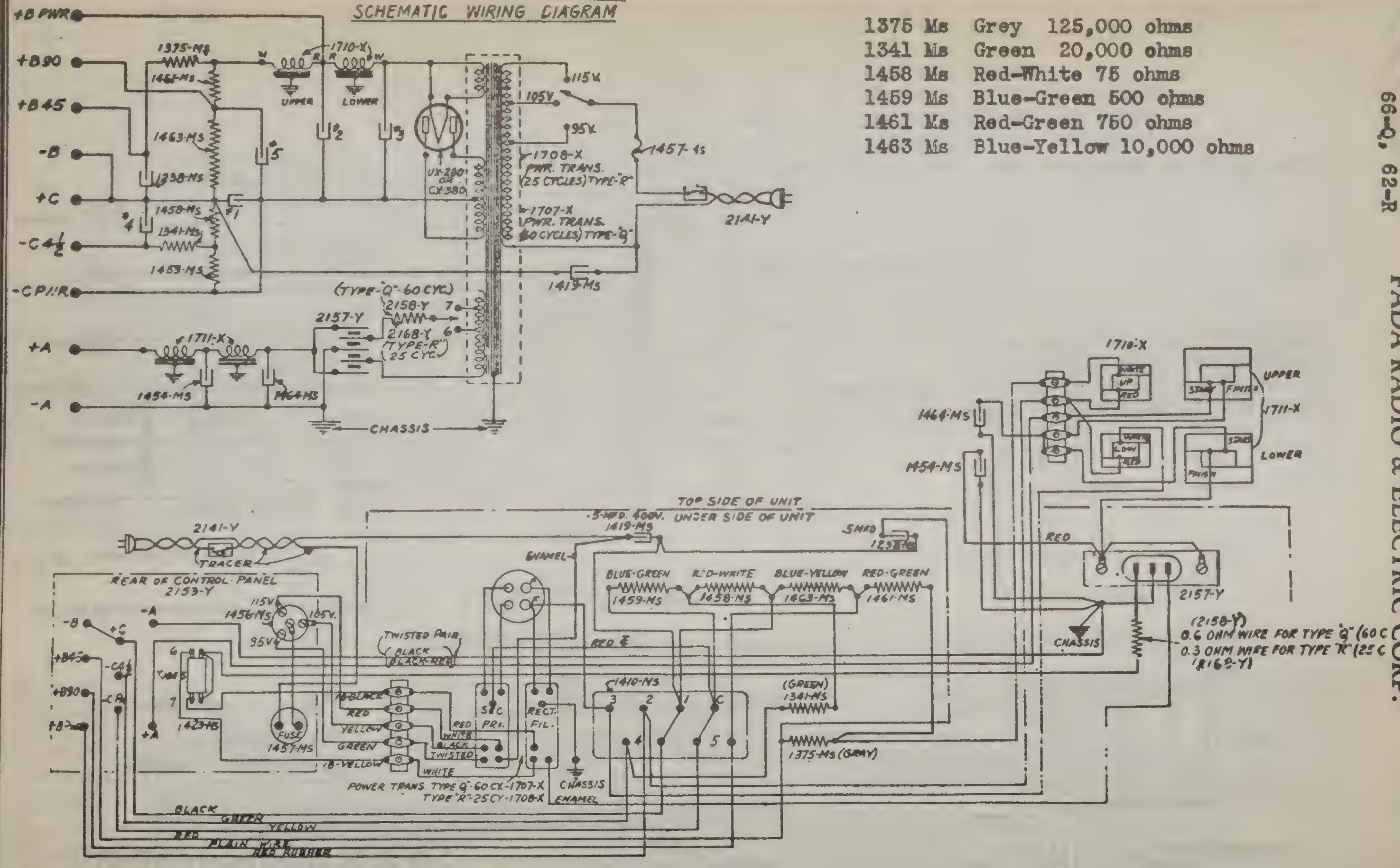
1341	Ms	Carbon	20,000 ohms	red and green or green only
1414	Ms	Wire	250 ohms	yellow and white
1415	Ms	Wire	2,000 ohms	green and white
1416	Ms	Wire	3,000 ohms	white and white
1417	Ms	Carbon	50,000 ohms	blue

Type "C" Electric Unit, used with "Special" and "7" AC Receivers

MODEL ABC S.P.U.
66-Q, 62-R

FADA RADIO & ELECTRIC CORP.

1375 Ms	Grey	125,000 ohms
1341 Ms	Green	20,000 ohms
1458 Ms	Red-White	75 ohms
1459 Ms	Blue-Green	500 ohms
1461 Ms	Red-Green	750 ohms
1463 Ms	Blue-Yellow	10,000 ohms

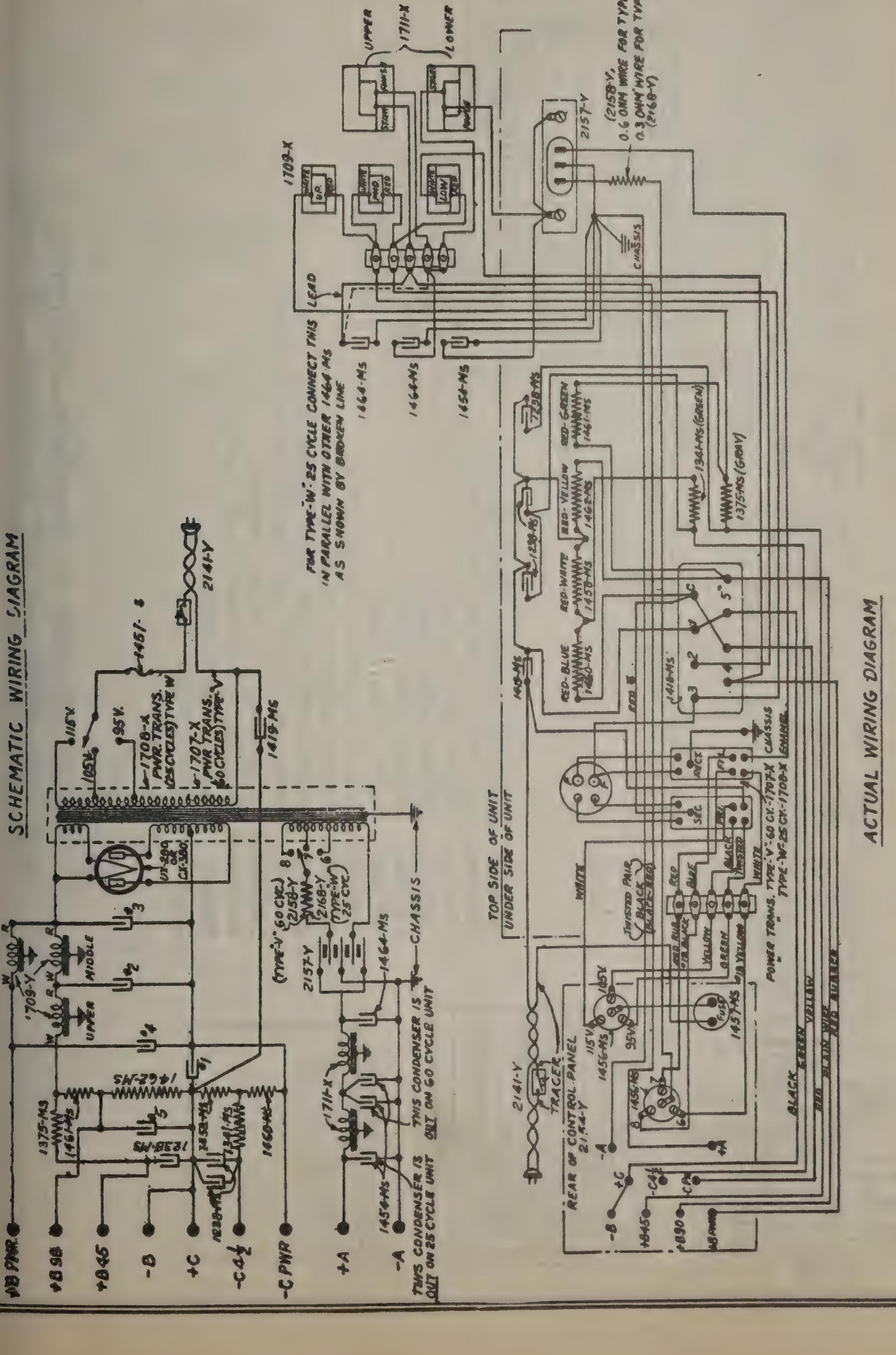

SCHEMATIC WIRING DIAGRAM
+B PWR
+B 90
+B 45
-B
+C
-C 4½
-C P1!R
+A
-A
1375-MS
1461-MS
1463-MS
1238-MS
1458-MS
1341-MS
1463-MS
#1
#2
#3
#4
#5
1710-X
W
R
R
W
UPPER
LOWER
UX-280 OR CX-380
115V
105V
95V
1457-1S
1708-X PWR. TRANS. (25 CYCLES) TYPE-"R"
1707-X PWR. TRANS. (60 CYCLES) TYPE-"Q"
2141-Y
1419-MS
(TYPE-"Q"-60 CYC.)
2158-Y
7
6
2168-Y (TYPE-"R") (25 CYC.)
2157-Y
1711-X
1454-MS
1464-MS
CHASSIS
1710-X
WHITE
UP
RED
WHITE
LOW
RED
START
FINISH
UPPER
1711-X
START
FINISH
LOWER
1464-MS
1454-MS
TOP SIDE OF UNIT
UNDER SIDE OF UNIT
.5 MFD. 400V. 1419-MS
.5 MFD 1238-MS
2141-Y
TRACER
REAR OF CONTROL PANEL 2153-Y
ENAMEL
BLUE-GREEN 1459-MS
RED-WHITE 1458-MS
BLUE-YELLOW 1463-MS
RED-GREEN 1461-MS
RED
2157-Y
CHASSIS
(2158-Y) 0.6 OHM WIRE FOR TYPE "Q" (60 C
0.3 OHM WIRE FOR TYPE "R" (25 C (2168-Y)
-B
+C
-A
115V
1456-MS
105V.
95V
TWISTED PAIR
BLACK
BLACK-RED
RED
6
7
TUBE
1423-MS
+A
-C 4½
+B45
+B90
+B PWR
C PWR
FUSE 1457-MS
BLACK
RED
YELLOW
GREEN
YELLOW
RED
WHITE
BLACK
TWISTED
SEC
PRI.
RECT.
FIL.
WHITE
POWER TRANS. TYPE "Q"-60 CY.-1707-X
TYPE "R"-25 CY.-1708-X
CHASSIS
ENAMEL
1410-MS
3
2
1
C
4
5
(GREEN) 1341-MS
1375-MS (GRAY)
BLACK
GREEN
YELLOW
RED
PLAIN WIRE
RED RUBBER

ACTUAL WIRING DIAGRAM

“ABC” Six Volt Tube Supply Unit — Types 66-Q and 62-R

FADA RADIO & ELECTRIC CORP.

MODEL ABC S.P.U.
86-V, 82-W


SCHEMATIC WIRING DIAGRAM
ACTUAL WIRING DIAGRAM
+B PWR.
+B 90
+B 45
-B
+C
-C 4½
-C PWR
+A
-A
THIS CONDENSER IS OUT ON 25 CYCLE UNIT
THIS CONDENSER IS OUT ON 60 CYCLE UNIT
1375-MS
1461-MS
1462-MS
1238-MS
1458-MS
1341-MS
1460-MS
1456-MS
1464-MS
1419-MS
1451-S
2141-Y
1709-Y
1711-X
2157-Y
2158-Y
2168-Y
(TYPE-V" 60 CYC)
(TYPE-W) 25 CYC
UX-280 OR CX-380
115V
105V
95V
L-1708-X PWR. TRANS. (25 CYCLES) TYPE W
L-1707-X PWR. TRANS. (60 CYCLES) TYPE V
UPPER
MIDDLE
LOWER
CHASSIS
FOR TYPE-"W" 25 CYCLE CONNECT THIS LEAD IN PARALLEL WITH OTHER 1464-MS AS SHOWN BY BROKEN LINE
(2158-Y, 0.6 OHM WIRE FOR TYPE-V (60 CY), 0.3 OHM WIRE FOR TYPE-W (25 CY) (2168-Y)
TOP SIDE OF UNIT
UNDER SIDE OF UNIT
RED-BLUE
RED-WHITE
RED-YELLOW
RED-GREEN
1341-MS (GREEN)
1375-MS (GRAY)
WHITE
TWISTED PAIR (BLACK) (RED)
RED
BLUE
BLACK
YELLOW
GREEN
POWER TRANS. TYPE-V: 60 CY.-1707-X TYPE-W: 25 CY.-1708-X
REAR OF CONTROL PANEL 2174-Y
TRACER
FUSE
1457-MS
REC.
SEC.
PRI.
BLACK
GREEN
YELLOW
RED
RED-BLACK

"ABC" Six Volt Tube Supply Unit — Types 86-V and 82-W

MODEL 10,11,30,31
MODEL 10Z,11Z,30Z,31Z FADA RADIO & ELECTRIC CORP.
Schematic

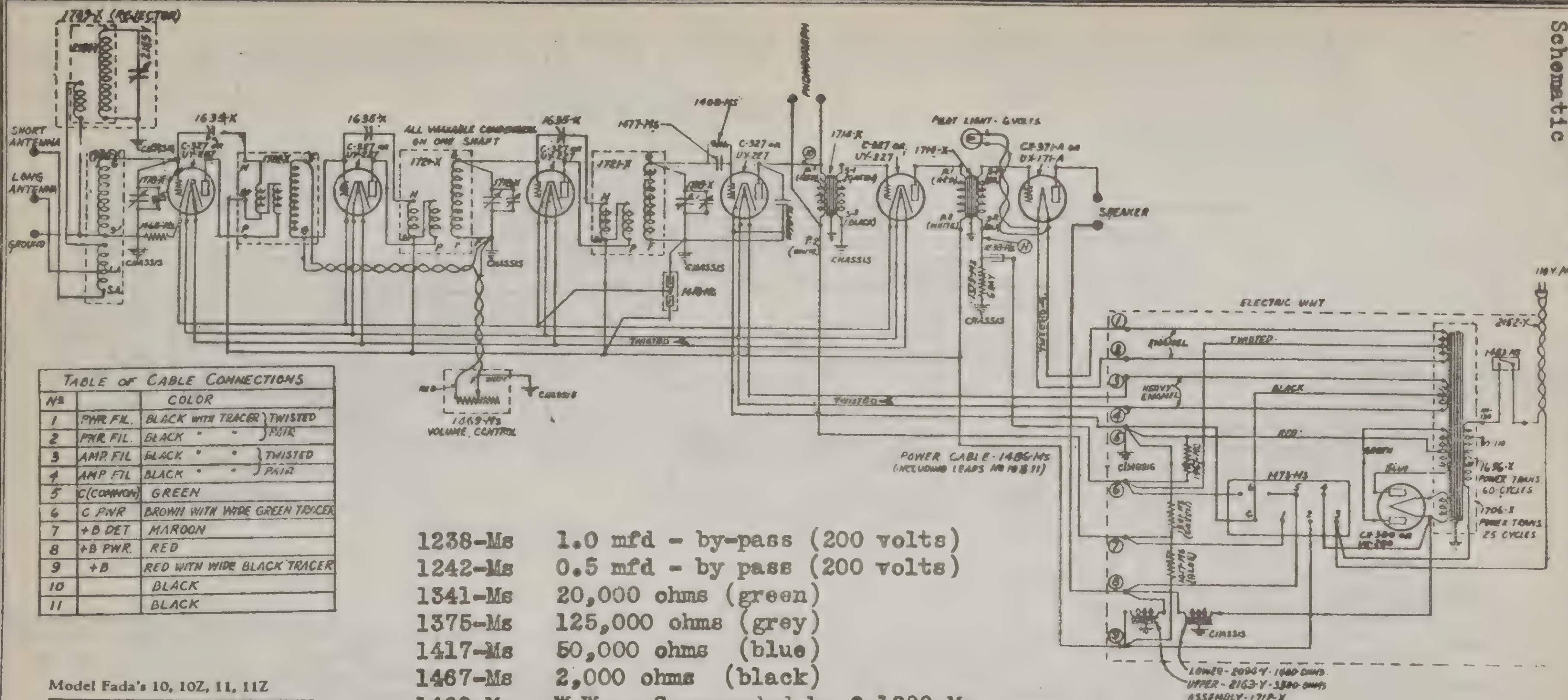
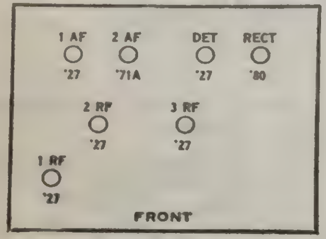

1782-X (REJECTOR)
SHORT ANTENNA
LONG ANTENNA
GROUND
CHASSIS
1634-K
1635-K
C-327 or UX-227
ALL VARIABLE CONDENSERS ON ONE SHAFT
1720-X
1721-X
1477-Ms
1408-Ms
1468-Ms
1716-X
C-327 or UY-227
1719-X
PILOT LIGHT · 6 VOLTS
CX-371-A or UX-171-A
SPEAKER
P2 (WHITE)
B (BLACK)
1469-Ms VOLUME CONTROL
TWISTED
110 V. AC
2162-Y
ELECTRIC UNIT
ENAMEL
HEAVY ENAMEL
BLACK
RED
1478-Ms
1696-X POWER TRANS. 60 CYCLES
1706-X POWER TRANS. 25 CYCLES
CX-380 or UX-280
POWER CABLE · 1486-Ms (INCLUDING LEADS No 10 & 11)
LOWER - 2094-Y · 1400 OHMS
UPPER - 2163-Y · 3500 OHMS
ASSEMBLY - 1718-X

TABLE OF CABLE CONNECTIONS

No		COLOR
1	PWR FIL.	BLACK WITH TRACER } TWISTED PAIR
2	PWR FIL.	BLACK " "
3	AMP. FIL	BLACK " " } TWISTED PAIR
4	AMP. FIL	BLACK " "
5	C(COMMON)	GREEN
6	C PWR	BROWN WITH WIDE GREEN TRACER
7	+B DET	MAROON
8	+B PWR.	RED
9	+B	RED WITH WIDE BLACK TRACER
10		BLACK
11		BLACK

1238-Ms	1.0 mfd - by-pass (200 volts)
1242-Ms	0.5 mfd - by pass (200 volts)
1341-Ms	20,000 ohms (green)
1375-Ms	125,000 ohms (grey)
1417-Ms	50,000 ohms (blue)
1467-Ms	2,000 ohms (black)
1468-Ms	W.W. - Superseded by 2-1299-Ms
1469-Ms	Volume control - 20,000 ohms
1477-Ms	.000125 mfd moulded mica (green dot)
1478-Ms	Condenser - .001 mfd moulded mica (yellow)
1485-Ms	Pilot lamp - 6 volts (orange)
2-1299-Ms	Resistor - 250 ohms (light brown)
2094-Y	Choke - 1,400 ohms
2163-Y	Choke - 3,500 ohms

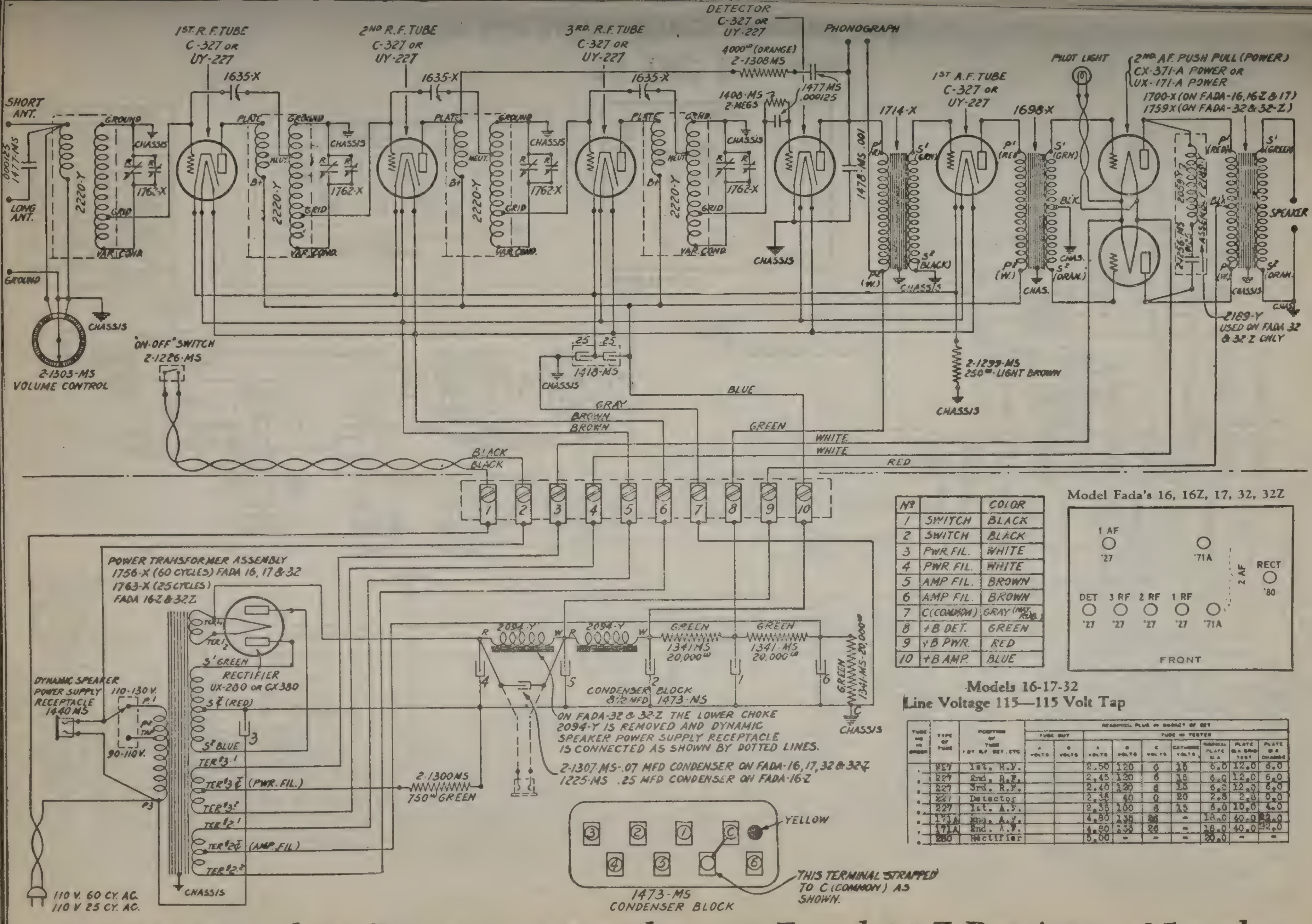
Model Fada's 10, 10Z, 11, 11Z


1 AF
'27
2 AF
'71A
DET
'27
RECT
'80
2 RF
'27
3 RF
'27
1 RF
'27
FRONT

10, 11, 30 *and* 31 Receivers—60 cycles
10Z, 11Z, 30Z *and* 31Z Receivers—25 cycles

MODEL 16,17,32
MODEL 16Z,32Z
Schematic

FADA RADIO & ELECTRIC CORP.


SHORT ANT.
LONG ANT.
.000125 1477-MS
GROUND
CHASSIS
2-1303-MS VOLUME CONTROL
"ON-OFF" SWITCH 2-1226-MS
1ST R.F. TUBE C-327 OR UY-227
2ND R.F. TUBE C-327 OR UY-227
3RD R.F. TUBE C-327 OR UY-227
DETECTOR C-327 OR UY-227
1635-X
2220-Y
1762-X
PLATE
GROUND
GRID
NEUT.
B+
VAR. COND.
4000Ω (ORANGE) 2-1308 MS
1400-MS 2-MEGS
1477 MS .000125
1478-MS .001
PHONOGRAPH
1714-X
1ST A.F. TUBE C-327 OR UY-227
1698-X
PILOT LIGHT
2ND A.F. PUSH PULL (POWER) CX-371-A POWER OR UX-171-A POWER
1700-X (ON FADA-16, 16Z & 17)
1759X (ON FADA-32 & 32-Z)
P' (RED)
P² (W.)
S' (GRN)
S² (BLACK)
S² (ORAN.)
BLK
CHAS.
2-1256-MS
2059-Y
ASSEMBLY
SPEAKER
2189-Y USED ON FADA 32 & 32-Z ONLY
.25 .25
1418-MS
2-1299-MS 250Ω LIGHT BROWN
GRAY
BROWN
BROWN
BLUE
GREEN
WHITE
WHITE
RED
BLACK
BLACK
1 2 3 4 5 6 7 8 9 10
POWER TRANSFORMER ASSEMBLY 1756-X (60 CYCLES) FADA 16, 17 & 32
1763-X (25 CYCLES) FADA 16Z & 32Z
RECTIFIER UX-280 OR CX380
5' GREEN
5² (RED)
S² BLUE
TER #3-1
TER #3 C (PWR. FIL.)
TER #3-2
TER #2-1
TER #2 C (AMP. FIL.)
TER #2-2
CHASSIS
DYNAMIC SPEAKER POWER SUPPLY RECEPTACLE 1440 MS
110-130 V.
90-110 V.
P1
P2
P3
TAP
110 V. 60 CY. AC.
110 V 25 CY. AC.
2094-Y
R
W
GREEN 1341-MS 20,000Ω
GREEN 1341-MS 20,000Ω
GREEN 1341-MS-20,000Ω
CONDENSER BLOCK 8½ MFD 1473-MS
2-1300 MS 750Ω GREEN
YELLOW
1473-MS CONDENSER BLOCK
1 AF '27
'71A
RECT '80
2 AF
DET '27
3 RF '27
2 RF '27
1 RF '27
'71A
FRONT

ON FADA-32 & 32-Z THE LOWER CHOKE 2094-Y IS REMOVED AND DYNAMIC SPEAKER POWER SUPPLY RECEPTACLE IS CONNECTED AS SHOWN BY DOTTED LINES.

2-1307-MS-.07 MFD CONDENSER ON FADA-16, 17, 32 & 32-Z
1225-MS .25 MFD CONDENSER ON FADA-16-Z

THIS TERMINAL STRAPPED TO C (COMMON) AS SHOWN.

Model Fada's 16, 16Z, 17, 32, 32Z

Nº		COLOR
1	SWITCH	BLACK
2	SWITCH	BLACK
3	PWR. FIL.	WHITE
4	PWR. FIL.	WHITE
5	AMP FIL.	BROWN
6	AMP FIL.	BROWN
7	C (COMMON)	GRAY (MAT. [illegible])
8	+B DET.	GREEN
9	+B PWR.	RED
10	+B AMP.	BLUE

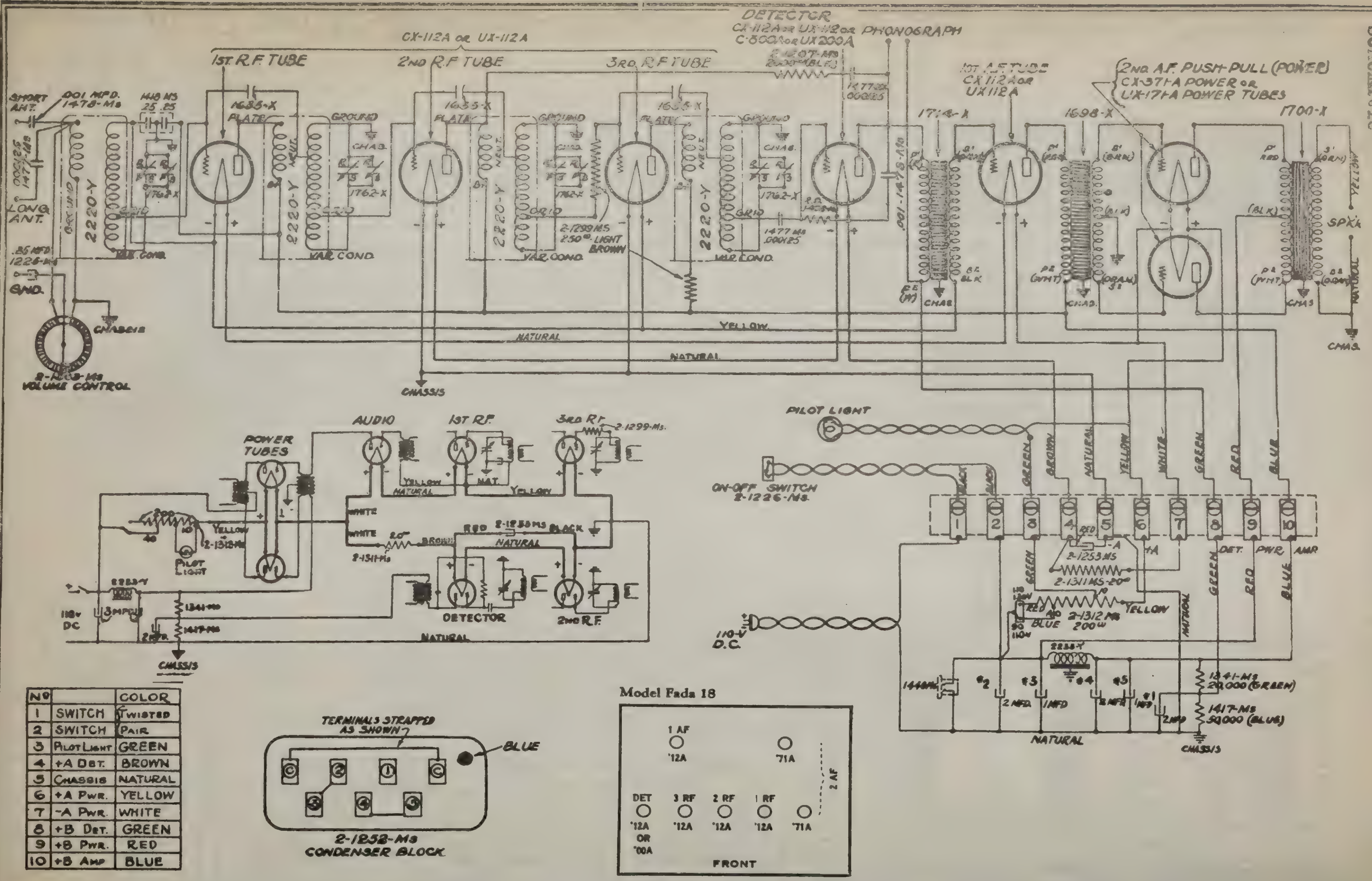
Models 16-17-32
Line Voltage 115—115 Volt Tap

[illegible]	[illegible]	[illegible]	[illegible]		[illegible]						
			[illegible]		[illegible]						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	[illegible]	[illegible]	[illegible]
1	227	1st. R.F.			2.50	120	6	15	6.0	12.0	6.0
2	227	2nd. R.F.			2.45	130	6	15	6.0	12.0	6.0
3	227	3rd. R.F.			2.40	120	6	15	6.0	12.0	6.0
4	227	Detector			2.35	40	0	20	2.5	2.8	0.0
5	227	1st. A.F.			2.35	100	6	15	6.0	10.0	4.0
6	171A	2nd. A.F.			4.80	138	26	-	18.0	40.0	22.0
7	171A	2nd. A.F.			4.80	138	26	-	18.0	40.0	22.0
8	280	Rectifier			5.00	-	-	-	20.0	-	-

16, 17 and 32 Receivers - 60 cycles 16-Z and 32-Z Receivers - 25 cycles

MODEL 18 DC
Schematic

FADA RADIO & ELECTRIC CORP.



CX-112A or UX-112A
1st R.F. TUBE
2nd R.F. TUBE
3rd R.F. TUBE
DETECTOR
CX-112A or UX-112 or C-300A or UX200A
PHONOGRAPH
1st A.F. TUBE
CX112A or UX112A
2nd A.F. PUSH-PULL (POWER)
CX-371-A POWER or UX-171-A POWER TUBES
SHORT ANT.
.001 MFD. 1478-Ms
.00025 1477-Ms
LONG ANT.
.25 MFD 1226-Ms
GND.
CHASSIS
VOLUME CONTROL
2220-Y
1635-X
PLATE
GROUND
GRID
1762-X
VAR. COND.
2-1299 Ms 2.50 Ω LIGHT BROWN
1477 Ms .00025
.001-1478-Ms
1714-X
1698-X
1700-X
SPKR
YELLOW
NATURAL
CHASSIS
PILOT LIGHT
ON-OFF SWITCH 2-1226-Ms
110-V D.C.
GREEN
BROWN
NATURAL
YELLOW
WHITE
GREEN
RED
BLUE
DET.
PWR.
AMP.
2-1253 Ms
2-1311 Ms 20 Ω
2-1312 Ms 200 W
BLUE
1441 Ms
2 MFD
1 MFD
NATURAL
1341-Ms 20,000 (GREEN)
1417-Ms 50,000 (BLUE)
POWER TUBES
AUDIO
1st R.F.
3rd R.F.
2-1299-Ms.
DETECTOR
2nd R.F.
WHITE
RED
BLACK
BROWN
2-1311-Ms
PILOT LIGHT
2-1313-Ms
110 v DC
3 MFD
TERMINALS STRAPPED AS SHOWN
BLUE
2-1252-Ms CONDENSER BLOCK
Model Fada 18
1 AF '12A
'71A
2 AF
DET '12A OR '00A
3 RF '12A
2 RF '12A
1 RF '12A
'71A
FRONT

No		COLOR
1	SWITCH	TWISTED
2	SWITCH	PAIR
3	PILOT LIGHT	GREEN
4	+A DET.	BROWN
5	CHASSIS	NATURAL
6	+A PWR.	YELLOW
7	-A PWR.	WHITE
8	+B DET.	GREEN
9	+B PWR.	RED
10	+B AMP.	BLUE

18 DC Receiver
for use with direct current only

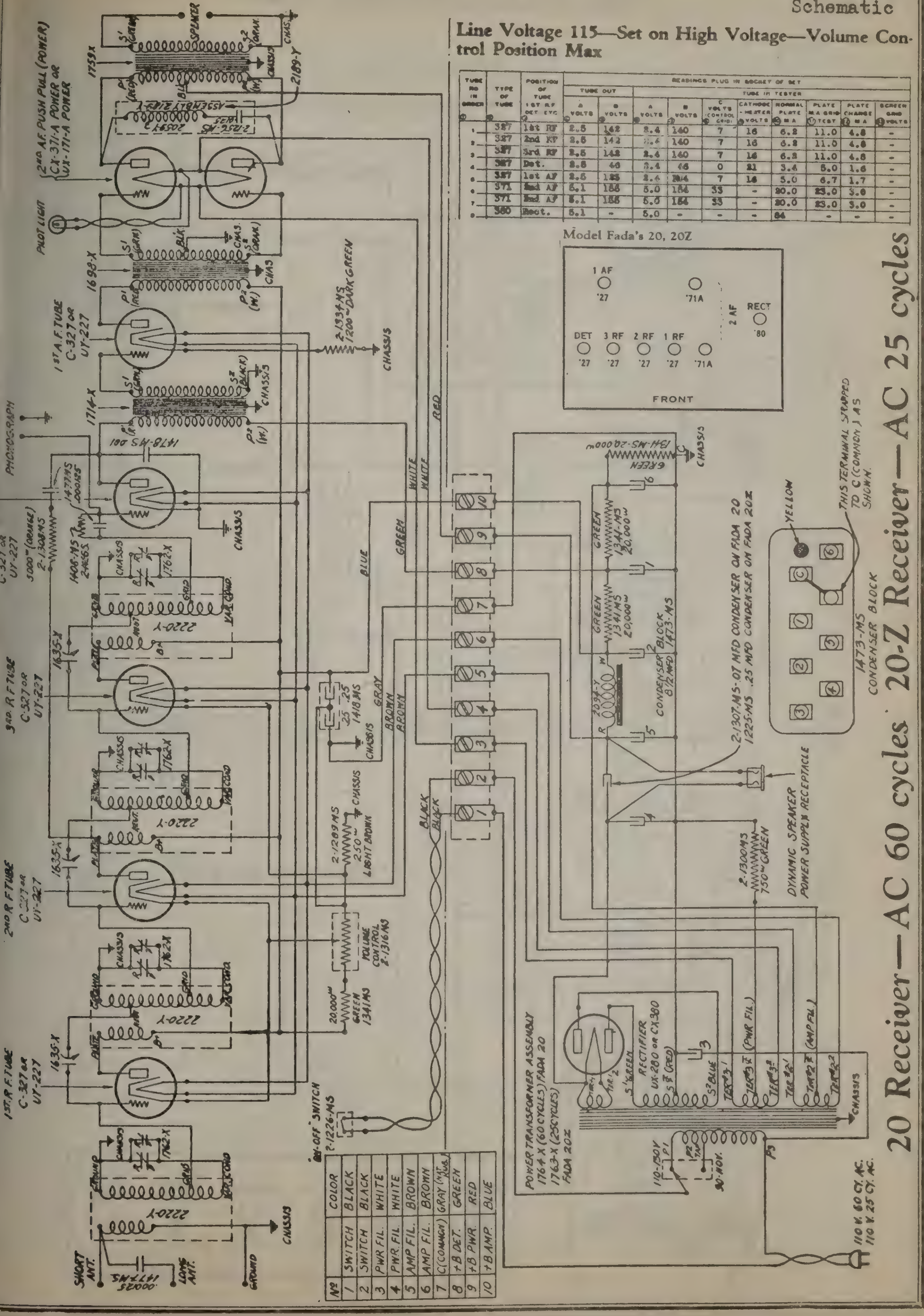
FADA RADIO & ELECTRIC CORP.

MODEL 20,
MODEL 20Z
Schematic

Line Voltage 115—Set on High Voltage—Volume Control Position Max

Tube No in Order	Type of Tube	Position of Tube 1st RF Det Etc	Readings Plug in Socket of Set: Tube Out A Volts	B Volts	Tube in Tester: A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate MA	Plate MA Grid Test	Plate Change MA	Screen Grid Volts
1	327	1st RF	2.5	142	2.4	140	7	16	6.2	11.0	4.8	-
2	327	2nd RF	2.5	142	2.4	140	7	16	6.2	11.0	4.8	-
3	327	3rd RF	2.5	142	2.4	140	7	16	6.2	11.0	4.8	-
4	327	Det.	2.5	46	2.4	46	0	21	3.4	5.0	1.6	-
5	327	1st AF	2.5	183	2.4	184	7	16	5.0	6.7	1.7	-
6	371	2nd AF	5.1	188	5.0	184	33	-	20.0	23.0	3.0	-
7	371	2nd AF	5.1	188	5.0	184	33	-	20.0	23.0	3.0	-
8	380	Rect.	5.1	-	5.0	-	-	-	84	-	-	-

Model Fada's 20, 20Z

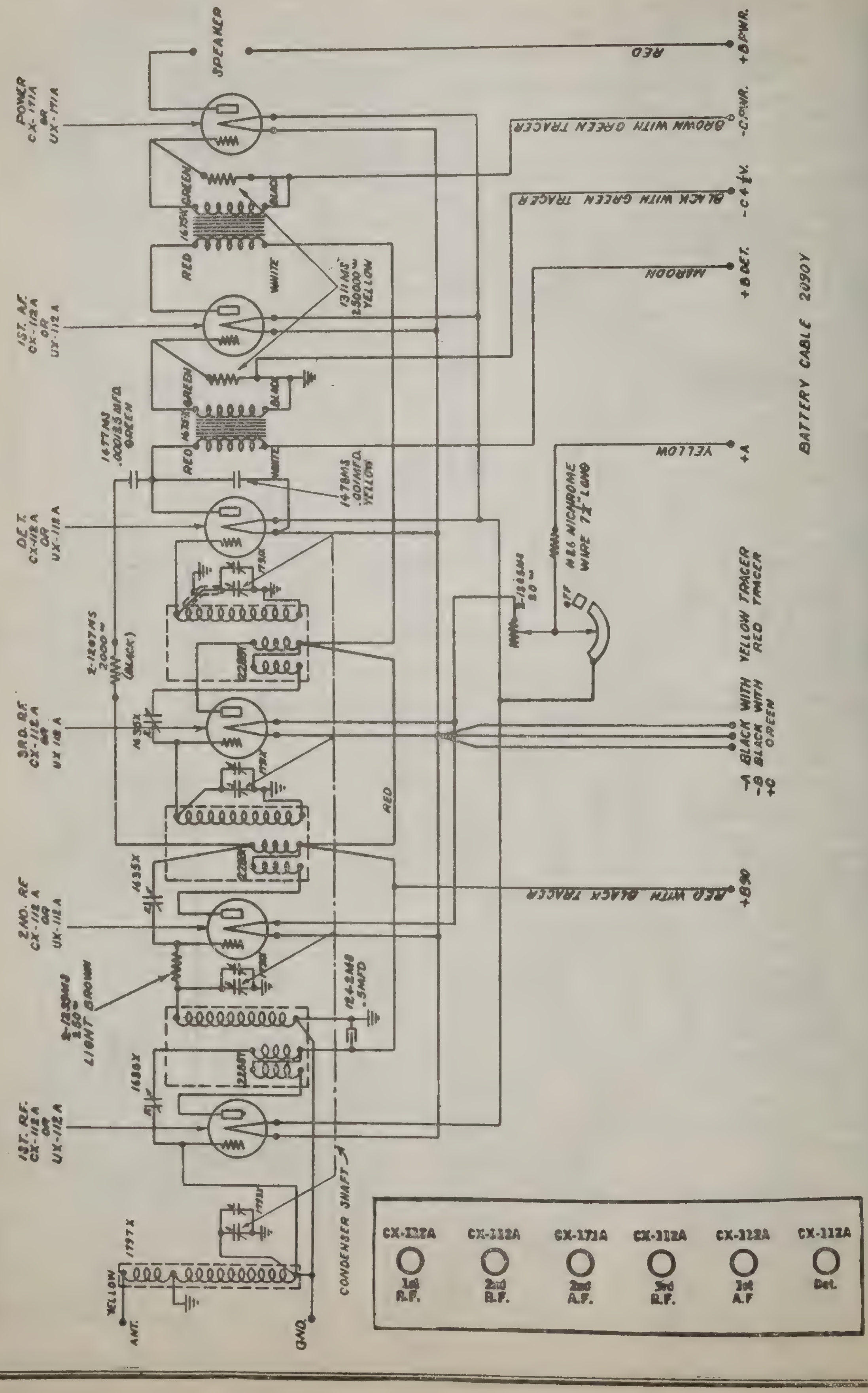

1 AF
'27
'71A
2 AF
RECT
'80
DET
3 RF
2 RF
1 RF
'27
'27
'27
'27
'71A
FRONT
SPEAKER
1759-X
2189-Y
CHAS.
CHASSIS
2ND A.F. PUSH PULL (POWER) CX-371-A POWER OR UX-171-A POWER
2-1252-MS
2059-Y
PILOT LIGHT
1699-X
1ST A.F. TUBE C-327 OR UY-227
2-1334-MS 1200~ DARK GREEN
1714-X
PHONOGRAPH
1478-MS .001
1477-MS .00025
DET. TUBE C-327 OR UY-227
5000~ (ORANGE) 2-1308-MS
1408-MS 2-MEG
1762-X
2220-Y
1635-X
3RD. R.F TUBE C-327 OR UY-227
2ND R.F TUBE C-327 OR UY-227
1ST. R.F TUBE C-327 OR UY-227
.25 .25 1418-MS
2-1289-MS 250~ LIGHT BROWN
VOLUME CONTROL 2-1316-MS
20,000~ GREEN 1341-MS
ON-OFF SWITCH 2-1226-MS
SHORT ANT.
LONG ANT.
GROUND
.00025 1477-MS
RED
WHITE
WHITE
BLUE
GREEN
GRAY
BROWN
BROWN
BLACK
BLACK
1344-MS-20,000~
GREEN
CHASSIS
GREEN 1344-MS 20,000~
GREEN 1341-MS 20,000~
2059-Y
CONDENSER BLOCK 1473-MS
CONDENSER 8 1/2 MFD
2-1307-MS-.07 MFD CONDENSER ON FADA 20
1225-MS .25 MFD CONDENSER ON FADA 20Z
DYNAMIC SPEAKER POWER SUPPLY RECEPTACLE
2-1300-MS 750~ GREEN
YELLOW
THIS TERMINAL STRAPPED TO C (COMMON) AS SHOWN.
1473-MS CONDENSER BLOCK
POWER TRANSFORMER ASSEMBLY 1764-X (60 CYCLES) FADA 20
1763-X (25 CYCLES) FADA 20Z
RECTIFIER UX-280 OR CX-380
110-130 V
90-110 V.
110 V. 60 CY. AC.
110 V. 25 CY. AC.

№		COLOR
1	SWITCH	BLACK
2	SWITCH	BLACK
3	PWR FIL.	WHITE
4	PWR. FIL.	WHITE
5	AMP FIL.	BROWN
6	AMP FIL.	BROWN
7	C(COMMON)	GRAY (MAT. RUB.)
8	+B DET.	GREEN
9	+B PWR.	RED
10	+B AMP.	BLUE

20 Receiver—AC 60 cycles 20-Z Receiver—AC 25 cycles

MODEL 22 Battery
Schematic

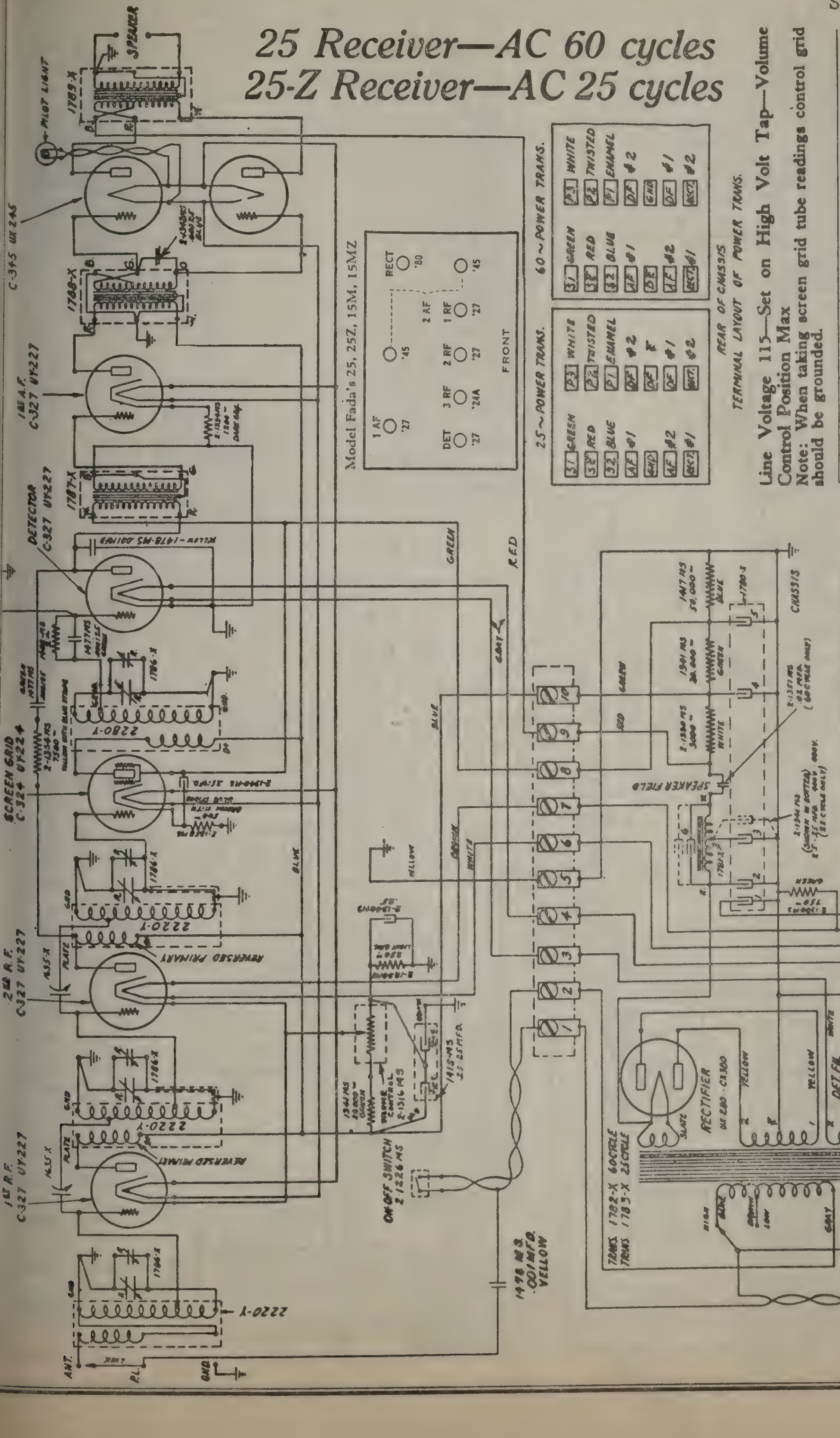
FADA RADIO & ELECTRIC CORP.


POWER CX-171A OR UX-171A
SPEAKER
RED
+B PWR.
BROWN WITH GREEN TRACER
-C PWR.
BLACK WITH GREEN TRACER
-C+4V.
GREEN
1675H
RED
BLACK
WHITE
1311MS .250000~ YELLOW
1ST. A.F. CX-112A OR UX-112A
MAROON
+B DET.
BATTERY CABLE 2090Y
GREEN
BLACK
RED
WHITE
1477MS .000125 MFD. GREEN
1478MS .001 MFD. YELLOW
YELLOW
+A
DET. CX-112A OR UX-112A
#26 NICHROME WIRE 7½" LONG
1-1365MS 20~
OFF
1-1207MS 2000~ (BLACK)
1782
1228Y
3RD. R.F. CX-112A OR UX-112A
1435X
BLACK WITH YELLOW TRACER
BLACK WITH RED TRACER
GREEN
-A
-B
+C
RED
1228Y
2ND. RF CX-112A OR UX-112A
1435X
RED WITH BLACK TRACER
+B90
1-1230MS 150~ LIGHT BROWN
1242MS .5MFD
1638X
1228Y
1ST. R.F. CX-112A OR UX-112A
CONDENSER SHAFT
1792
1797X
YELLOW
ANT.
GND.
CX-112A
1st R.F.
CX-112A
2nd R.F.
CX-171A
2nd A.F.
CX-112A
3rd R.F.
CX-112A
1st A.F.
CX-112A
Det.

MODEL 25
MODEL 25Z
Schematic

FADA RADIO & ELECTRIC CORP.

25 Receiver—AC 60 cycles
25-Z Receiver—AC 25 cycles


SPEAKER
1789-X
PILOT LIGHT
C-345 UX245
1788-X
1ST A.F. C-327 UY-227
1787-X
DETECTOR C-327 UY-227
SCREEN GRID C-324 UY-224
2280-Y
2ND R.F. C-327 UY-227
2220-Y
REVERSED PRIMARY
1ST R.F. C-327 UY-227
1786-X
ANT.
P.L.
GND
ON-OFF SWITCH 2-1226 MS
VOLUME CONTROL 2-1316 MS
1498 MS .001 MFD. YELLOW
GREEN
RED
BLUE
GRAY
YELLOW
WHITE
BROWN
SPEAKER FIELD
CHASSIS
RECTIFIER UX280 C-1380
DET. FIL.
AMP. FIL.
TRANS. 1782-X 60 CYCLE
TRANS. 1783-X 25 CYCLE
110V 60 CYCLE AC
110V 25 CYCLE AC
Model Fada's 25, 25Z, 15M, 15MZ
1 AF '27
DET '27
3 RF '24A
2 RF '27
1 RF '27
2 AF '45
RECT '80
'45
FRONT
25~POWER TRANS.
60~POWER TRANS.
REAR OF CHASSIS
TERMINAL LAYOUT OF POWER TRANS.

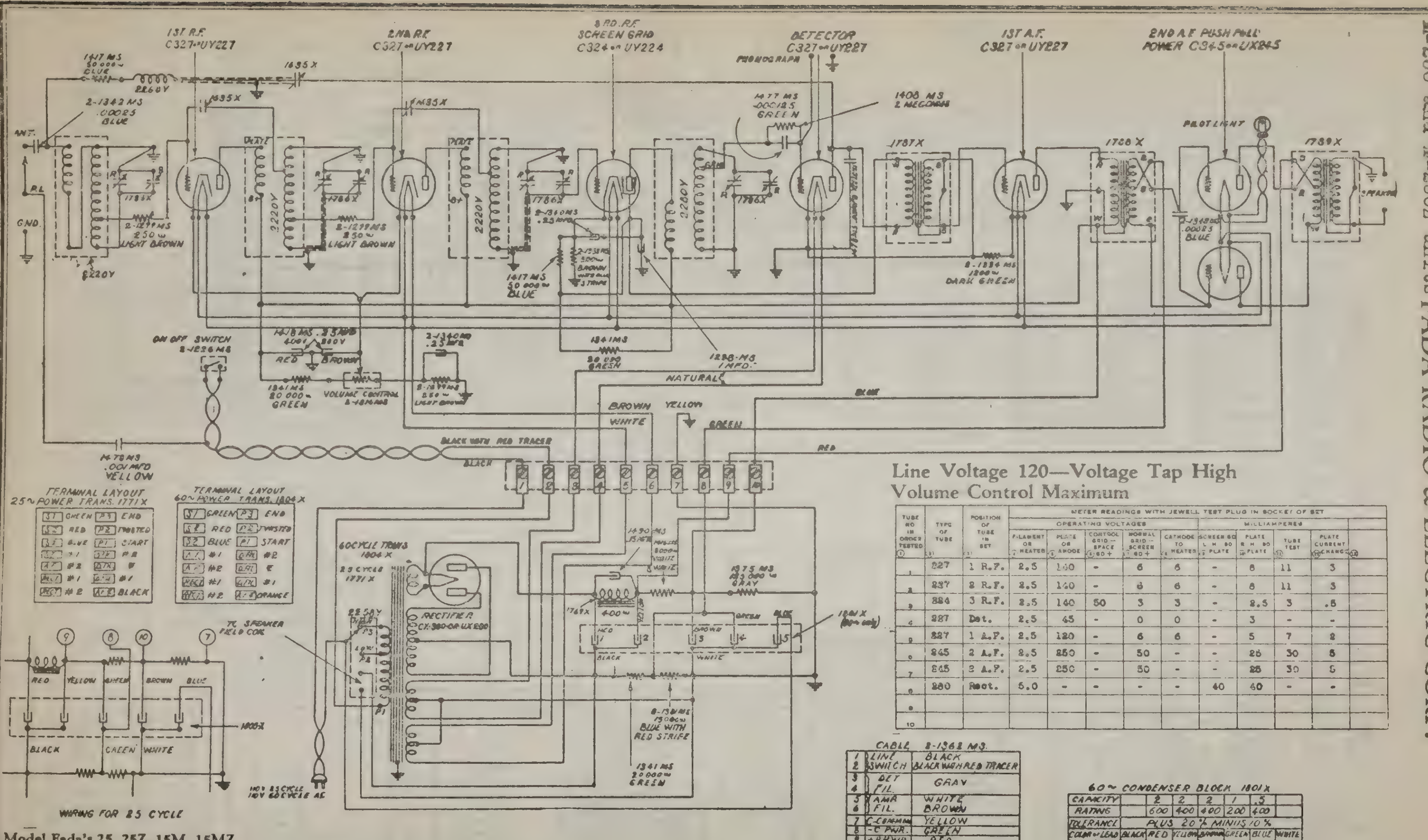
Line Voltage 115—Set on High Volt Tap—Volume Control Position Max
Note: When taking screen grid tube readings control grid should be grounded.

Tube No. in Order	Type of Tube	Position of Tube 1st R.F. Det. etc.	Readings Plug in Socket of Set: Tube Out: A Volts	Tube Out: B Volts	Tube in Tester: A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate Change M.A.	Screen Grid Volts
1	327	1st RF	2.4	180	2.35	180	5.5	20	6.5	10.5	4.0	-
2	327	2nd RF	2.4	180	2.35	180	5.5	20	6.5	10.5	4.0	-
3	324	3rd RF	2.4	180	2.35	180	1.5	20	1.8	4.0	2.2	-
4	327	Det	2.4	45	2.35	44	-	-	2.8	4.8	1.4	45
5	327	1st AF	2.4	111	2.35	110	6	20	4.8	6.4	1.6	-
6	345	2nd AF	2.4	168	2.35	164	51	-	21.0	24.0	3.0	-
7	345	2nd AF	2.4	168	2.35	168	51	-	21.0	24.0	3.0	-
8	380	Rect.	5.0	-	4.9	-	-	-	76.0	-	-	-

CONDENSER BLOCK 1780-X

CAPACITY		.5	2	.25	1	2	2.8	
RATING		400	600	400	400	200	400	
COLOR OF LEAD	BLACK	BLUE	RED	YELLOW	GREEN	SLATE	BROWN	BROWN

MODEL 25 and 25Z
M-250 and M-250Z units FADA RADIO & ELECTRIC CORP.


1ST R.F. C327 or UY227
2ND R.F. C327 or UY227
3RD R.F. SCREEN GRID C324 or UY224
DETECTOR C327 or UY227
1ST A.F. C327 or UY227
2ND A.F. PUSH PULL POWER C345 or UX245
PHONOGRAPH
PILOT LIGHT
1417 MS 50 000~ BLUE
2-1342 MS .00025 BLUE
2260Y
1835X
2220Y
1786X
2-1277 MS 250~ LIGHT BROWN
1417 MS 50 000~ BLUE
1417 MS .000125 GREEN
1408 MS 2 MEGOHMS
1787X
1788X
1789X
2-1334 MS 1200~ DARK GREEN
2-1342 MS .00025 BLUE
SPEAKER
ANT.
GND.
ON OFF SWITCH 2-1226 MS
1341 MS 20 000~ GREEN
VOLUME CONTROL
1238 MS 1 MFD.
NATURAL
BROWN
YELLOW
WHITE
GREEN
BLUE
RED
BLACK WITH RED TRACER
BLACK
1478 MS .001 MFD YELLOW
60 CYCLE TRANS 1804X
25 CYCLE 1771X
RECTIFIER CX-380 OR UX280
7C SPEAKER FIELD COIL
110V 25 CYCLE 110V 60 CYCLE AC
1375 MS 20 000~ GRAY
1801X (60~ only)
1765X 400~
2-1340 MS 1500~ BLUE WITH RED STRIPE
1341 MS 20 000~ GREEN
TERMINAL LAYOUT 25~ POWER TRANS. 1771X
S1 GREEN P3 END
S3 RED P2 TWISTED
S2 BLUE P1 START
A.F. #1 G.R. #2
A.F. #2 G.R. E
REC. #1 G.R. #1
REC. #2 A.F.S. BLACK
TERMINAL LAYOUT 60~ POWER TRANS. 1804X
S1 GREEN P3 END
S3 RED P2 TWISTED
S2 BLUE P1 START
A.F. #1 G.R. #2
A.F. #2 G.R. E
REC. #1 G.R. #1
REC. #2 A.F.S. ORANGE
RED YELLOW GREEN BROWN BLUE
BLACK GREEN WHITE
1805X
WIRING FOR 25 CYCLE

Line Voltage 120—Voltage Tap High
Volume Control Maximum

TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE ⑥ 60 +	NORMAL GRID—SCREEN ⑦ 60 +	CATHODE TO HEATER ⑧	SCREEN 60 L.H. 90 PLATE ⑨	PLATE R.H. 90 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫	⑬
1	227	1 R.F.	2.5	140	-	6	6	-	8	11	3	
2	227	2 R.F.	2.5	140	-	6	6	-	8	11	3	
3	224	3 R.F.	2.5	140	50	3	3	-	2.5	3	.5	
4	227	Det.	2.5	45	-	0	0	-	3	-	-	
5	227	1 A.F.	2.5	120	-	6	6	-	5	7	2	
6	245	2 A.F.	2.5	250	-	50	-	-	26	30	5	
7	245	2 A.F.	2.5	250	-	50	-	-	26	30	5	
8	280	Rect.	5.0	-	-	-	-	40	40	-	-	
9												
10												

CABLE 8-1362 MS.

1	LINE	BLACK
2	SWITCH	BLACK WITH RED TRACER
3	DET	GRAY
4	FIL.	
5	AMP.	WHITE
6	FIL.	BROWN
7	C-COMMON	YELLOW
8	-C PWR.	GREEN
9	+B PWR.	RED
10	+B AMP.	BLUE

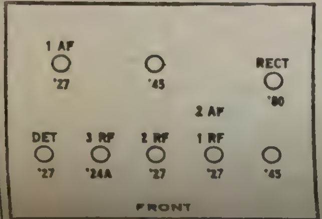
60~ CONDENSER BLOCK 1801X

CAPACITY		2	2	2	1	.5	
RATING		600	400	400	200	400	
TOLERANCE	PLUS 20% MINUS 10%						
COLOR OF LEAD	BLACK	RED	YELLOW	BROWN	GREEN	BLUE	WHITE

25~ CONDENSER BLOCK 1805X

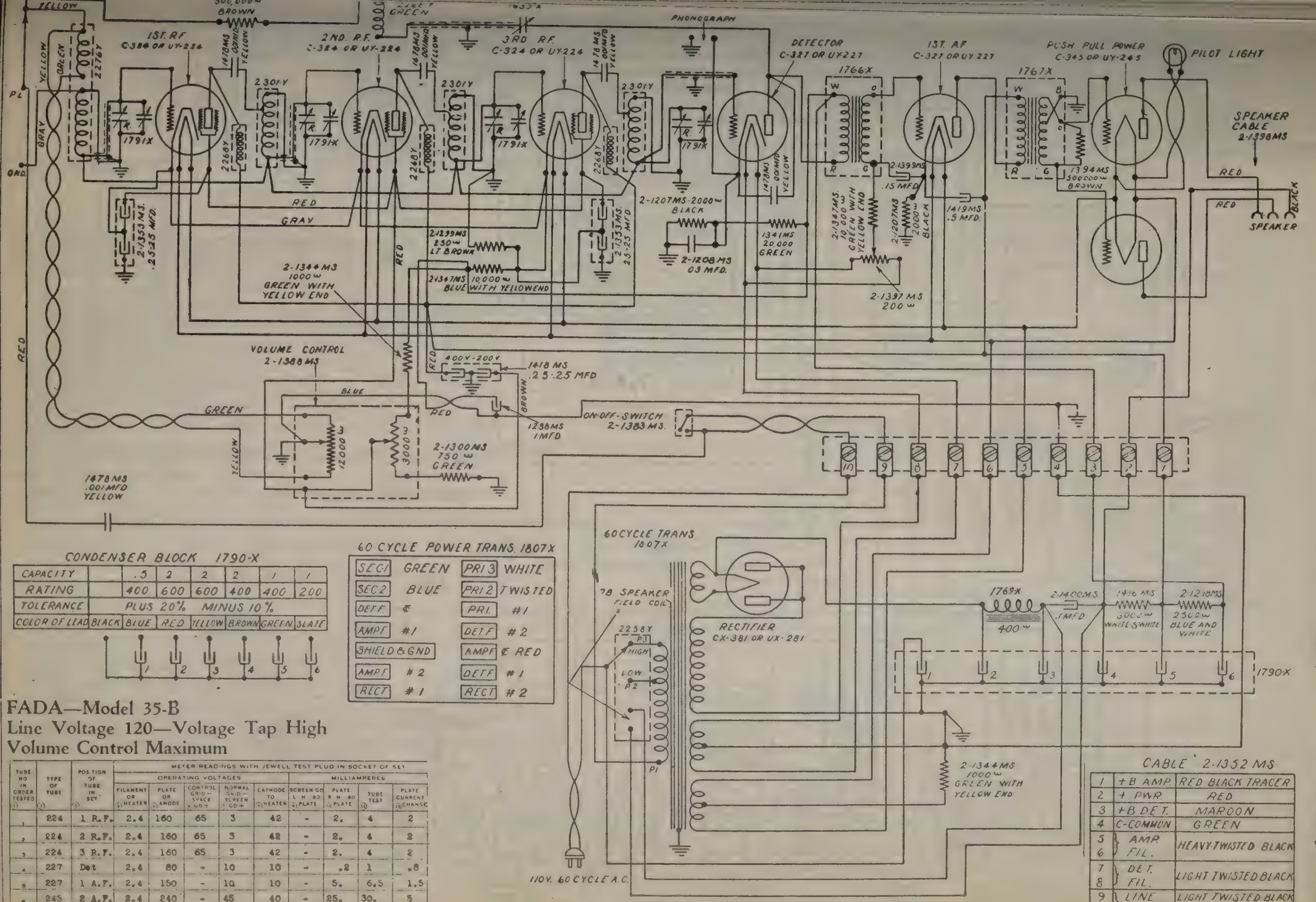
CAPACITY		2	2	2	.5		1	
RATING		600	400	400	400		400	
TOLERANCE	PLUS 20% MINUS 10%							
COLOR OF LEAD	BLACK	RED	YELLOW	BROWN	BLUE	WHITE	GREEN	GREEN

Model Fada's 25, 25Z, 15M, 15MZ


1 AF '27
'45
RECT '80
2 AF
DET '27
3 RF '24A
2 RF '27
1 RF '27
'45
FRONT

25 and 25-Z Receivers used with M-250 and M-250-Z Electric Units

FADA RADIO & ELECTRIC CORP.


YELLOW
300,000 BROWN
GREEN
PHONOGRAPH
PL
GRAY
GND
2276Y
1ST. RF C-324 OR UY-224
2ND. R.F. C-324 OR UY-224
3RD RF. C-324 OR UY-224
DETECTOR C-327 OR UY227
1ST. AF C-327 OR UY 227
PUSH PULL POWER C-345 OR UY-245
PILOT LIGHT
1478MS .001MFD YELLOW
2301-Y
2268Y
1791X
1766X
1767X
W
P
B
G
R
2-1399MS .15 MFD
1394MS 500000 BROWN
1419MS .5 MFD.
SPEAKER CABLE 2-1390MS
RED
BLACK
SPEAKER
2-1353MS. .25-25 MFD.
RED
GRAY
2-1299MS 250 LT BROWN
2-1347MS 10,000 BLUE WITH YELLOWEND
2-1344MS 1000 GREEN WITH YELLOW END
2-1207MS-2000 BLACK
2-1208MS .03 MFD.
1341MS 20,000 GREEN
2-1347MS. 10,000 GREEN WITH YELLOW END
2-1207MS 2000 BLACK
2-1397 MS 200
VOLUME CONTROL 2-1388MS
BLUE
400V-200V
1418 MS .25-.25 MFD
BROWN
RED
1236MS 1MFD
GREEN
YELLOW
12000
3000
2-1300MS 750 GREEN
1478MS .001MFD YELLOW
ON-OFF-SWITCH 2-1383 MS.
1 2 3 4 5 6 7 8 9 10
60CYCLE TRANS 1807X
78 SPEAKER FIELD COIL
2258Y
P3 HIGH
LOW P2
P1
RECTIFIER CX-381 OR UX-281
1769X
400
2-1400MS .1MFD
1416 MS 3000 WHITE & WHITE
2-1218MS 2500 BLUE AND WHITE
1790X
2-1344MS 1000 GREEN WITH YELLOW END
110V. 60 CYCLE A.C.

CONDENSER BLOCK 1790-X

CAPACITY		.5	2	2	2	1	1
RATING		400	600	600	400	400	200
TOLERANCE	PLUS 20% MINUS 10%						
COLOR OF LEAD	BLACK	BLUE	RED	YELLOW	BROWN	GREEN	SLATE

60 CYCLE POWER TRANS. 1807X

SEC-1	GREEN	PRI 3	WHITE
SEC 2	BLUE	PRI 2	TWISTED
DET F.	℄	PRI.	#1
AMPF	#1	DET.F	#2
SHIELD & GND		AMPF	℄ RED
AMPF	#2	DETF	#1
RECT	#1	RECT	#2

Wiring Diagram 35-B

FADA—Model 35-B
Line Voltage 120—Voltage Tap High
Volume Control Maximum

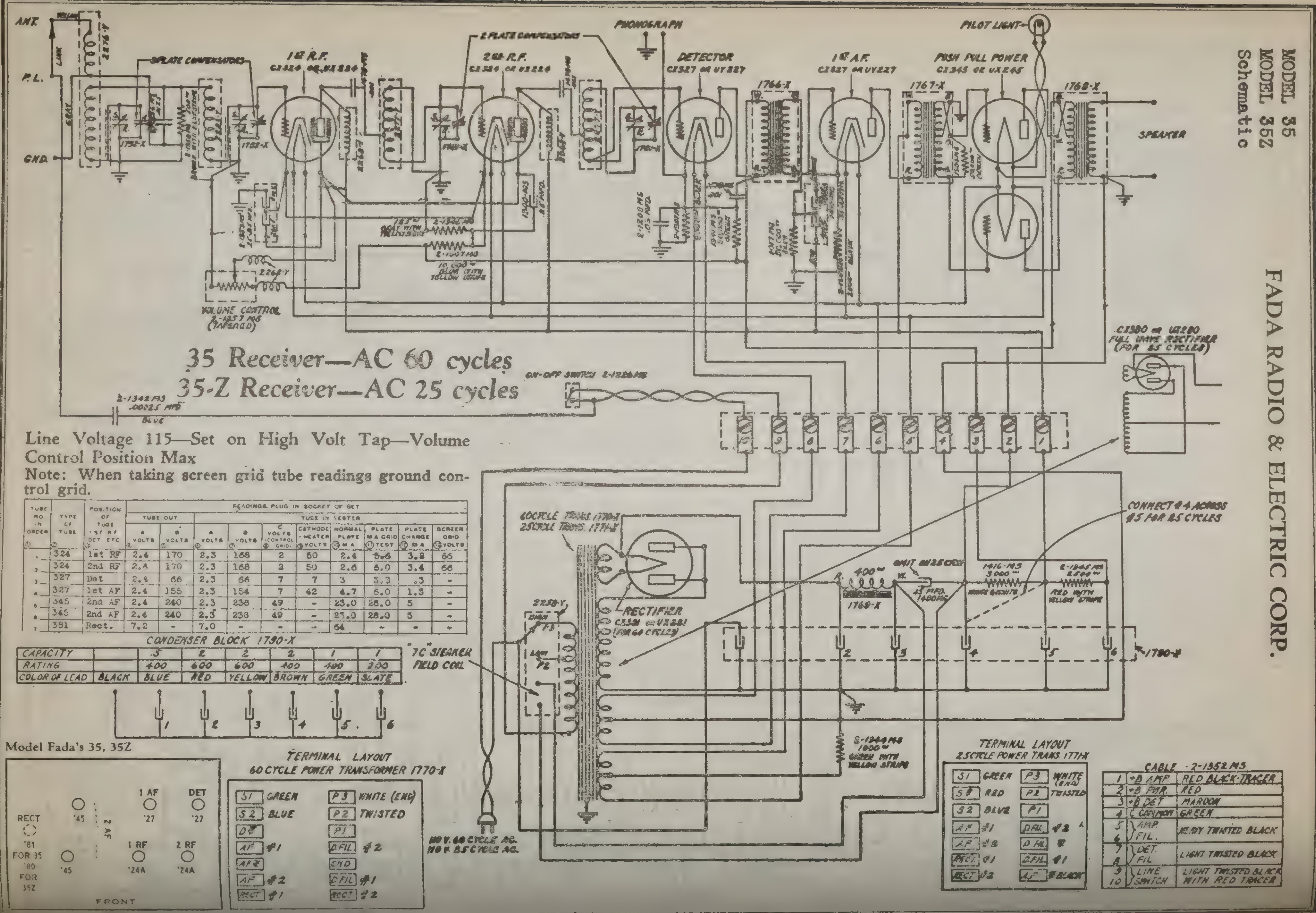
TUBE NO IN ORDER TESTED (1)	TYPE OF TUBE (2)	POSITION OF TUBE IN SET (3)	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR (4) HEATER	PLATE OR (5) ANODE	CONTROL GRID—SPACE (6) GD +	NORMAL GRID—SCREEN (7) GD +	CATHODE TO (8) HEATER	SCREEN GD L H 80 (9) PLATE	PLATE R H 80 (10) PLATE	TUBE TEST (11)	PLATE CURRENT (12) CHANGE
1	224	1 R.F.	2.4	160	65	3	42	-	2.	4	2
2	224	2 R.F.	2.4	160	65	3	42	-	2.	4	2
3	224	3 R.F.	2.4	160	65	3	42	-	2.	4	2
4	227	Det	2.4	80	-	10	10	-	.2	1	.8
5	227	1 A.F.	2.4	150	-	10	10	-	5.	6.5	1.5
6	245	2 A.F.	2.4	240	-	45	40	-	25.	30.	5
7	245	2 A.F.	2.4	240	-	45	-	-	25.	30	5
8	280	Rect.	7.1	-	-	-	-	32.5	32.5	-	-

CABLE 2-1352 MS

1	+B AMP.	RED BLACK TRACER
2	+ PWR.	RED
3	+B DET.	MAROON
4	C-COMMON	GREEN
5	AMP.	HEAVY-TWISTED BLACK
6	FIL.	
7	DET.	LIGHT TWISTED BLACK
8	FIL.	
9	LINE	LIGHT TWISTED BLACK WITH RED TRACER
10	SWITCH	

MODEL 35
MODEL 35Z
Schematic

FADA RADIO & ELECTRIC CORP.


ANT.
P.L.
GND.
2 PLATE COMPENSATORS
1ST R.F. C1324 OR UY224
2ND R.F. C1324 OR UY224
PHONOGRAPH
DETECTOR C1327 OR UY227
1ST A.F. C1327 OR UY227
PUSH PULL POWER C1345 OR UX245
PILOT LIGHT
SPEAKER
1766-X
1767-X
1768-X
1790-X
2268-Y
VOLUME CONTROL 2-1357 MS (TAPERED)
2-1342 MS .00025 MFD BLUE
ON-OFF SWITCH 2-1328 MS
C1380 OR UX280 FULL WAVE RECTIFIER (FOR 25 CYCLES)
CONNECT #4 ACROSS #5 FOR 25 CYCLES
60 CYCLE TRANS 1770-X
25 CYCLE TRANS 1771-X
RECTIFIER C1381 OR UX281 (FOR 60 CYCLES)
2258-Y
HIGH
P3
LOW
P2
400~
1769-X
OMIT ON 25 CYCLES
1416-MS 3000~
2-1345 MS 2500~ RED WITH YELLOW STRIPE
S-1344 MS 1600~ GREEN WITH YELLOW STRIPE
"7C" SPEAKER FIELD COIL
110 V. 60 CYCLE AC.
110 V. 25 CYCLE AC.
1
2
3
4
5
6
RECT
'81 FOR 35
'80 FOR 35Z
'45
'45
2 AF
1 AF
'27
DET
'27
1 RF
'24A
2 RF
'24A
FRONT

35 Receiver—AC 60 cycles
35-Z Receiver—AC 25 cycles

Line Voltage 115—Set on High Volt Tap—Volume Control Position Max

Note: When taking screen grid tube readings ground control grid.

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE ⑩ MA	PLATE MA GRID ⑪ TEST	PLATE CHANGE ⑫ MA	SCREEN GRID ⑬ VOLTS
1	324	1st RF	2.4	170	2.3	168	2	50	2.4	5.6	3.8	66
2	324	2nd RF	2.4	170	2.3	168	2	50	2.6	6.0	3.4	66
3	327	Det	2.4	66	2.3	64	7	7	3	3.3	.3	-
4	327	1st AF	2.4	155	2.3	154	7	42	4.7	6.0	1.3	-
5	345	2nd AF	2.4	240	2.3	238	49	-	23.0	28.0	5	-
6	345	2nd AF	2.4	240	2.3	238	49	-	23.0	28.0	5	-
7	381	Rect.	7.2	-	7.0	-	-	-	64	-	-	-

CONDENSER BLOCK 1790-X

CAPACITY		.5	2	2	2	1	1
RATING		400	600	600	400	400	200
COLOR OF LEAD	BLACK	BLUE	RED	YELLOW	BROWN	GREEN	SLATE

Model Fada's 35, 35Z

TERMINAL LAYOUT
60 CYCLE POWER TRANSFORMER 1770-X

S1	GREEN	P3	WHITE (END)
S2	BLUE	P2	TWISTED
DET		P1	
AF	#1	D FIL	#2
AF		END	
AF	#2	D FIL	#1
RECT	#1	RECT	#2

TERMINAL LAYOUT
25 CYCLE POWER TRANS 1771-X

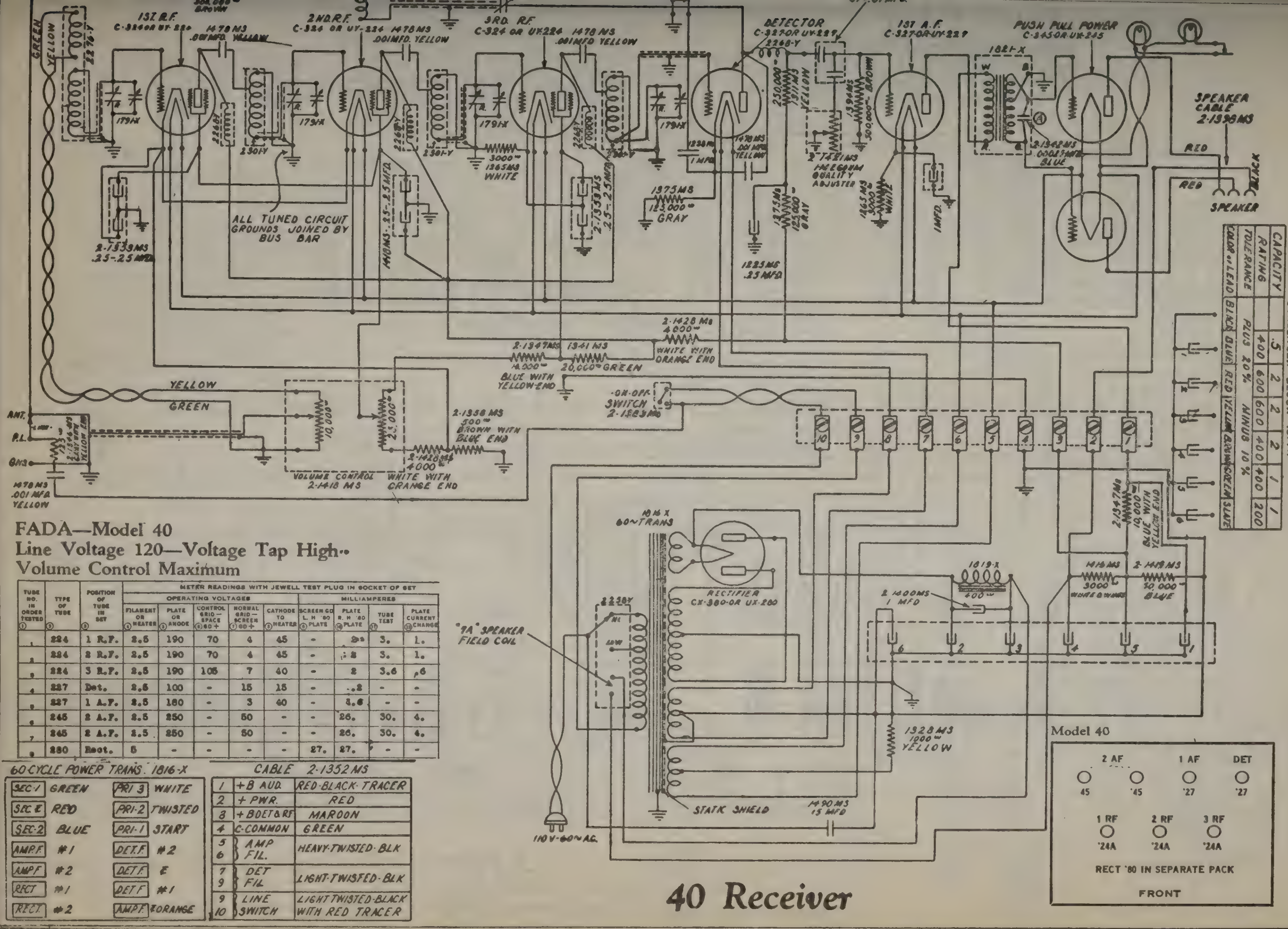
S1	GREEN	P3	WHITE (END)
S2	RED	P2	TWISTED
S2	BLUE	P1	
AF	#1	D FIL	#2
AF	#2	D FIL	
RECT	#1	D FIL	#1
RECT	#2	AF	BLACK

CABLE 2-1352 MS

1	+B AMP.	RED BLACK-TRACER
2	+B PWR.	RED
3	+B DET	MAROON
4	C-COMMON	GREEN
5 6	AMP. FIL.	HEAVY TWISTED BLACK
7 8	DET. FIL.	LIGHT TWISTED BLACK
9 10	LINE SWITCH	LIGHT TWISTED BLACK WITH RED TRACER

MODEL 40
Schematic

FADA RADIO & ELECTRIC CORP.


1ST R.F.
C-324 OR UY-224
2ND R.F.
C-324 OR UY-224
3RD. R.F.
C-324 OR UX-224
DETECTOR
C-327 OR UY-227
1ST A.F.
C-327 OR UY-227
PUSH PULL POWER
C-345 OR UX-245
SPEAKER CABLE 2-1339 MS
SPEAKER
RED
BLACK
1478 MS .001 MFD. YELLOW
179-H
2276-Y
2301-Y
2264-Y
ALL TUNED CIRCUIT GROUNDS JOINED BY BUS BAR
2-1533 MS .25-.25 MFD.
1490 MS .25-.25 MFD.
3000~ 1365 MS WHITE
1375 MS 125,000~ GRAY
1225 MS .25 MFD
250,000~
1311 MS YELLOW
1394 MS
500,000~ BROWN
2-1481 MS MEGOHM QUALITY ADJUSTER
1465 MS 5000~ WHITE
1 MFD.
1821-X
2-1342 MS .00025 MFD. BLUE
2-1428 MS 4000~ WHITE WITH ORANGE END
2-1347 MS 4000~ BLUE WITH YELLOW END
1341 MS 20,000~ GREEN
ON-OFF SWITCH 2-1523 MS
2-1338 MS 500~ BROWN WITH BLUE END
25,000~
10,000~
VOLUME CONTROL 2-1418 MS
WHITE WITH ORANGE END
YELLOW
GREEN
ANT.
P.L.
GND.
1478 MS .001 MFD YELLOW
1816 X 60~ TRANS
RECTIFIER CX-380 OR UX-280
2228-Y
HI
LOW
"7A" SPEAKER FIELD COIL
110 V-60~ AC.
STATIC SHIELD
1490 MS 15 MFD
1328 MS 1000~ YELLOW
1819-X 400~
2-1400 MS 1 MFD
1416 MS 3000~ WHITE & GREEN
2-1419 MS 10,000~ BLUE
2-1347 MS 10,000~ BLUE WITH YELLOW END
Model 40
2 AF 45
1 AF '27
DET '27
1 RF '24A
2 RF '24A
3 RF '24A
RECT '80 IN SEPARATE PACK
FRONT

CONDENSER BLOCK 1817X

CAPACITY		.5	2	2	2	1	1
RATING		400	600	600	400	400	200
TOLERANCE	PLUS 20%		MINUS 10%				
COLOR of LEAD	BLACK	BLUE	RED	YELLOW	BROWN	GREEN	SLATE

FADA—Model 40
Line Voltage 120—Voltage Tap High
Volume Control Maximum

TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE ⑥ 60+	NORMAL GRID—SCREEN ⑦ 60+	CATHODE TO HEATER ⑧	SCREEN GD L. H. '80 PLATE ⑨	PLATE R. H. '80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫
1	224	1 R.F.	2.5	190	70	4	45	-	2	3.	1.
2	224	2 R.F.	2.5	190	70	4	45	-	2	3.	1.
3	224	3 R.F.	2.5	190	105	7	40	-	2	3.6	.6
4	227	Det.	2.5	100	-	15	15	-	.2	-	-
5	227	1 A.F.	2.5	180	-	3	40	-	3.6	-	-
6	245	2 A.F.	2.5	250	-	50	-	-	26.	30.	4.
7	245	2 A.F.	2.5	250	-	50	-	-	26.	30.	4.
8	280	Rect.	5	-	-	-	-	27.	27.	-	-

60 CYCLE POWER TRANS. 1816-X

SEC-1	GREEN	PRI 3	WHITE
SEC E	RED	PRI-2	TWISTED
SEC-2	BLUE	PRI-1	START
AMP.F.	#1	DET.F.	#2
AMP.F	#2	DET.F.	E
RECT	#1	DET F.	#1
RECT.	#2	AMP.F.	E ORANGE

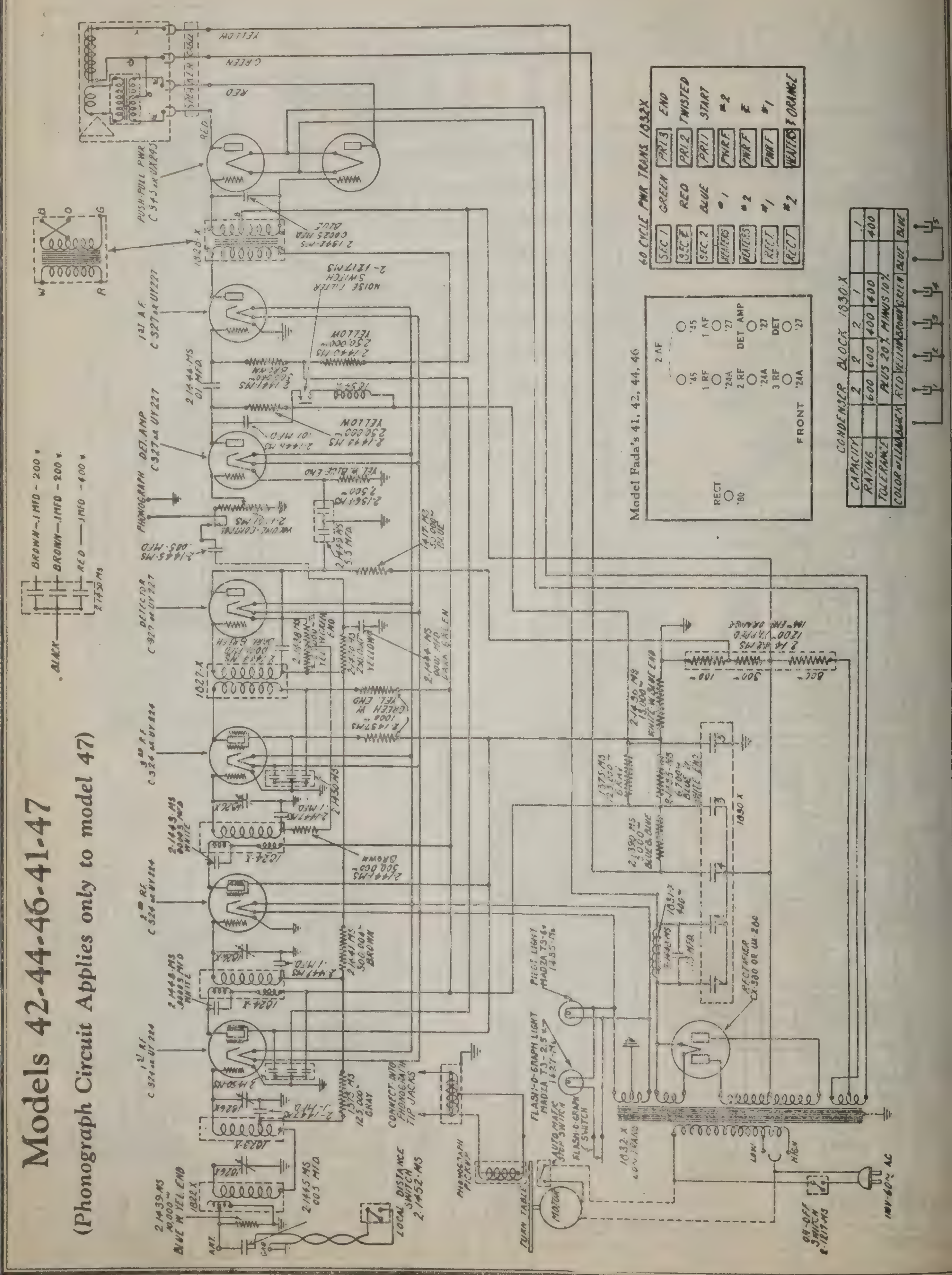
CABLE 2-1352 MS

1	+B AUD.	RED-BLACK-TRACER
2	+ PWR.	RED
3	+ B DET & RF	MAROON
4	C-COMMON	GREEN
5 6	AMP FIL.	HEAVY-TWISTED-BLK
7 9	DET FIL	LIGHT-TWISTED-BLK
9 10	LINE SWITCH	LIGHT TWISTED-BLACK WITH RED TRACER

40 Receiver

MODEL 42,44,46,41,47
Schematic

FADA RADIO & ELECTRIC CORP.



Models 42-44-46-41-47

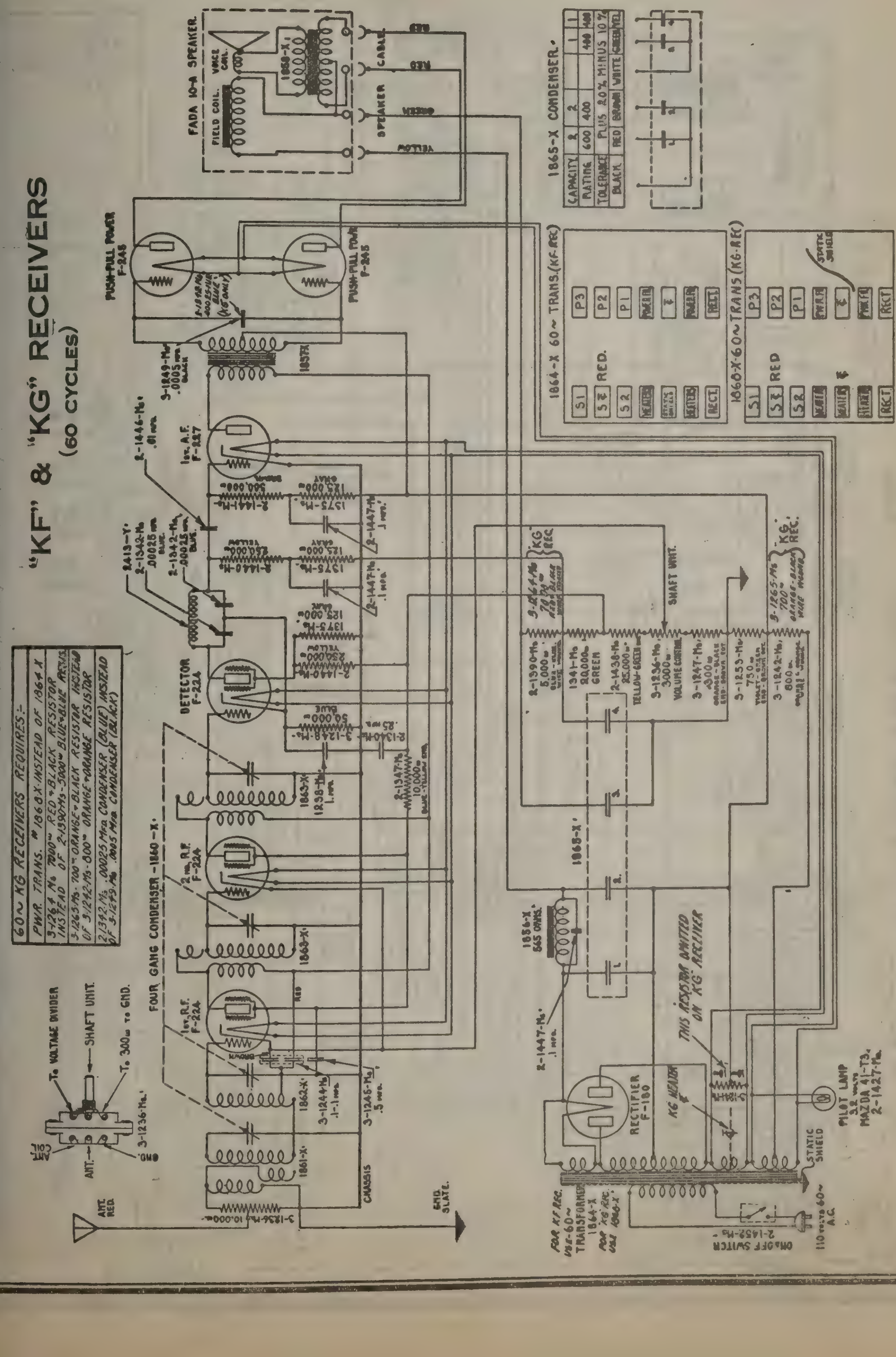
(Phonograph Circuit Applies only to model 47)

PUSH-PULL PWR C 345 or UX245
1st A.F. C 327 or UY227
PHONOGRAPH DET. AMP C327 or UY227
DETECTOR C 327 or UY 227
3rd R.F. C 324 or UY 224
2nd R.F. C 324 or UY 224
1st R.F. C 324 or UY 224
RECTIFIER CX 380 OR UX 280
SPEAKER
YELLOW
GREEN
RED
NOISE FILTER SWITCH 2-1217MS
VOLUME CONTROL 2-1 ... MS
PILOT LIGHT MAZDA T3-6v 1435-Ms
FLASH-O-GRAPH LIGHT MAZDA T3-2.5v 1437-Ms
FLASH-O-GRAPH SWITCH
AUTOMATIC STOP SWITCH
CONNECT INTO PHONOGRAPH TIP JACKS
PHONOGRAPH PICKUP
TURN TABLE
MOTOR
LOCAL DISTANCE SWITCH 2-1452-MS
ANT.
GND.
LOW
HIGH
ON-OFF SWITCH 2-1213MS
110V-60~ AC
1832 X 60~ TRANS
1830 X
1027 X
1024 X
1023 X
1822 X
1828 X
BROWN-.1MFD-200v
BROWN-.1MFD-200v
RED-.1MFD-400v
BLACK
60 CYCLE PWR TRANS 1832X
SEC 1 | GREEN | PRI 3 | END
SEC 3 | RED | PRI 2 | TWISTED
SEC 2 | BLUE | PRI 1 | START
HEATERS | #1 | PWR F | #2
HEATERS | #2 | PWR F | #
RECT | #1 | PWR F | #1
RECT | #2 | HEATERS | ORANGE
Model Fada's 41, 42, 44, 46
RECT '80
'45 1 RF '24A
2 AF
'45 1 AF '27
2 RF '24A DET AMP '27
3 RF '24A DET '27
FRONT
CONDENSER BLOCK 1830 X
CAPACITY | 2 | 2 | 2 | 1 | .1
RATING | 600 | 600 | 400 | 400 | 400
TOLERANCE | PLUS 20% MINUS 10%
COLOR of LEAD | BLACK | RED | YELLOW | BROWN | GREEN | BLUE | BLUE

FADA RADIO & ELECTRIC CORP.

MODEL "KF", (43)
MODEL "KG", (761,762,
764,766)
Schematic

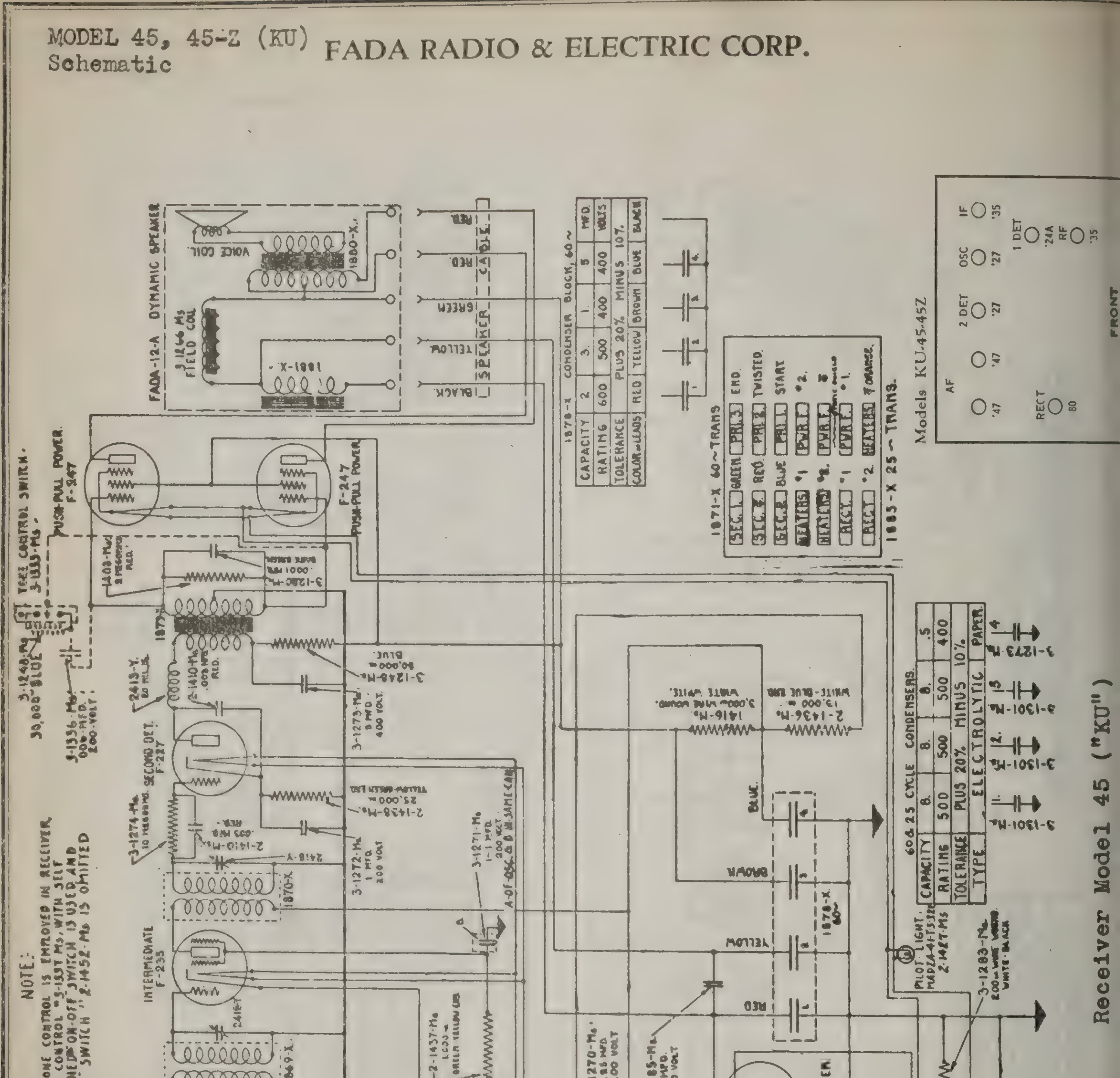
"KF" & "KG" RECEIVERS
(60 CYCLES)


60~ KG RECEIVERS REQUIRES:-
PWR. TRANS. #1860-X INSTEAD OF 1864-X
3-1264 Ms 7000~ RED+BLACK RESISTOR INSTEAD OF 2-1390-Ms-5000~ BLUE+BLUE RESIS.
3-1265-Ms-700~ ORANGE+BLACK RESISTOR INSTEAD OF 3-1242-Ms-800~ ORANGE+ORANGE RESISTOR
2-1342-Ms .00025 Mfd CONDENSER (BLUE) INSTEAD OF 3-1249-Ms .0005 Mfd CONDENSER (BLACK)
To VOLTAGE DIVIDER
SHAFT UNIT.
To 300~ to GND.
ANT. COIL
ANT.
GND
3-1236-Ms
FADA 10-A SPEAKER.
FIELD COIL.
VOICE COIL.
1858-X
SPEAKER CABLE.
RED
BLUE
GREEN
YELLOW
PUSH-PULL POWER F-245
PUSH-PULL POWER F-245
3-1248-Ms 4000-4500~ BLUE (KG ONLY)
3-1249-Ms .0005 Mfd BLACK
1857-X
1st. A.F. F-227
2-1446-Ms .01 Mfd.
2-1441-Ms 500,000~
1575-Ms 125,000 GRAY
2-1447-Ms .1 Mfd.
2-1440-Ms 250,000 YELLOW
1575-Ms 125,000 GRAY
2-1447-Ms .1 Mfd.
2413-Y
2-1342-Ms .00025 Mfd BLUE
2-1342-Ms .00025 Mfd BLUE
DETECTOR F-224
1575-Ms 125,000 GRAY
2-1440-Ms 250,000 YELLOW
3-1248-Ms 50,000 BLUE
2-1340-Ms .25 Mfd
2-1347-Ms 10,000~ BLUE-YELLOW
1863-X
1238-Ms 1 Mfd.
FOUR GANG CONDENSER -1860-X
2nd. R.F. F-224
1863-X
1st. R.F. F-224
RED
1862-X
3-1244-Ms .1-.1 Mfd.
3-1245-Ms .5 Mfd.
1861-X
CHASSIS
ANT. RED.
3-1236-Ms 10,000~
GND. SLATE.
3-1264-Ms 7000~ RED-BLACK
KG REC.
SHAFT UNIT.
2-1390-Ms 5,000~
1341-Ms 20,000~ GREEN
2-1438-Ms 25,000~ YELLOW-GREEN
3-1236-Ms 3000~ VOLUME CONTROL
3-1247-Ms 300~ ORANGE-BLACK
3-1253-Ms 750~
3-1242-Ms 800~ ORANGE
3-1265-Ms 700~ ORANGE-BLACK
KG REC.
1865-X
1856-X 865 OHMS
2-1447-Ms .1 Mfd.
THIS RESISTOR OMITTED ON "KG" RECEIVER
RECTIFIER F-180
KG HEATER
PILOT LAMP 3.2 VOLTS MAZDA 41-T3. 2-1427-Ms
STATIC SHIELD
FOR KF REC. USE 60~ TRANSFORMER 1864-X FOR KG REC. USE 1860-X
ON-OFF SWITCH 2-1459-Ms
110 VOLTS 60~ A.C.
1864-X 60~ TRANS. (KF-REC)
S1
S ⊥ RED.
S2
HEATER
STATIC SHIELD
HEATER
RECT.
P3
P2
P1
POWER
⊥
POWER
RECT.
1860-X 60~ TRANS (KG-REC)
S1
S ⊥ RED
S2
HEATER
HEATER ⊥
STATIC
RECT.
P3
P2
P1
POWER
⊥
POWER
RECT.
STATIC SHIELD
1865-X CONDENSER.
CAPACITY | 2 | 2 | | 1 | 1
RATING | 600 | 400 | | 400 | 400
TOLERANCE | PLUS 20% MINUS 10%
BLACK | RED | BROWN | WHITE | GREEN | YEL.

Model "KF" Chassis. Receiver model 43
Model "KG" Chassis. Receiver model 761,762,764,766

MODEL 45, 45-Z (KU)
Schematic

FADA RADIO & ELECTRIC CORP.


FADA-12-A DYNAMIC SPEAKER
VOICE COIL
1880-X
3-1266-Ms FIELD COIL
1881-X
SPEAKER CABLE
RED
RED
GREEN
YELLOW
BLACK
PUSH-PULL POWER F-247
F-247 PUSH-PULL POWER
TONE CONTROL SWITCH 3-1337-Ms
3-1248-Ms 30,000 BLUE
3-1280-Ms .0001 MFD.
1879-X
2413-Y
2-1410-Ms .005 MFD. RED
3-1336-Ms .006 MFD. 200 VOLT
3-1248-Ms 80,000 BLUE
3-1273-Ms 8 MFD. 400 VOLT
SECOND DET. F-227
2-1438-Ms 25,000 YELLOW-GREEN END
3-1274-Ms 10 MEGOHMS
2-1410-Ms .005 MFD. RED
2418-Y
3-1272-Ms 1 MFD. 200 VOLT
3-1271-Ms 1-1 MFD. 200 VOLT
A-OF 45C & B IN SAME CAN
1870-X
INTERMEDIATE F-235
2416-Y
1869-X
2-1437-Ms 1,000 GREEN YELLOW END
3-1270-Ms .25 MFD. 200 VOLT
FIRST DET F-224
2419-Y
2-1439-Ms 10,000
2-1447-Ms 1 MFD 200 VOLT
2-1892-Ms 280 LIGHT BROWN
2-1436-Ms 13,000 WHITE-BLUE END
3-1269-Ms SEE NOTE 7,500 VOLUME CONTROL
THIS CONDENSER OMITTED ON 25 & 60 CYCLE, WHEN ELECTROLYTICS ARE USED
3-1285-Ms .2 MFD. 200 VOLT
1872-X
1875-X
1872-X FOUR GANG CONDENSER
RADIO FREQ F-235
1873-X
2-1871-Ms 1-1 MFD 200 VOLT
ANT
GND
2-1439-Ms 10,000
HEATS
1416-Ms 3,000 WIRE WOUND WHITE
2-1436-Ms 13,000 WHITE-BLUE END
BLUE
BROWN
YELLOW
RED
1878-X 60~
F-280 RECTIFIER
1885-X 25~ 1871-X 60~ POWER TRANS
STATIC SHIELD
SEE NOTE
2-1452-Ms ON-OFF SWITCH
AC 110 60~ and 25~
PILOT LIGHT MAZDA-41-T3-32E 2-1427-MS
3-1283-Ms 200 WIRE WOUND WHITE-BLACK
3-1301-Ms
2-1438-Ms 25,000 YELLOW-GREEN END
3-1279-Ms 5,000 ORANGE
3-1282-Ms .00075 MFD GRAY
3-1280-Ms .0001 MFD DARK GREEN
OSCILLATOR F-227
3-1248-Ms 30,000 BLUE
2418-Y
1876-X
1871-X 60~TRANS
SEC. 1 GREEN PRI. 1 END
SEC. 2 RED PRI. 2 TWISTED
SEC. 3 BLUE FIL. 1 START
HEATERS #1 PWR. 1 #2
HEATERS #2 PWR. 2 #
RECT #1 PWR. 1 #1
RECT #2 HEATERS #ORANGE
1885-X 25~TRANS
Models KU-45-45Z
AF
2 DET
OSC
IF
1 DET
'47
'47
'27
'27
'35
'24A
RF
'35
RECT
80
FRONT

NOTE:
WHEN TONE CONTROL IS EMPLOYED IN RECEIVER, VOLUME CONTROL "3-1337 Ms. WITH SELF CONTAINED ON-OFF SWITCH IS USED AND 'ON OFF' SWITCH "2-1452-Ms IS OMITTED

1878-X CONDENSER BLOCK, 60~

CAPACITY	2	3.	1.	5	MFD.
RATING	600	500	400	400	VOLTS
TOLERANCE	PLUS 20% MINUS 10%				
COLOR = LEADS	RED	YELLOW	BROWN	BLUE	BLACK

60 & 25 CYCLE CONDENSERS.

CAPACITY	8.	8.	8.	.5
RATING	500	500	500	400
TOLERANCE	PLUS 20% MINUS 10%			
TYPE	ELECTROLYTIC			PAPER

3-1301-Ms 1.
3-1301-Ms 2.
3-1301-Ms 3
3-1873-Ms 4

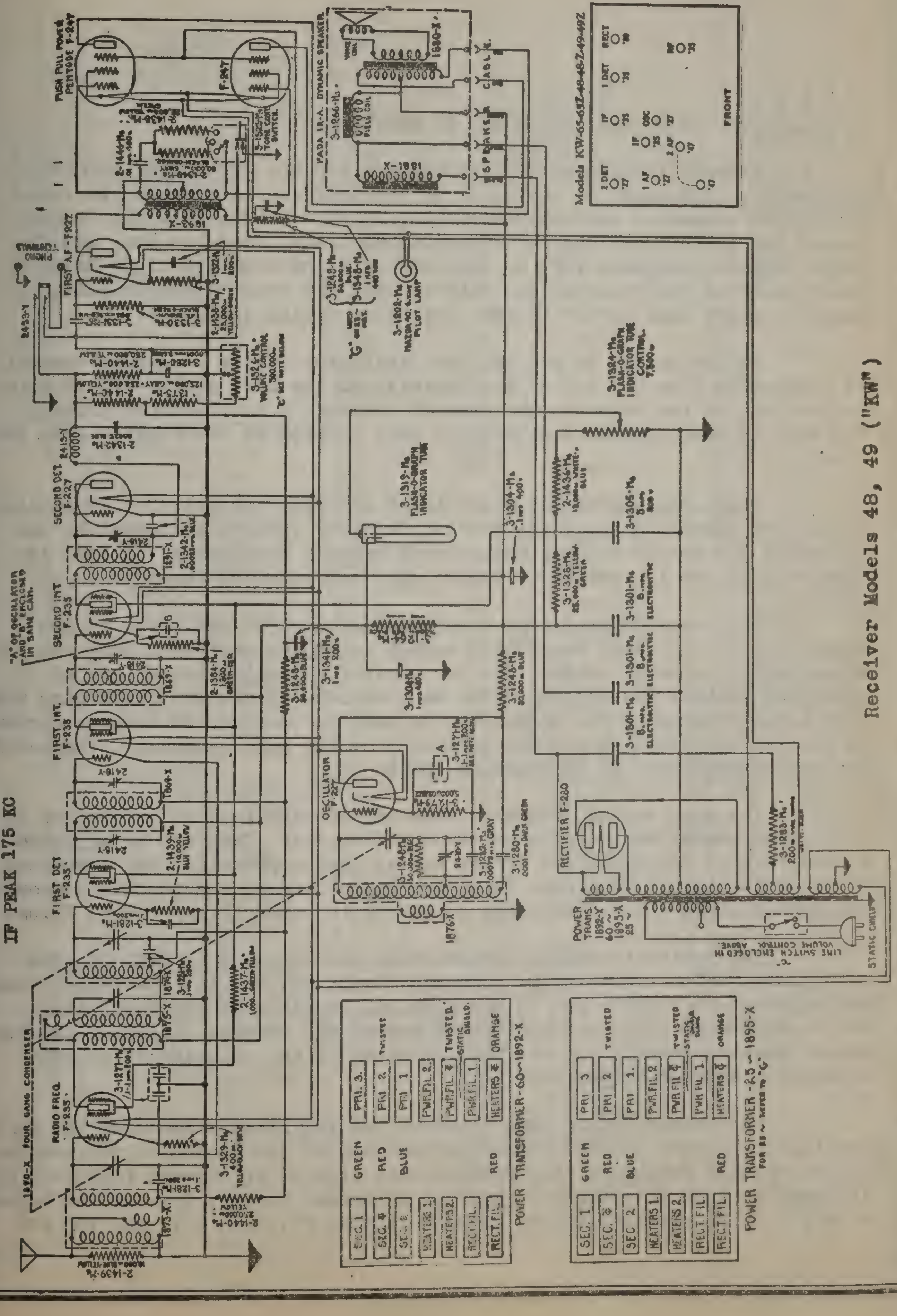
IF PEAK 175 KC.

Receiver Model 45 ("KU")

Adjustment notes on next page.

FADA RADIO & ELECTRIC CORP

MODEL 48,49 (KW)
Schematic


IF PEAK 175 KC
Receiver Models 48, 49 ("KW")
RADIO FREQ. F-235
FIRST DET F-235
FIRST INT. F-235
SECOND INT F-235
SECOND DET F-227
FIRST A.F. F-227
PUSH PULL POWER PENTODE F-247
F-247
OSCILLATOR F-227
RECTIFIER F-280
1870-X FOUR GANG CONDENSER
"A" OF OSCILLATOR AND "B" ENCLOSED IN SAME CAN.
PHONO TERMINALS
FADA 12-A DYNAMIC SPEAKER
FIELD COIL
CABLE
SPEAKER
3-1919-M FLASH-O-GRAPH INDICATOR TUBE
3-1924-M FLASH-O-GRAPH INDICATOR TUBE CONTROL 7,500 Ω
3-1326-M VOLUME CONTROL 500,000 Ω
3-1202-M MAZDA 40, 6 VOLT PILOT LAMP
POWER TRANS 1892-X 60~ 1895-X 25~
LINE SWITCH ENCLOSED IN VOLUME CONTROL ABOVE.
STATIC SHIELD
Models KW-65-65Z-48-48Z-49-49Z
FRONT
RECT
1 DET
2 DET
IF
OSC
1 AF
2 AF
SEC. 1 · GREEN · PRI. 3.
SEC. 2 · RED · PRI. 2. TWISTED
SEC. 2 · BLUE · PRI. 1.
HEATERS 1 · PWR.FIL. 2
HEATERS 2 · PWR.FIL. ¢ TWISTED · STATIC SHIELD.
RECT.FIL. · PWR.FIL. 1
RECT.FIL. · RED · HEATERS ¢ · ORANGE
POWER TRANSFORMER-60~1892-X
POWER TRANSFORMER-25~1895-X
FOR 25~ REFER TO "G"

SPECIAL DATA FOR MODELS 45, 48 and 49 RECEIVERS

Trimmer adjustment frequencies are 175 KC, 600 KC and 1400 KC. The trimmer condensers on the model 45 receiver are located in the rear right hand corner of the chassis looking at the chassis from the front. Two of the IF trimmers are on the right hand side, near the rear and the third trimmer condenser (IF) is that most distant from the right hand rear corner of the chassis. The trimmer upon the rear of the chassis, near the right hand corner is the oscillator series condenser.

In the models 48 and 49, the oscillator series condenser control is accessible from the top of the chassis, on the left end of the chassis to the left of the shields. The four IF trimmers are accessible through the rear of the chassis, one the left end, looking at the chassis from the front.

The suggested output meter is of the type suitable for connection across the speaker voice coil. The 1st detector control grid must be disconnected for the IF trimmer adjustments and the oscillator "A" lead is connected to the 1st detector control grid cap upon the tube.

The variable gang condenser compensators for the model 45 are located on top of their respective tuning condenser sections. They can be adjusted with a screw driver. The compensator adjusting screws are at ground potential. The adjustment is made at 1400 KC without disturbing the main tuning sections. The suggestion is made to connect the antenna circuit of the receiver through a dummy antenna or a 250 mmfd condenser. The oscillator series condenser is adjusted at 600 KC

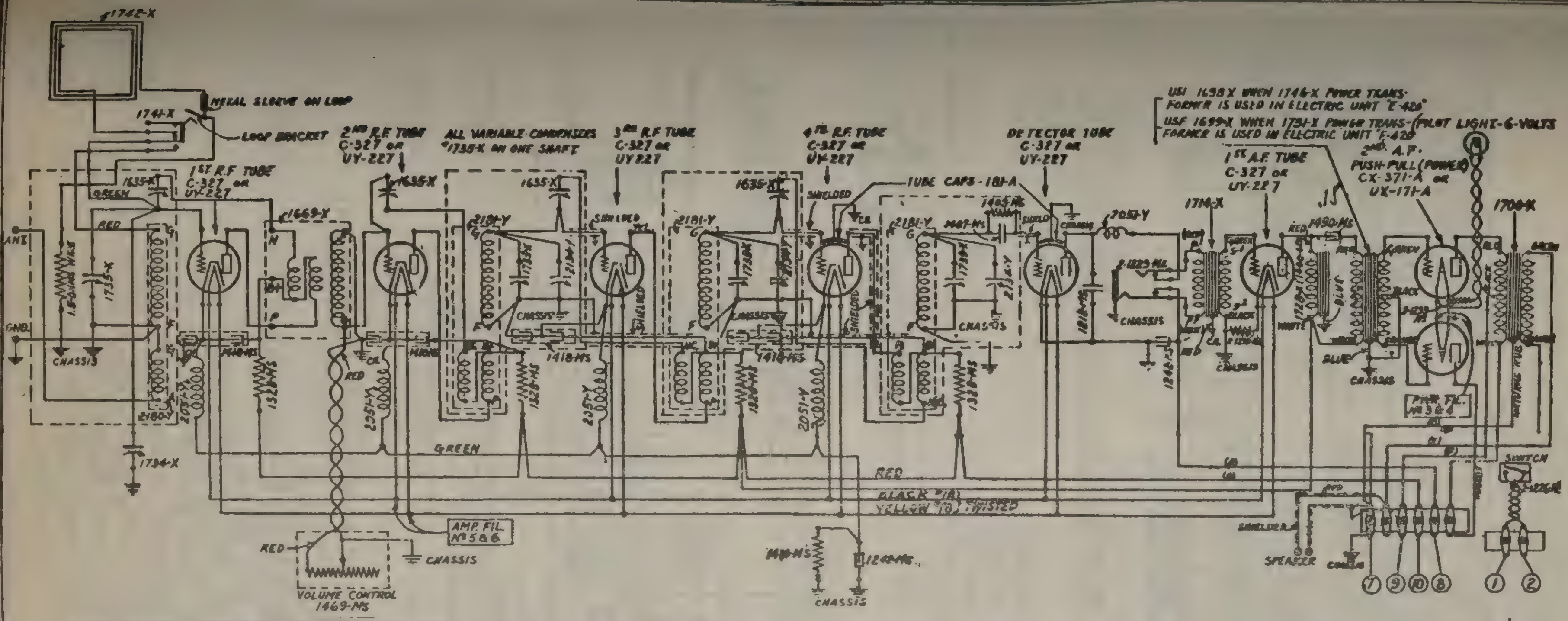
The main tuning condenser compensators are located at the top of their main tuning sections in the 48 and 49 models. They can be adjusted with a screw driver and since the screws are at ground potential and insulated screw driver is not required. There are four holes in the overall condenser and tube housing cover. The screw driver is inserted through these holes.

The tuning condenser compensators are adjusted at 1400 KC. The oscillator series condenser is adjusted at 600 KC. The intermediate trimmers are adjusted at 175 KC. Due to the physical location of the oscillator series condenser it is permissible to remove the overall condenser and tube shield housing cover to permit the insertion of the standard #4 socket wrench for adjustment purposes.

The suggestion is made to check the 175 KC adjustment of the test oscillator by beating that signal against one of its harmonics represented by the carrier frequency of a broadcasting station of correct frequency which is tuned in with the receiver operated in normal manner. Some of the harmonics of a 175 KC signal are 1400 KC.,1225 KC., 1050 KC., 875 KC., and 700 KC.

FADA RADIO & ELECTRIC CORP.

MODEL 50,70,71,72
50-Z,70-Z
Schematic
Voltage


1742-X
METAL SLEEVE ON LOOP
1741-X
LOOP BRACKET
1ST R.F. TUBE
C-327 OR
UY-227
2ND R.F. TUBE
C-327 OR
UY-227
ALL VARIABLE CONDENSERS
#1735-X ON ONE SHAFT
3RD R.F. TUBE
C-327 OR
UY227
4TH R.F. TUBE
C-327 OR
UY-227
DETECTOR TUBE
C-327 OR
UY-227
TUBE CAPS - 181-A
1ST A.F. TUBE
C-327 OR
UY-227
USE 1698X WHEN 1746-X POWER TRANSFORMER IS USED IN ELECTRIC UNIT "E-420"
USE 1699-X WHEN 1751-X POWER TRANSFORMER IS USED IN ELECTRIC UNIT "E-420"
PILOT LIGHT-6-VOLTS
2ND A.F.
PUSH-PULL (POWER)
CX-371-A OR
UX-171-A
1700-X
1635-X
GREEN
RED
ANT
GND
CHASSIS
1735-X
2180-Y
1734-X
1669-X
1418-MS
1328-MS
2051-Y
2181-Y
1738-X
1405-MS
1407-MS
7051-Y
1714-X
1490-MS
1248-S
SHIELDED
GREEN
RED
BLACK (1B) TWISTED
YELLOW (1B) TWISTED
AMP. FIL. Nº 5 & 6
CHASSIS
RED
VOLUME CONTROL
1469-MS
1410-MS
1244-MS
CHASSIS
PWR. FIL. Nº 3 & 4
SWITCH
SHIELDED
SPEAKER
CHASSIS
⑦ ⑨ ⑩ ⑧
① ②

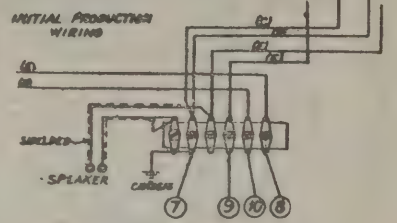
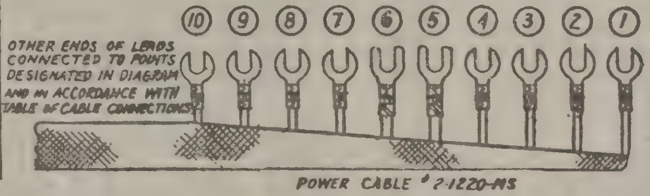

INITIAL PRODUCTION WIRING
SHIELDED
SPEAKER
CHASSIS
⑦ ⑨ ⑩ ⑧

TABLE OF CABLE CONNECTIONS

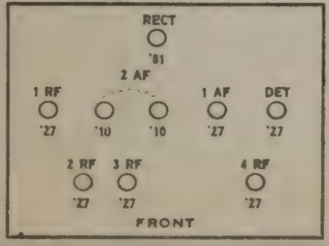
Nº		COLOR	
1	LINE	BLACK WITH RED TRACER	LIGHT TWISTED
2	SWITCH	BLACK " " "	
3	PWR.	BLACK	LIGHT TWISTED
4	FIL.	BLACK	
5	AMP.	BLACK	HEAVY TWISTED
6	FIL.	BLACK	
7	C (COMMON)	GREEN	
8	+B DET	MAROON	
9	+B PWR.	RED	
10	+B 90	RED WITH BLACK TRACER	

50, 70, 71 and 72 Receivers


⑩ ⑨ ⑧ ⑦ ⑥ ⑤ ④ ③ ② ①
OTHER ENDS OF LEADS CONNECTED TO POINTS DESIGNATED IN DIAGRAM AND IN ACCORDANCE WITH TABLE OF CABLE CONNECTIONS

POWER CABLE # 2-1220-MS

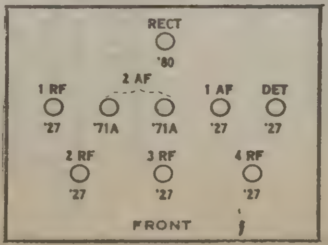
Model Fada's 50, 70, 71, 72, (E-420)


RECT
'81
2 AF
1 RF
'27
'10
'10
1 AF
'27
DET
'27
2 RF
'27
3 RF
'27
4 RF
'27
FRONT

FADA—Models 50-70 with E-180 Electric Unit
Line Voltage 120—110-130 Volt Tap

Tube No. in Order	Type of Tube	Position of Tube 1st. RF Det., etc.	Readings plus in socket of set: Tube out A Volts	Tube out B Volts	Tube in tester A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A	Plate M.A. when test	Plate M.A. change
1	227	1st. R.F.			2.5	95	5	12.5	4.0	7.0	3.0
2	227	2nd. R.F.			2.5	95	5	12.5	4.0	7.0	3.0
3	227	3rd. R.F.			2.5	95	5	12.5	4.0	7.0	3.0
4	227	4th. R.F.			2.5	95	5	12.5	4.0	7.0	3.0
5	227	DETECTOR			2.5	35	0	14.0	2.2	2.2	0.0
6	227	1st. A.F.			2.5	90	5	12.5	4.0	6.0	2.0
7	171A	2nd. A.F.			5.0	190	45	-	18.0	55.0	37.0
8	171A	2nd. A.F.			5.0	190	45	-	18.0	55.0	37.0
9	280	RECTIFIER			3.0	-					

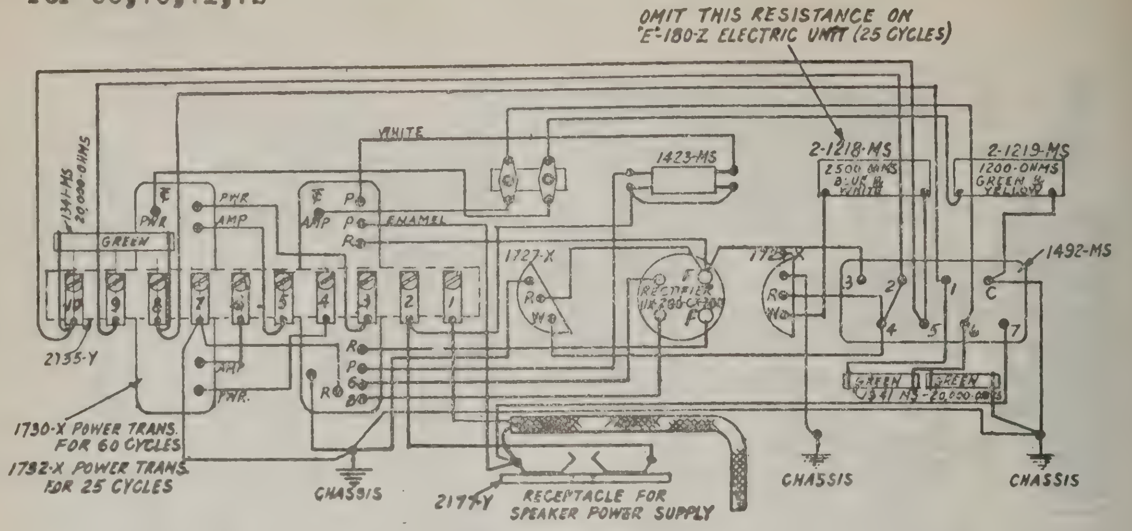
Model Fada's 50, 70, 50Z, 70Z, (E-180)


RECT
'80
2 AF
1 RF
'27
'71A
'71A
1 AF
'27
DET
'27
2 RF
'27
3 RF
'27
4 RF
'27
FRONT

Model E-180, E-180Z
E-420, E-420Z
power packs
are shown on
pages following.

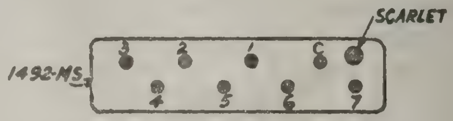
MODEL E-180,E-180Z
Electric Unit
for 50,70,71,72

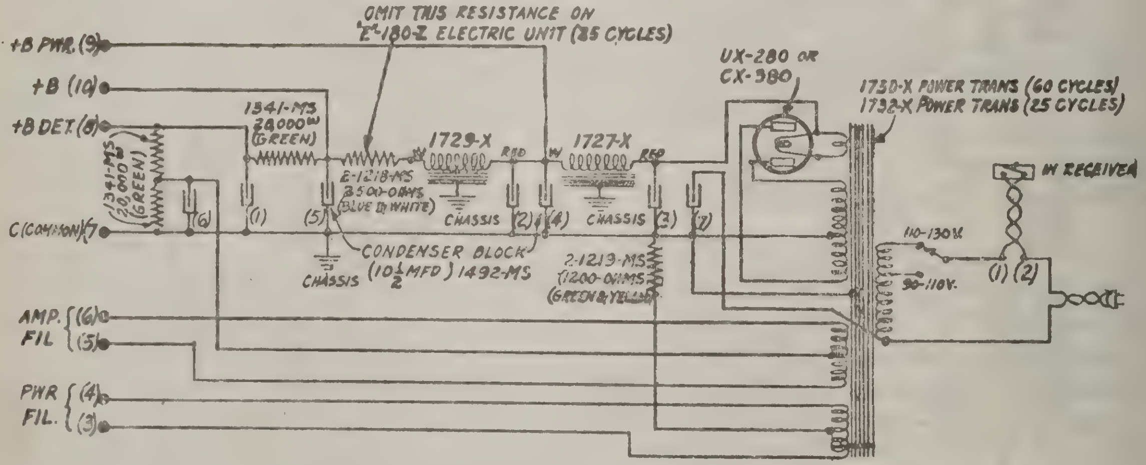
FADA RADIO & ELECTRIC CORP.


OMIT THIS RESISTANCE ON "E"-180-Z ELECTRIC UNIT (25 CYCLES)
1341-MS 20,000 OHMS
GREEN
WHITE
1423-MS
2-1218-MS 2500 OHMS BLUE & WHITE
2-1219-MS 1200-OHMS GREEN & YELLOW
1492-MS
PWR
AMP
ENAMEL
1727-X
RECTIFIER UX-280-CX-380
1727-X
F
R
P
W
10
9
8
7
6
5
4
3
2
1
C
2135-Y
AMP
PWR.
R
P
G
B
1730-X POWER TRANS. FOR 60 CYCLES
1732-X POWER TRANS. FOR 25 CYCLES
CHASSIS
2177-Y
RECEPTACLE FOR SPEAKER POWER SUPPLY
GREEN
1341-MS-20,000 OHMS
CHASSIS
CHASSIS

ACTUAL WIRING DIAGRAM OF "E"-180 & "E"-180-Z ELECTRIC UNIT

Nor should it be a difficult matter to keep in mind that all "E-180" sets can be identified by their having two round cans in the "rear row" (the power pack) This immediately identifies the set as requiring a 280 rectifier tube and type 171-A amplifier tubes.


SCARLET
1492-MS
3
2
1
C
4
5
6
7


OMIT THIS RESISTANCE ON "E"-180-Z ELECTRIC UNIT (25 CYCLES)
+B PWR. (9)
+B (10)
+B DET. (8)
C (COMMON) (7)
AMP. FIL (6) (5)
PWR FIL. (4) (3)
1341-MS 20,000 Ω (GREEN)
1341-MS 20,000 Ω (GREEN)
E-1218-MS 3500-OHMS (BLUE & WHITE)
1729-X
1727-X
RED
W
CHASSIS
CHASSIS
(6) (1) (5) (2) (4) (3) (7)
CONDENSER BLOCK (10½ MFD) 1492-MS
CHASSIS
2-1219-MS (1200-OHMS) (GREEN & YELLOW)
UX-280 OR CX-380
1730-X POWER TRANS (60 CYCLES)
1732-X POWER TRANS (25 CYCLES)
W RECEIVED
110-130V.
90-110V.
(1) (2)

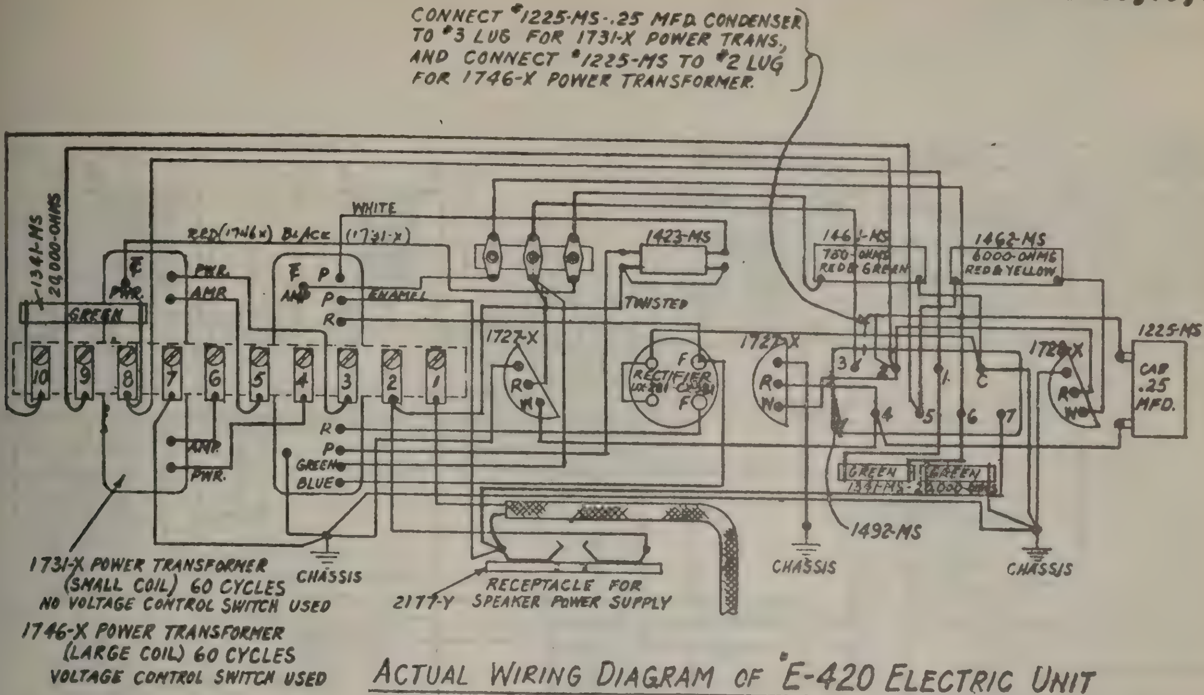
SCHEMATIC WIRING DIAGRAM OF "E"-180 & "E"-180-Z ELECTRIC UNIT

ELECTRICAL VALUES
ELECTRIC UNIT TYPE E- 180

1225-MS	.25 mfd 400 volts
1341-MS	carbon 20,000 ohms (green)
1461-MS	wire 750 ohms red-green
1462-MS	wire 6000 ohms red-yellow
1492-MS	condenser block 10.5 mfd
2-1218-MS	wire 2500 ohms blue-white
2-1219-MS	wire 1200 ohms green-yellow
1727-X	choke 600 ohms
1729-X	choke 3500 ohms

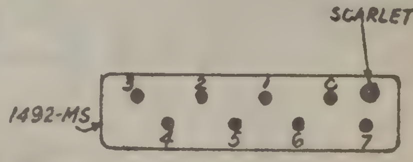
FADA RADIO & ELECTRIC CORP.

MODEL E-420, E-420Z
Electric Unit
for 50, 70, 71, 72

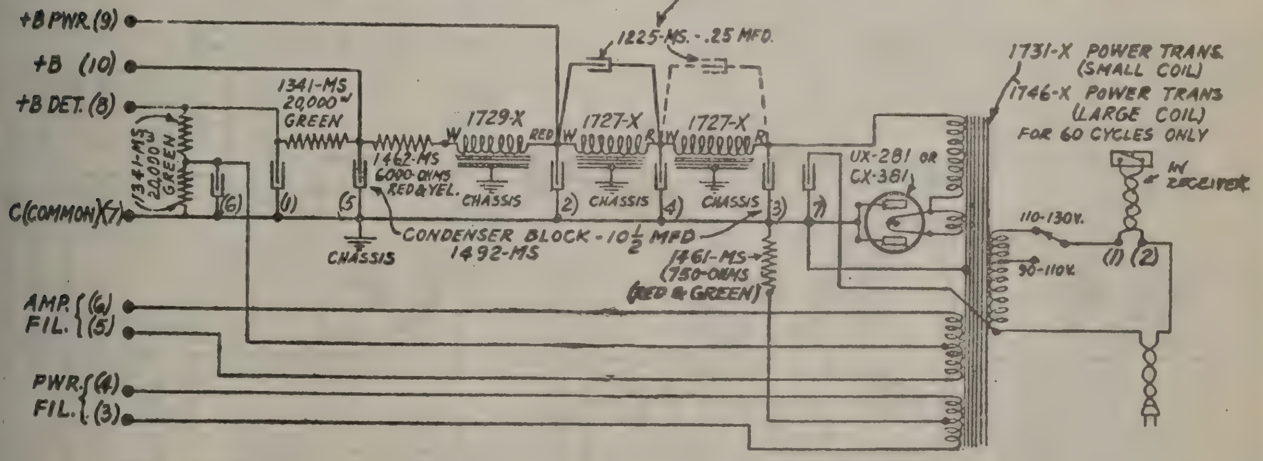

CONNECT #1225-MS-.25 MFD. CONDENSER TO #3 LUG FOR 1731-X POWER TRANS., AND CONNECT #1225-MS TO #2 LUG FOR 1746-X POWER TRANSFORMER.
1341-MS 20,000-OHMS
GREEN
WHITE
RED (1746-X) BLACK (1731-X)
PWR.
AMP
ENAMEL
TWISTED
1423-MS
1461-MS 750-OHMS RED & GREEN
1462-MS 6000-OHMS RED & YELLOW
1225-MS
CAP. .25 MFD.
1727-X
RECTIFIER UX-281
1729-X
GREEN
1341-MS-20,000 OHMS
1492-MS
CHASSIS
RECEPTACLE FOR SPEAKER POWER SUPPLY
2177-Y
1731-X POWER TRANSFORMER (SMALL COIL) 60 CYCLES NO VOLTAGE CONTROL SWITCH USED
1746-X POWER TRANSFORMER (LARGE COIL) 60 CYCLES VOLTAGE CONTROL SWITCH USED

ACTUAL WIRING DIAGRAM OF *E-420 ELECTRIC UNIT

Now it should not be a difficult matter to keep in mind that all "E-420" sets can be identified by their having three round cans in the "rear row" (the power pack). This immediately identifies the set as requiring a 281 rectifier tube and type 210 amplifier tubes.


SCARLET
1492-MS
3
2
1
C
4
5
6
7

CONNECT 1225-MS-.25 MFD. CONDENSER ACROSS 1ST CHOKE FOR 1731-X POWER TRANS. AND CONNECT ACROSS 2ND CHOKE FOR 1746-X POWER TRANSFORMER (AS SHOWN BY BROKEN LINES)


+B PWR. (9)
+B (10)
+B DET. (8)
C (COMMON) (7)
AMP. FIL. (6) (5)
PWR. FIL. (4) (3)
1341-MS 20,000 GREEN
1462-MS 6000-OHMS RED & YEL.
1729-X
1727-X
1727-X
1225-MS.-.25 MFD.
CHASSIS
CONDENSER BLOCK-10½ MFD 1492-MS
1461-MS (750-OHMS) (RED & GREEN)
UX-281 OR CX-381
1731-X POWER TRANS. (SMALL COIL)
1746-X POWER TRANS. (LARGE COIL) FOR 60 CYCLES ONLY
IN RECEIVER
110-130V.
90-110V.
(1) (2)

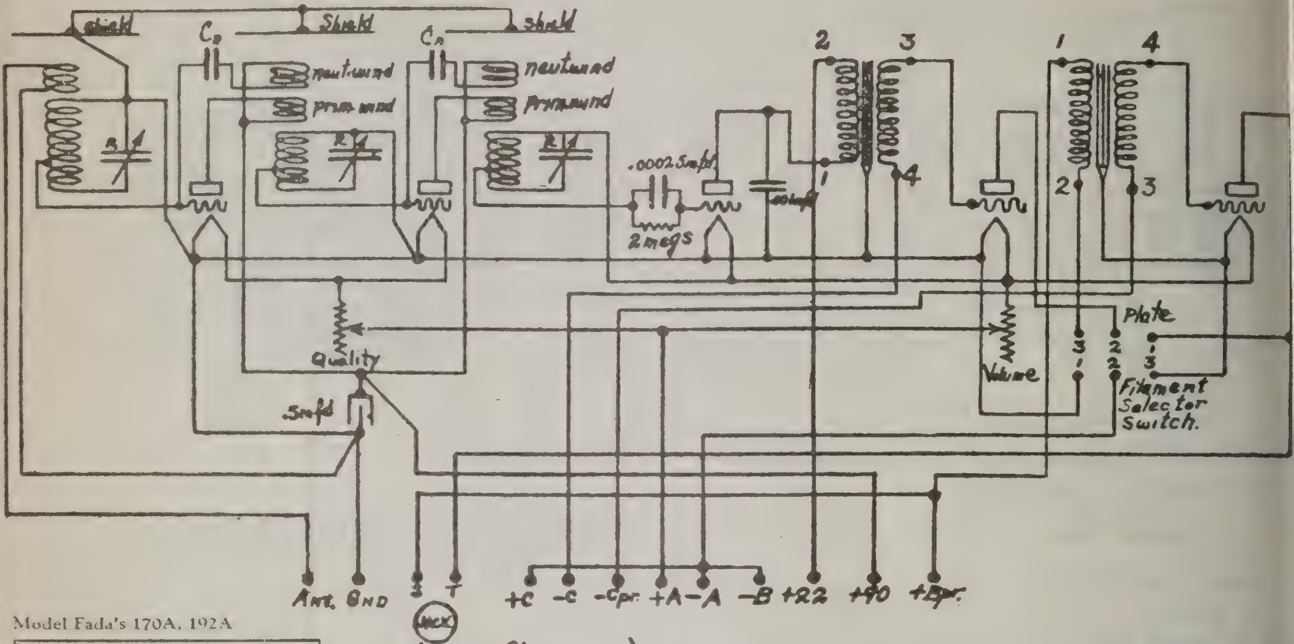
SCHEMATIC WIRING DIAGRAM OF "E-420" ELECTRIC UNIT.

ELECTRICAL VALUES
ELECTRIC UNIT TYPE E-420

1225-MS	.25 mfd 400 volts	
1341-MS	carbon 20,000 ohms	green
1461-MS	wire 750 ohms	red-green
1462-MS	wire 6000 ohms	red-yellow
1492-MS	condenser block 10.5 mfd	
2-1218-MS	wire 2500 ohms	blue-white
2-1219-MS	wire 1200 ohms	green-yellow
1727-X	choke 600 ohms	
1729-X	choke 3500 ohms	

MODEL 192-A Receiver
192-S
192-BS Units
MODEL 160 Neutrodyne

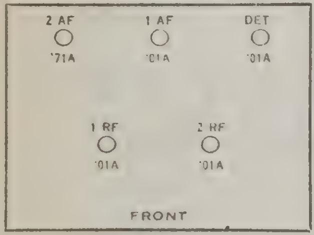
FADA RADIO & ELECTRIC CORP.


Shield
Shield
Shield
Cn
Cn
neutwnd
prim wnd
neutwnd
Primwnd
.0002 5mfd
2 megs
.001mfd
2
3
1
4
1
4
2
3
Quality
.5mfd
Volume
Plate
3
1
2
2
1
3
Filament Selector Switch.
Ant.
Gnd
S
T
JACK
+C
-C
-Cpr.
+A
-A
-B
+22
+90
+Bpr.

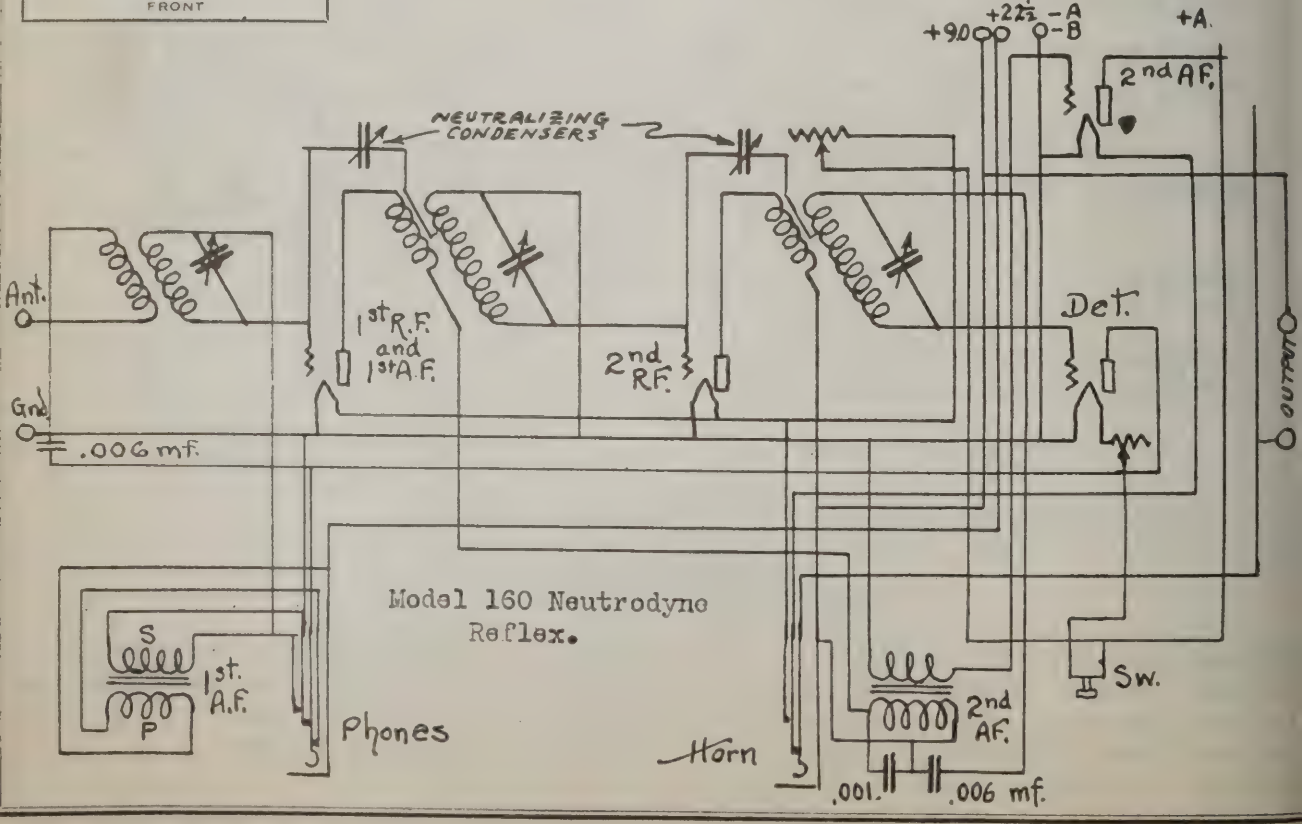
(Note S=Sleeve T=Tip connections to jack)

192-A Receiver, 192-S and 192 BS Units

Model Fada's 170A, 192A


2 AF
'71A
1 AF
'01A
DET
'01A
1 RF
'01A
2 RF
'01A
FRONT

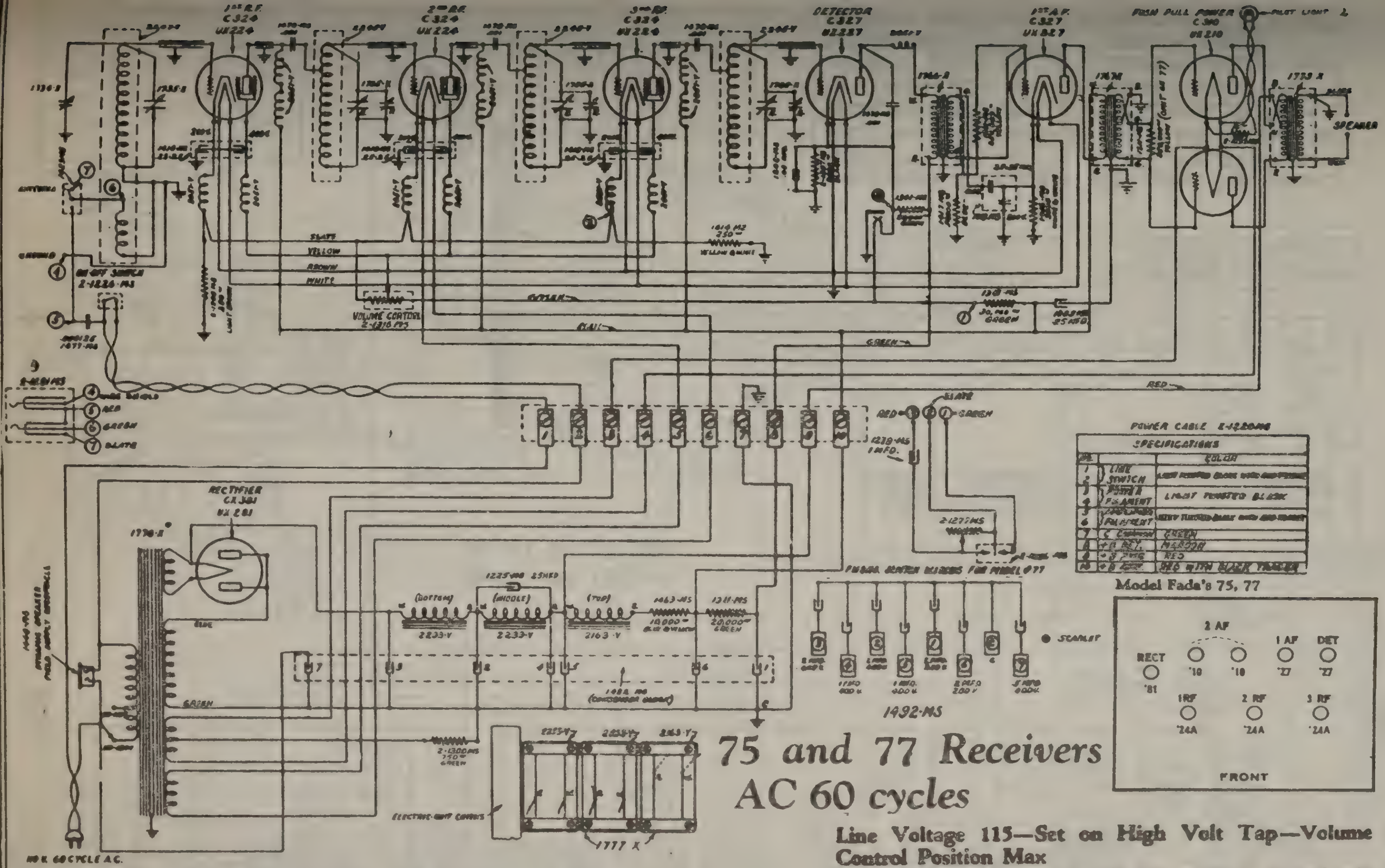
Model 192-A Receiver, 192-S and 192-BS Units


+90
+22½
-A
-B
+A.
2nd AF.
NEUTRALIZING CONDENSERS
Ant.
1st R.F. and 1st A.F.
2nd RF.
Det.
Gnd
.006 mf.
OUTPUT
S
P
1st. A.F.
Phones
Horn
2nd AF.
Sw.
.001.
.006 mf.

Model 160 Neutrodyne Reflex.

FADA RADIO & ELECTRIC CORP.

MODEL 75, 77
Schematic
Voltage
Notes


1st R.F. C324 UX224
2nd R.F. C324 UX224
3rd R.F. C324 UX224
DETECTOR C327 UX227
1st A.F. C327 UX327
PUSH PULL POWER C310 UX210
PILOT LIGHT
SPEAKER
ANTENNA
GROUND
ON-OFF SWITCH 2-1226-MS
VOLUME CONTROL 2-1310-MS
SLATE
YELLOW
BROWN
WHITE
GREEN
BLUE
RED
RECTIFIER CX381 UX281
(BOTTOM)
(MIDDLE)
(TOP)
2233-V
2233-V
2163-V
1463-MS
1211-MS
20,000 Ω GREEN
1492-MS
SCARLET
1777 X
ELECTROLYTIC CONDS
110 V. 60 CYCLE A.C.
RED
SLATE
GREEN
2-1277-MS

75 and 77 Receivers
AC 60 cycles

POWER CABLE 2-1220-MS

SPECIFICATIONS		
No.		COLOR
1 2	LINE SWITCH	[illegible]
3 4	POWER FILAMENT	LIGHT TWISTED BLACK
5 6	[illegible] FILAMENT	[illegible]
7	C COMMON	GREEN
8	+B DET.	MAROON
9	+B AMP.	RED
10	+B [illegible]	RED WITH BLACK TRACER

Model Fada's 75, 77

RECT '81
2 AF
'10
'10
1 AF '27
DET '27
1 RF '24A
2 RF '24A
3 RF '24A
FRONT

Line Voltage 115—Set on High Volt Tap—Volume Control Position Max

Note: When taking screen grid tube readings control grid should be grounded.

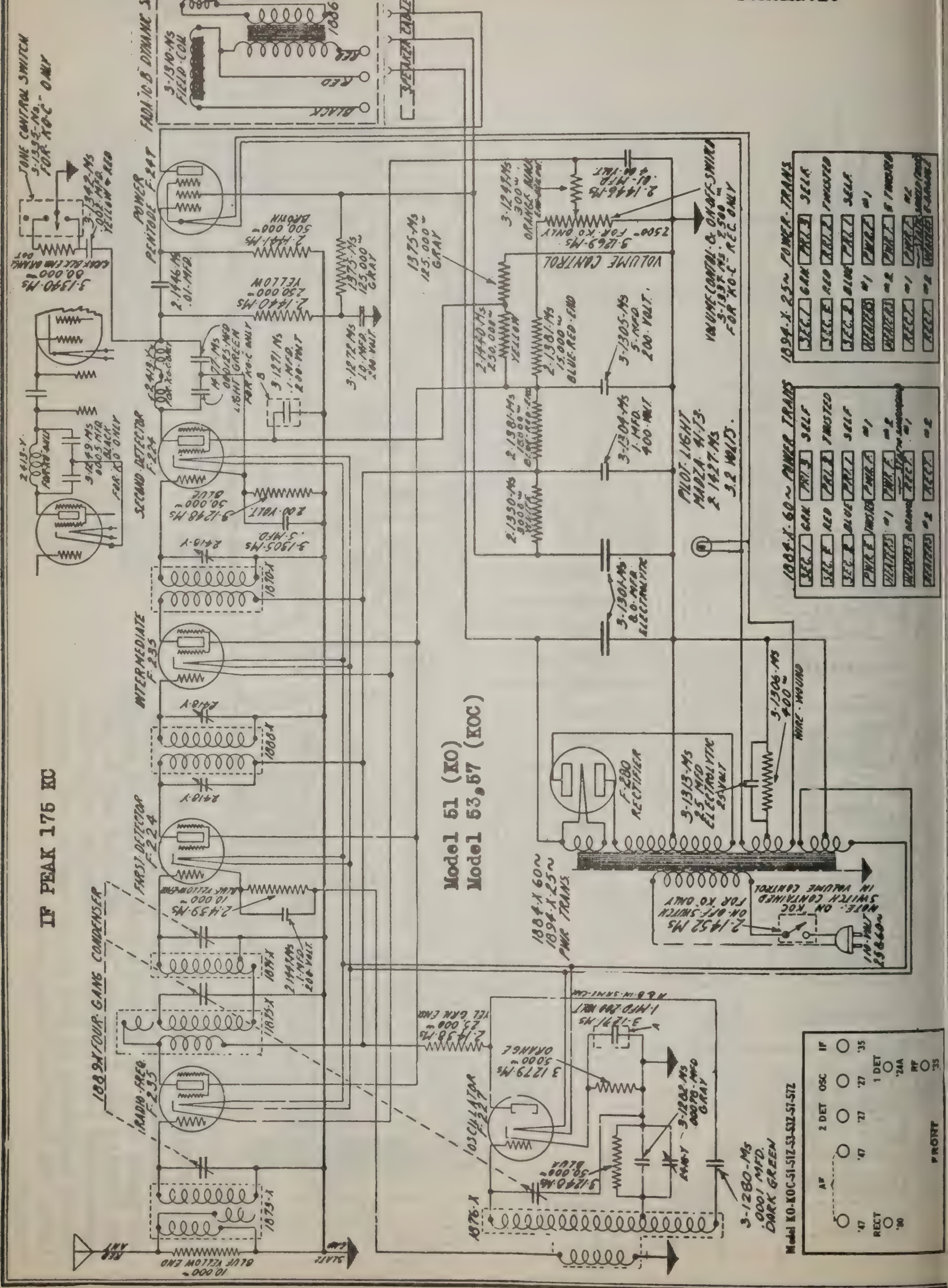
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. ETC	ANALYZER PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL GRID)	CATHODE-HEATER VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE CHANGE M.A.	SCREEN GRID VOLTS
1	324	1st RF	2.4	185	2.35	183	2	2	0.5	3.0	2.5	36
2	324	2nd RF	2.4	185	2.35	183	2	2	0.5	3.0	2.5	[illegible]
3	324	3rd RF	2.4	185	2.35	183	2	2	0.5	3.0	2.5	[illegible]
4	327	Det.	2.4	81	2.35	81	9	9	0.3	2.0	1.9	-
5	327	1st AF	2.4	185	2.35	164	9	12	6.0	4.8	.8	-
6	310	2nd AF	7.0	413	6.6	418	33	-	22.5	[illegible]	4.3	-
7	310	2nd AF	7.0	415	6.6	413	33	-	[illegible]	36.0	6.6	-
8	381	Rect.	7.0	-	6.6	-	-	-	61.0	-	-	-

COMPENSATING INSTRUCTIONS FOR MODELS 75 AND 77

The compensating condenser is located beneath the small hole in the left side of each RF shield can (facing the front of the set) and may be adjusted with a screw driver. There is no compensating condenser in the shield can to the extreme left; its function being performed by the antenna vernier.

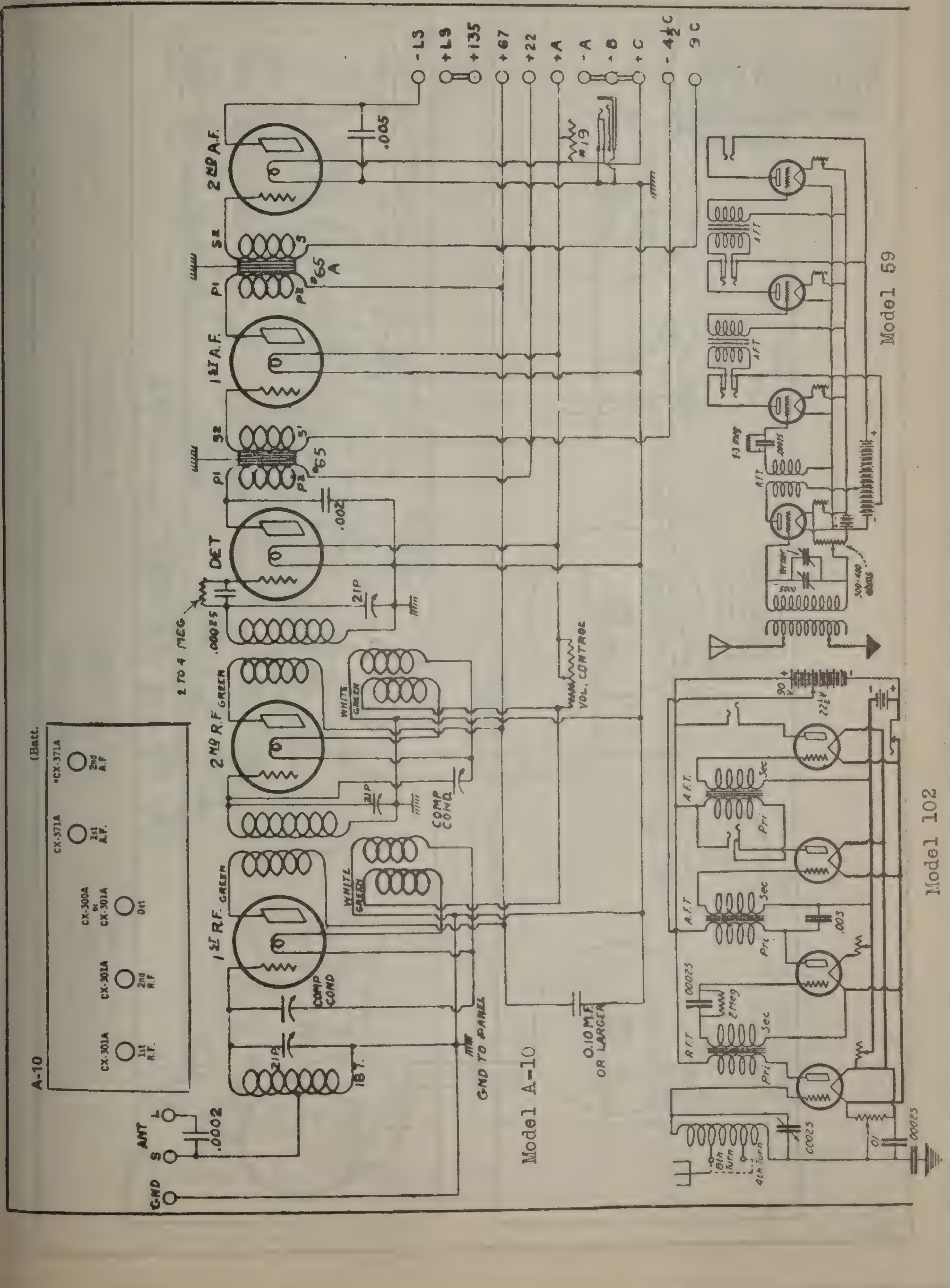
FADA RADIO & ELECTRIC CORP.

MODEL 51 (KO)
MODEL 53,57 (KOC)
Schematic


IF PEAK 175 KC
Model 51 (KO)
Model 53,57 (KOC)
FADA 10.5 DYNAMIC SPEAKER
VOICE COIL
1886-X
3-1310-MS FIELD COIL
RED
BLACK
SPEAKER CABLE
TONE CONTROL SWITCH 3-1395-MS FOR KO-C ONLY
POWER PENTODE F-247
SECOND DETECTOR F-224
INTERMEDIATE F-235
FIRST DETECTOR F-224
RADIO-FREQ F-235
OSCILLATOR F-227
1889-X FOUR GANG CONDENSER
1873-X
1874-X
1880-X
1870-X
1876-X
2418-Y
F-280 RECTIFIER
VOLUME CONTROL
VOLUME CONTROL & ON-OFF SWITCH 3-1337-MS 2,500~ FOR KO-C REC ONLY
PILOT LIGHT MAZDA 41-73 X-1427-MS 3.2 WATTS
3-1301-MS 8.0 MFD ELECTROLYTIC
3-1313-MS 2.5 MFD ELECTROLYTIC 25 VOLT
3-1306-MS 400~ WIRE-WOUND
1884-X 60~ 1894-X 25~ PWR TRANS
NOTE: ON KOC SWITCH CONTAINED IN VOLUME CONTROL
2-1452-MS ON-OFF SWITCH FOR KO ONLY
110-VOLT 25-60~
1884-X 60~ POWER TRANS
1894-X 25~ POWER TRANS
3-1280-MS .0001 MFD. DARK GREEN
ANT
GND
Model KO-KOC-51-51Z-53-53Z-57-57Z
AF
2 DET
OSC
IF
'47
'27
'27
'35
RECT
'80
1 DET
'24A
RF
'35
FRONT

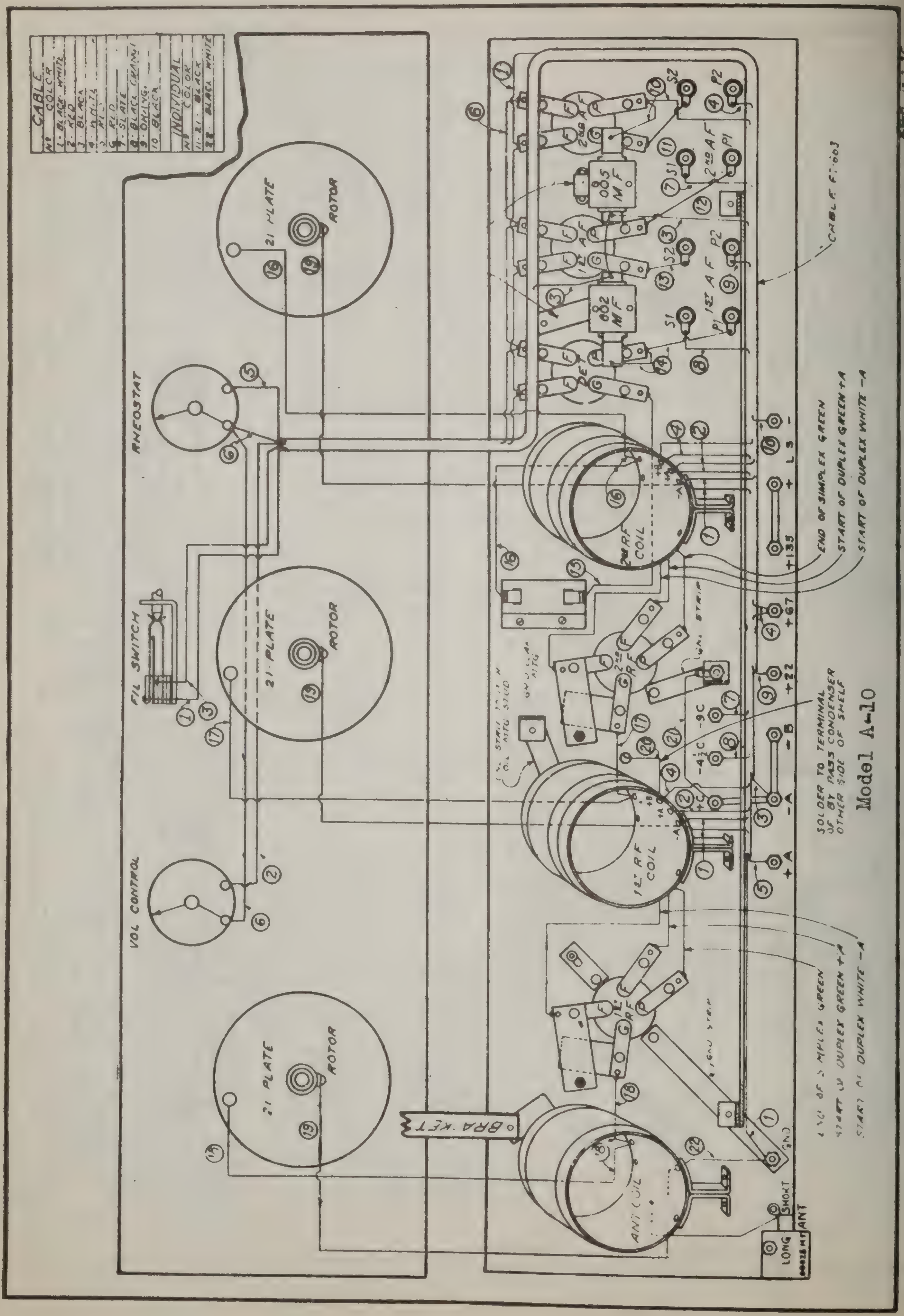
FEDERAL RADIO CORP.

MODELS A-10,59, 102
Schematic


-LS
+LS
+135
+67
+22
+A
-A
-B
+C
-4½C
9C
.005
2nd A.F.
S2
P1
P2
#65 A
#19
1st A.F.
#65
.002
DET
.00025
2 TO 4 MEG
21P
2nd R.F. GREEN
WHITE
GREEN
VOL. CONTROL
COMP COND
1st R.F. GREEN
21P
18T.
COMP COND
GND TO PANEL
0.10 M.F. OR LARGER
ANT
S
GND
.0002
A-10
(Batt.
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-300A or CX-301A
Det
CX-371A
1st A.F.
*CX-371A
2nd A.F.
Model A-10
A.F.T.
A.F.T.
R.F.T.
5000
300-400 ohms
Model 59
90 V.
22½ V.
A.F.T.
Sec
Pri
A.F.T.
Sec
Pri
.003
.00025
2 Meg
R.F.T.
Sec
Pri
.00025
8th turn
4th turn
.01
.00025
Model 102

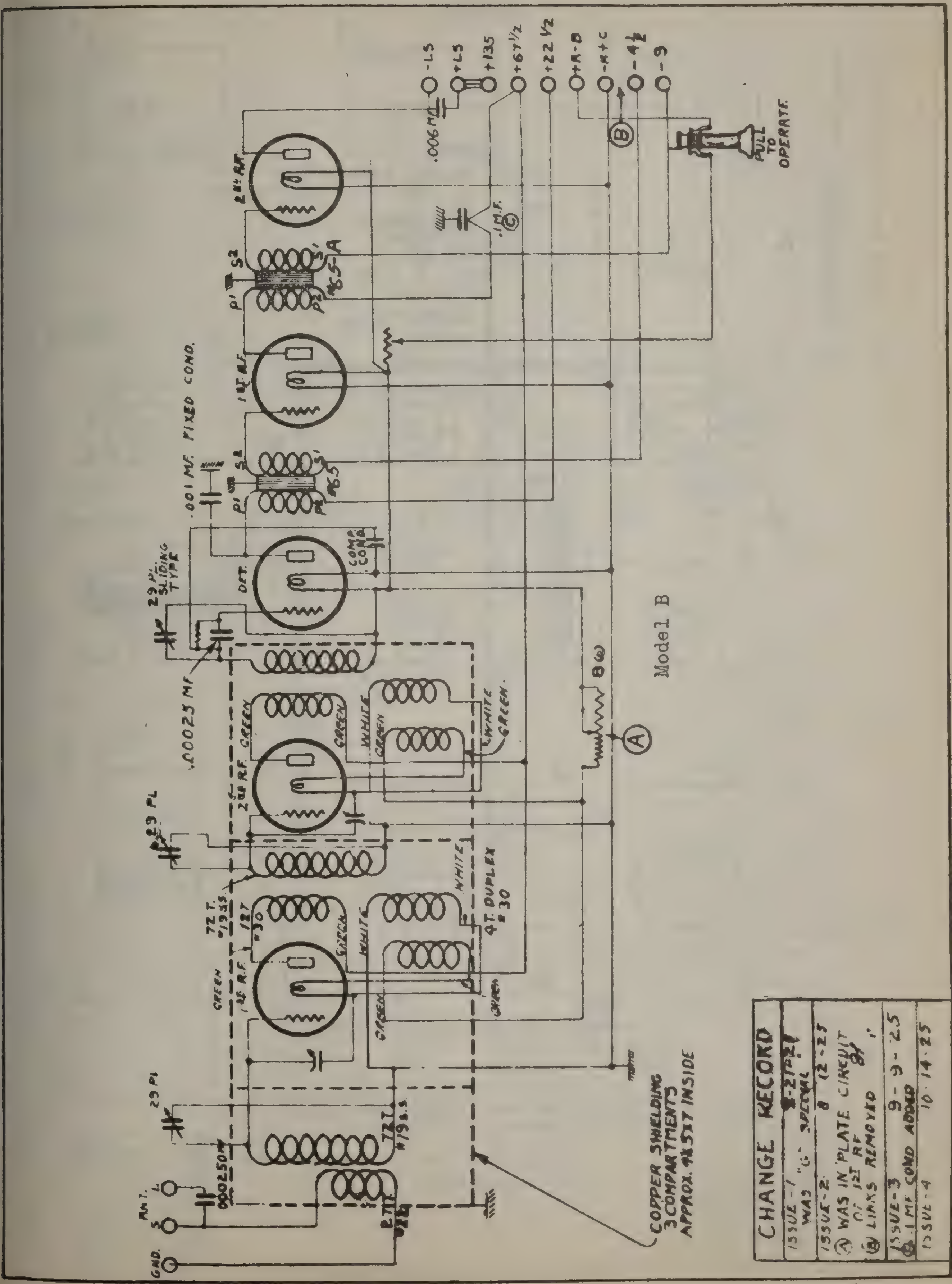
MODEL A-10
Wiring Diagram

FEDERAL RADIO CORP.


CABLE
Nº COLOR
1. BLACK WHITE
2. RED
3. BLACK
6. RED
7. SLATE
8. BLACK ORANGE
9. ORANGE
10 BLACK
INDIVIDUAL
Nº COLOR
11-21. BLACK
22. BLACK WHITE
21 PLATE
ROTOR
RHEOSTAT
FIL SWITCH
VOL CONTROL
DET
1ST AF
2ND AF
.002 MF
.005 MF
S1
S2
P1
P2
2ND RF COIL
1ST RF COIL
ANT COIL
1ST RF
2ND RF
GND STRIP
BRACKET
CABLE F-603
+135
+67
+22
-B
-A
+A
L S
-4½C
-9C
+C
GND
SHORT
ANT
LONG
.00025 MF
END OF SIMPLEX GREEN
START OF DUPLEX GREEN +A
START OF DUPLEX WHITE -A
SOLDER TO TERMINAL OF BY PASS CONDENSER OTHER SIDE OF SHELF
Model A-10

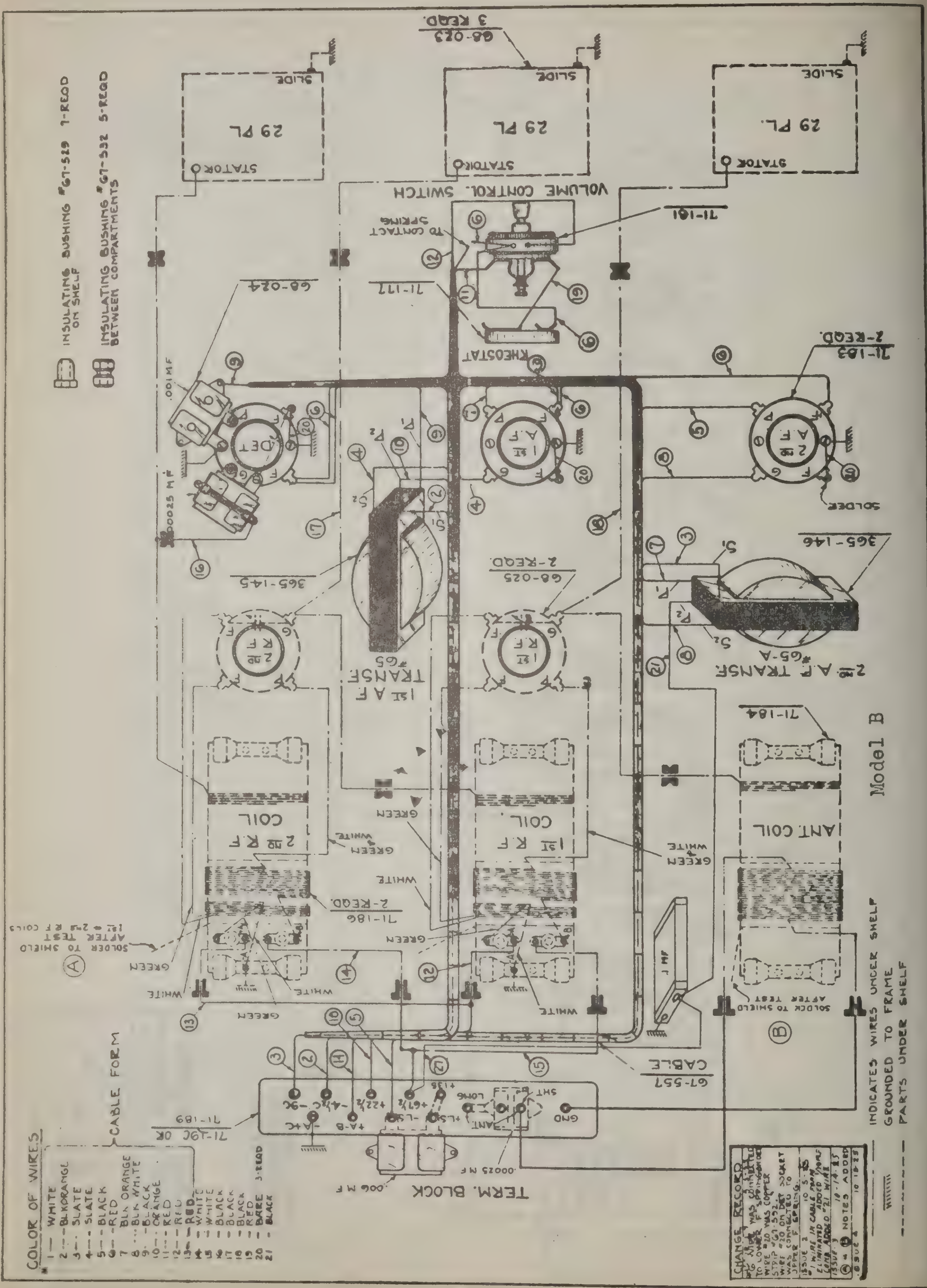
FEDERAL RADIO CORP.

MODEL B
Schematic


-LS
+LS
+135
+67½
+22½
+A-B
-A+C
-4½
-9
.006 MF.
PULL TO OPERATE
B
2ND A.F.
.1 M.F.
P1
S2
S1
P2
#65-A
1ST A.F.
.001 M.F. FIXED COND.
#65
DET.
COMP. COND.
29 PL. SLIDING TYPE
.00025 MF.
8 Ω
A
Model B
2ND R.F.
GREEN
WHITE
29 PL
72 T. #19 S.S.
12 T. #30
4 T. DUPLEX #30
1ST R.F.
29 PL
.00025 MF
72 T. #19 S.S.
2 T.
ANT. L
ANT. S
GND.
COPPER SHIELDING 3 COMPARTMENTS APPROX. 4 X 5 X 7 INSIDE
CHANGE RECORD
ISSUE-1 1-27-25
WAS "C" SPECIAL
ISSUE-2 8 12-25
A WAS IN PLATE CIRCUIT OF 1ST RF
B LINKS REMOVED
ISSUE-3 9-9-25
G .1 MF COND ADDED
ISSUE-4 10-14-25

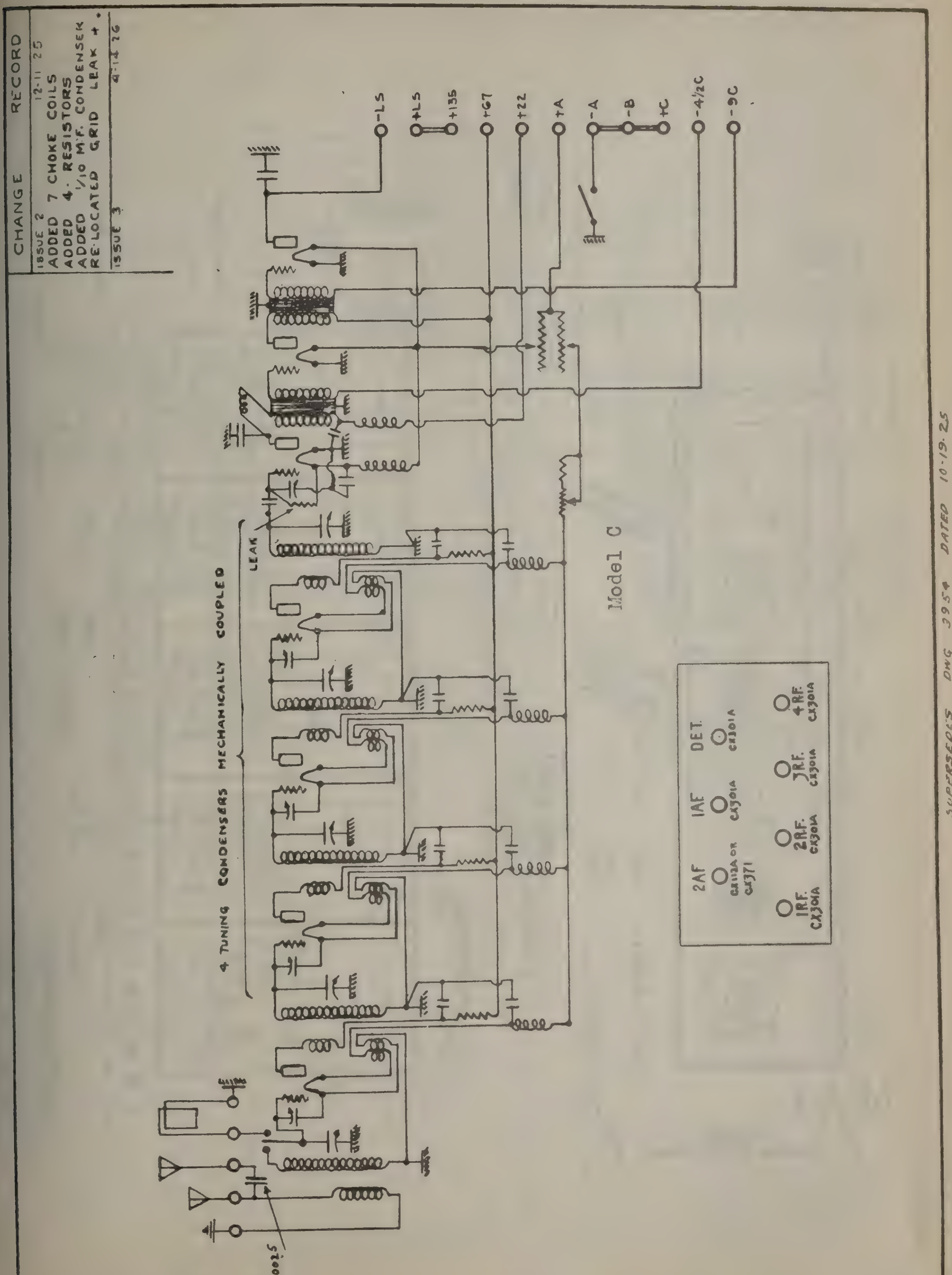
MODEL B
Wiring Diagram

FEDERAL RADIO CORP.


29 PL
29 PL
29 PL.
SLIDE
STATOR
68-023
3 REQD.
VOLUME CONTROL SWITCH
71-181
TO CONTACT SPRING
68-024
71-177
RHEOSTAT
71-183
2-REQD.
.001 MF
.00025 MF
DET
1st A.F
2nd A.F
SOLDER
365-145
365-146
68-025
2-REQD.
1st A.F TRANSF #65
2nd A.F. TRANSF #65-A
1st R.F
2nd R.F
71-184
Model B
2nd R.F COIL
1st R.F COIL
ANT. COIL
GREEN
WHITE
GREEN WHITE
71-186
2-REQD.
SOLDER TO SHIELD AFTER TEST 1st & 2nd R F COILS
SOLDER TO SHIELD AFTER TEST
1 MF
CABLE
67-557
TERM. BLOCK
71-189
71-19C OR
.006 M F
.00025 M F
-A +C
+A -B
-LS
+LS
ANT
LONG
SHT
GND
-9C
-4½C
+22½
+67½
+135
CABLE FORM
COLOR OF WIRES
1 — WHITE
2 — BLK ORANGE
3 — SLATE
4 — SLATE
5 — BLACK
6 — RED
7 BLK ORANGE
8 — BLK WHITE
9 — BLACK
10 — ORANGE
11 — RED
12 — RED
13 — RED
14 — WHITE
15 — WHITE
16 — BLACK
17 — BLACK
18 — BLACK
19 — RED
20 — BARE
21 — BLACK
3-REQD
INSULATING BUSHING #67-529 7-REQD ON SHELF
INSULATING BUSHING #67-532 5-REQD BETWEEN COMPARTMENTS
INDICATES WIRES UNDER SHELF
GROUNDED TO FRAME
PARTS UNDER SHELF
CHANGE RECORD

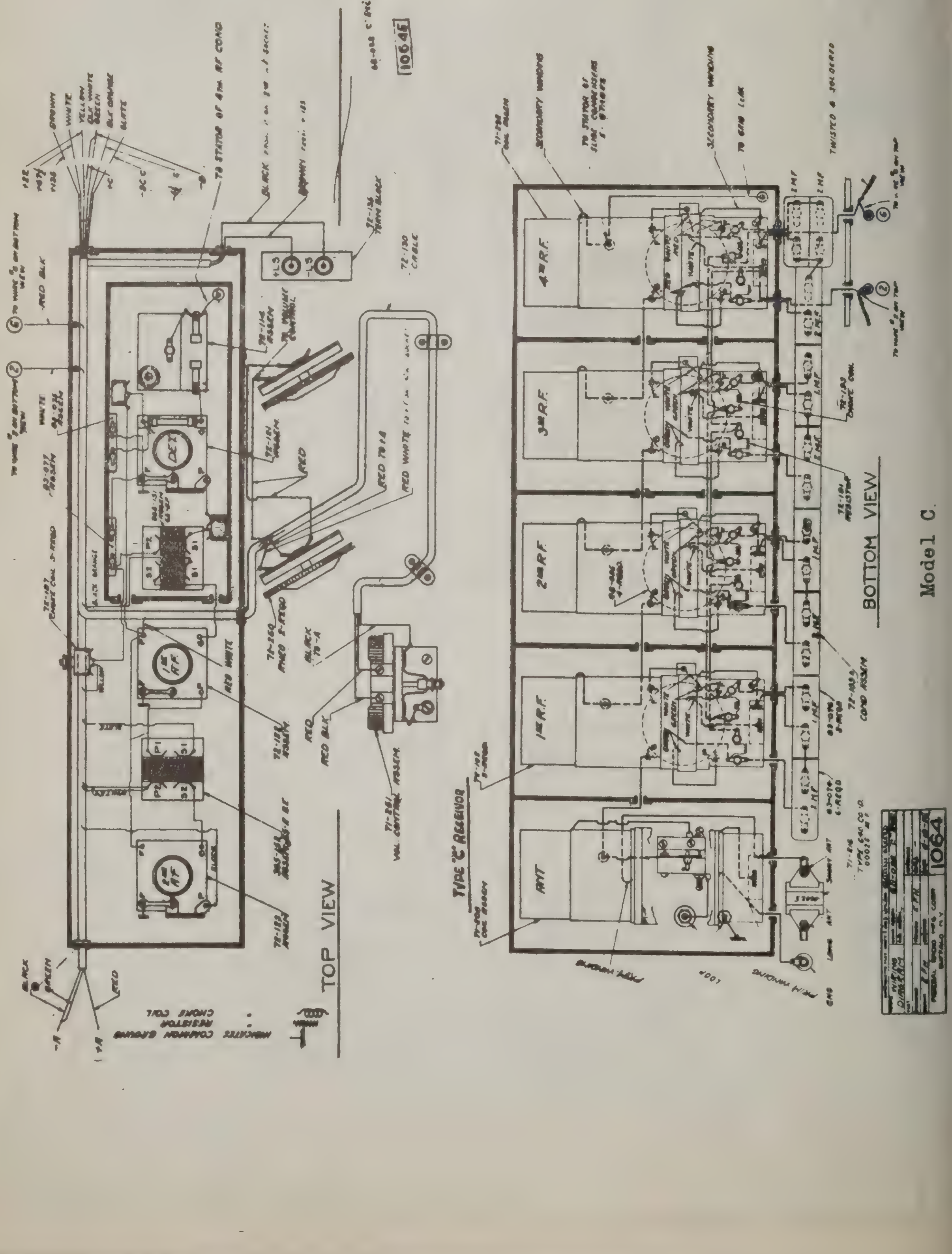
FEDERAL RADIO CORP.

MODEL C
Schematic


CHANGE RECORD
ISSUE 2 12-11 25
ADDED 7 CHOKE COILS
ADDED 4. RESISTORS
ADDED 1/10 M.F. CONDENSER
RE-LOCATED GRID LEAK +.
ISSUE 3 4-14 26
-LS
+LS
+135
+67
+22
+A
-A
-B
+C
-4½C
-9C
LEAK
4 TUNING CONDENSERS MECHANICALLY COUPLED
.00025
Model C
2AF
CX112A OR CX371
1AF
CX301A
DET.
CX301A
1R.F.
CX301A
2R.F.
CX301A
3R.F.
CX301A
4R.F.
CX301A
SUPERSEDES DWG 3954 DATED 10-19-25

MODEL C
Wiring Diagram

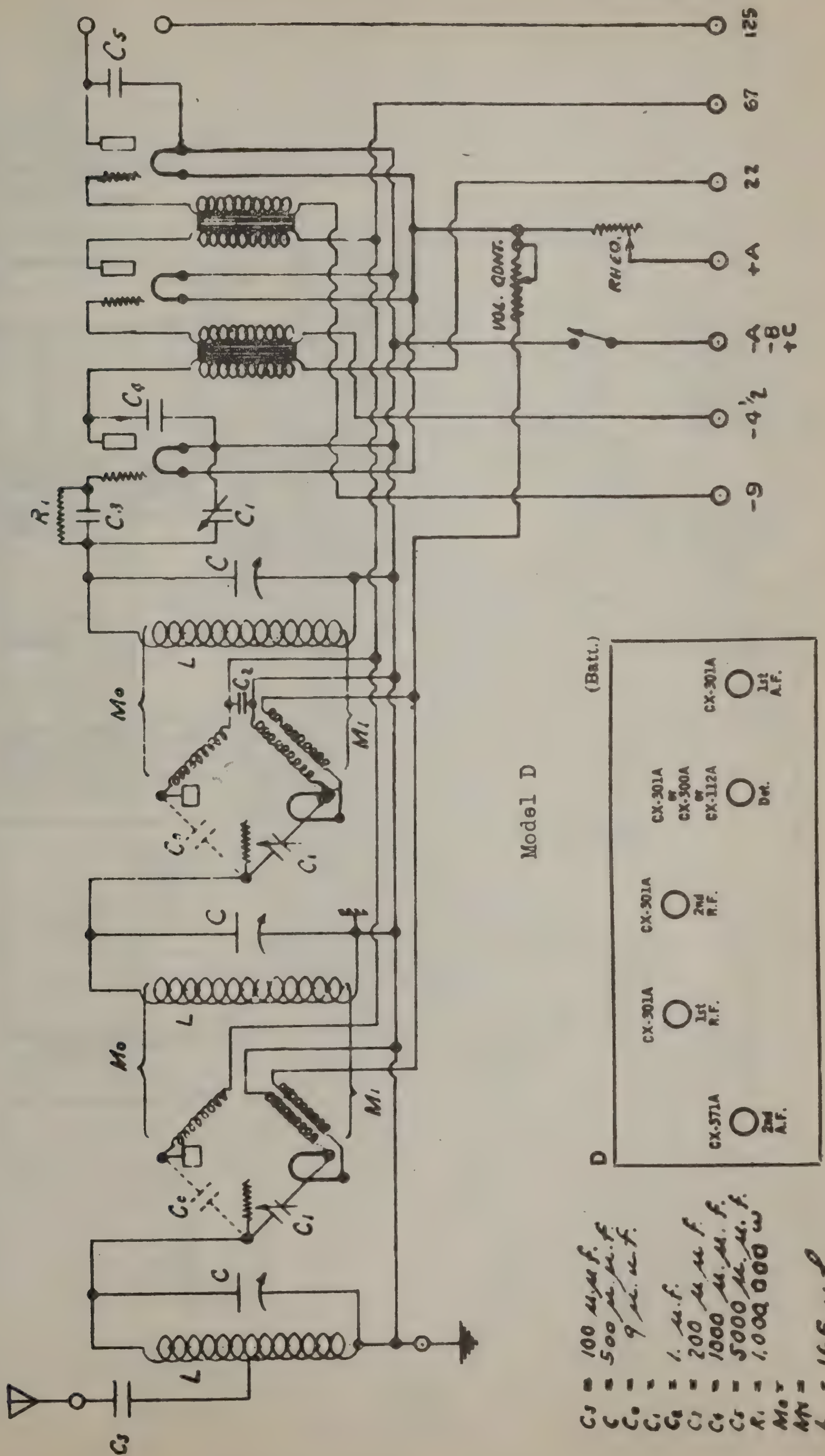
FEDERAL RADIO CORP.


TOP VIEW
BOTTOM VIEW
TYPE "C" RECEIVER
ANT
1st R.F.
2nd R.F.
3rd R.F.
4th R.F.
DET
1st A.F.
2nd A.F.
10645
1064

Model C.

FEDERAL RADIO CORP.

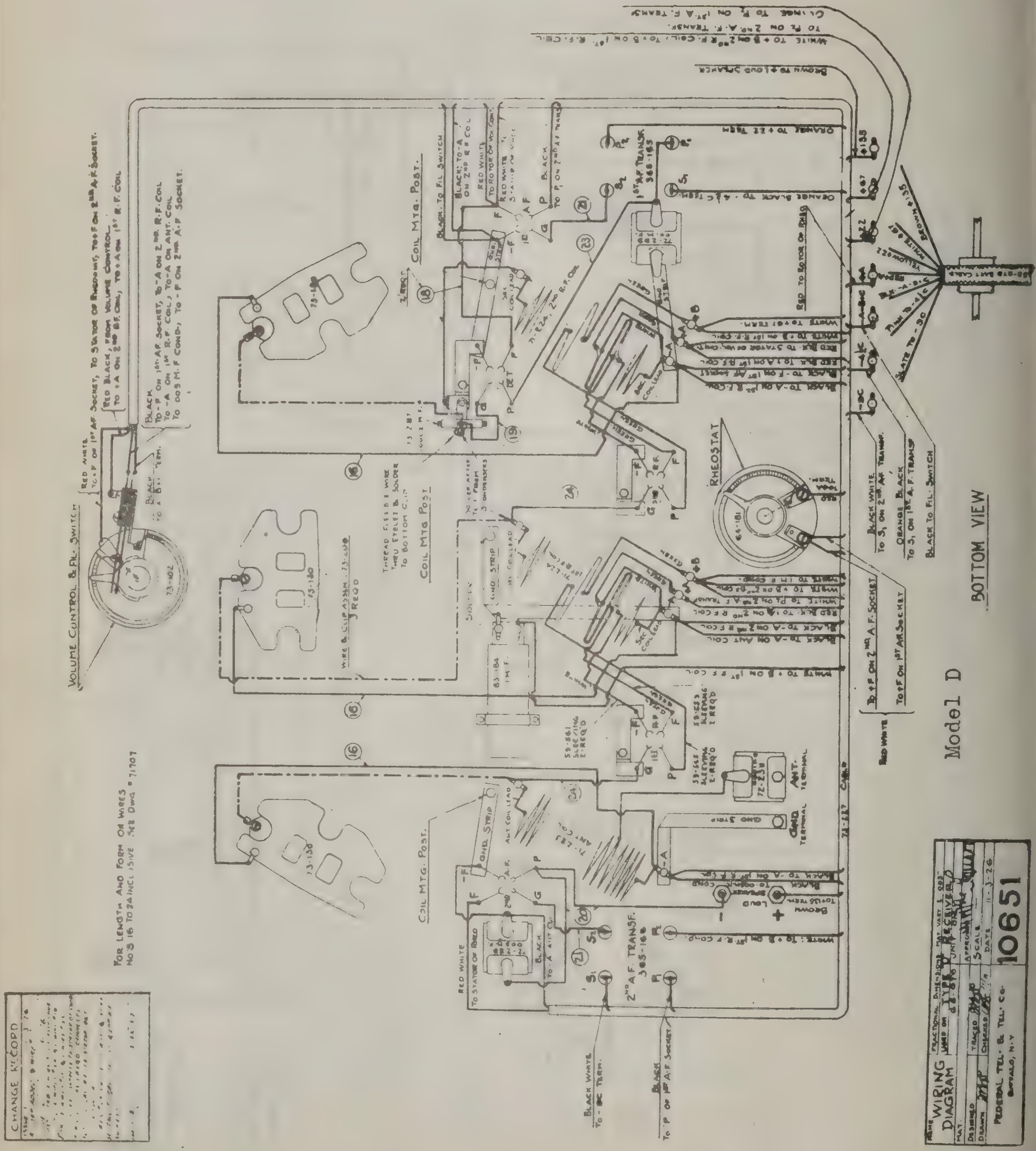
MODEL D, CODE 68-070
Schematic


C5
C4
C3
R1
C1
C
L
Mo
M1
C2
C0
125
67
22
+A
-A
-B
+C
-4½
-9
VOL. CONT.
RHEO.
Model D
(Batt.)
D
CX-371A
2nd A.F.
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.

C3 = 100 μμf.
C = 500 μμf.
C0 = 9 μμf.
C1 =
C2 = 1. μf.
C1 = 200 μμf
C4 = 1000 μμf.
C5 = 5000 μμf.
R1 = 1,000,000 ω
M0 =
M1 =
L = 165 μh.

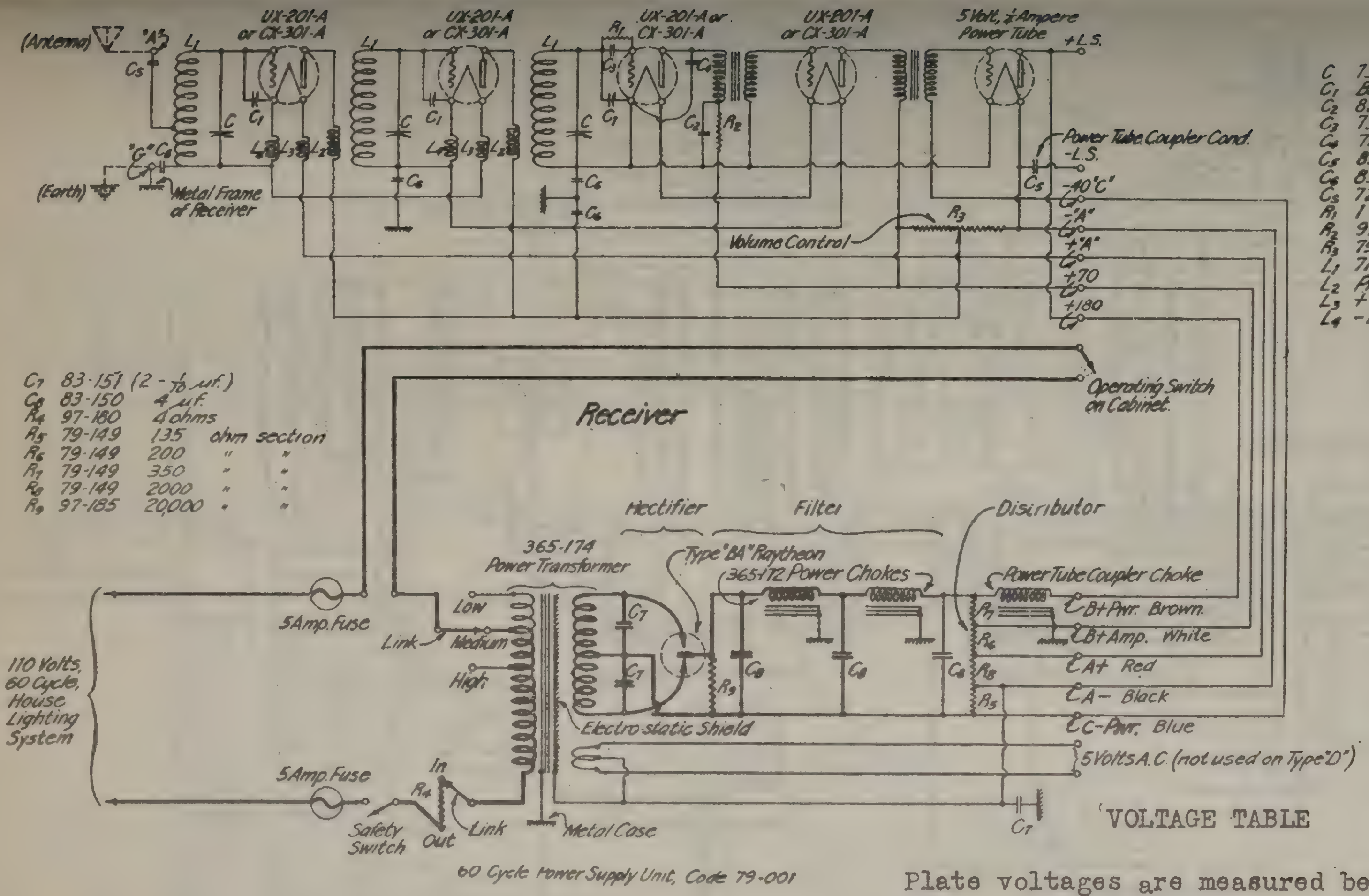
MODEL D, Battery
Wiring Diagram

FEDERAL RADIO CORP.


BOTTOM VIEW
Model D
RHEOSTAT
VOLUME CONTROL & FIL. SWITCH
COIL MTG. POST
1ST A.F. TRANS. 303-165
2ND A.F. TRANSF. 303-166
GND. STRIP
ANT. TERMINAL
GND. TERMINAL
BROWN TO + LOUD SPEAKER
ORANGE TO + 22 TERM.
ORANGE BLACK TO + 45 TERM.
RED TO ROTOR OF RHEO
WHITE TO + B ON 2ND R.F. COIL, TO + B ON 1ST R.F. COIL
TO P2 ON 2ND A.F. TRANSF.
GREEN TO P1 ON 1ST A.F. TRANSF.
BLACK WHITE TO S1 ON 2ND A.F. TRANS.
ORANGE BLACK TO S1 ON 1ST A.F. TRANS.
BLACK TO FIL. SWITCH
B + P ON 2ND A.F. SOCKET
TO P ON 1ST A.F. SOCKET
BLACK WHITE TO - BC TERM.
BLACK TO P OF 1ST A.F. SOCKET
FOR LENGTH AND FORM OF WIRES NO'S 16 TO 24 INCLUSIVE SEE DWG # 71707
CHANGE RECORD
WIRING DIAGRAM
TYPE D RECEIVER
FEDERAL TEL. & TEL. CO. BUFFALO, N.Y.
10651

FEDERAL RADIO CORP.

MODEL D CODE 79-070
Schematic

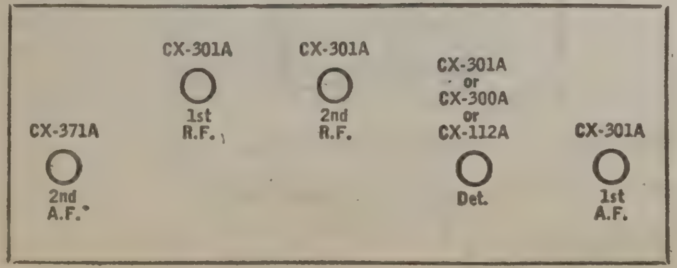

(Antenna)
"A"
(Earth)
"G"
Metal Frame of Receiver
UX-201-A or CX-301-A
UX-201-A or CX-301-A
UX-201-A or CX-301-A
UX-201-A or CX-301-A
5 Volt, ¼ Ampere Power Tube
+L.S.
Power Tube Coupler Cond.
-L.S.
-40 "C"
-"A"
+"A"
+70
+180
Volume Control
Operating Switch on Cabinet
Receiver
Rectifier
Filter
Distributor
365-174 Power Transformer
Type "BA" Raytheon
365-172 Power Chokes
Power Tube Coupler Choke
B+ Pwr. Brown
B+ Amp. White
A+ Red
A- Black
C- Pwr. Blue
5 Volts A.C. (not used on Type "D")
Low
Medium
High
Link
In
Out
Safety Switch
5 Amp. Fuse
5 Amp. Fuse
110 Volts, 60 Cycle, House Lighting System
Electrostatic Shield
Metal Case
60 Cycle Power Supply Unit, Code 79-001

C	73-130
C_1	Balance Cond.
C_2	83-184. 1 µf
C_3	73-287. .0002 µf.
C_4	72-299. .001 "
C_5	83-195. 4 µf.
C_6	83-189 and 83-190 .5 µf. each.
C_5	72-238. .0001 µf.
R_1	1 Meg ohm (not shown on 10667)
R_2	97-176, 160,000 ohms.
R_3	79-155 50,000 ohms.
L_1	71-223 and 79-124
L_2	Plate Coil, (Green, Single Winding)
L_3	+F Coil, (Green, Double Winding)
L_4	-F Coil, (White, Double Winding)

C_7	83-151	(2 - $\frac{1}{10}$ µf.)	
C_8	83-150	4 µf.	
R_4	97-180	4 ohms	
R_5	79-149	135	ohm section
R_6	79-149	200	" "
R_7	79-149	350	" "
R_8	79-149	2000	" "
R_9	97-185	20,000	" "

Model D

D-10-60, D-40-60


CX-371A
2nd A.F.*
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.

VOLTAGE TABLE

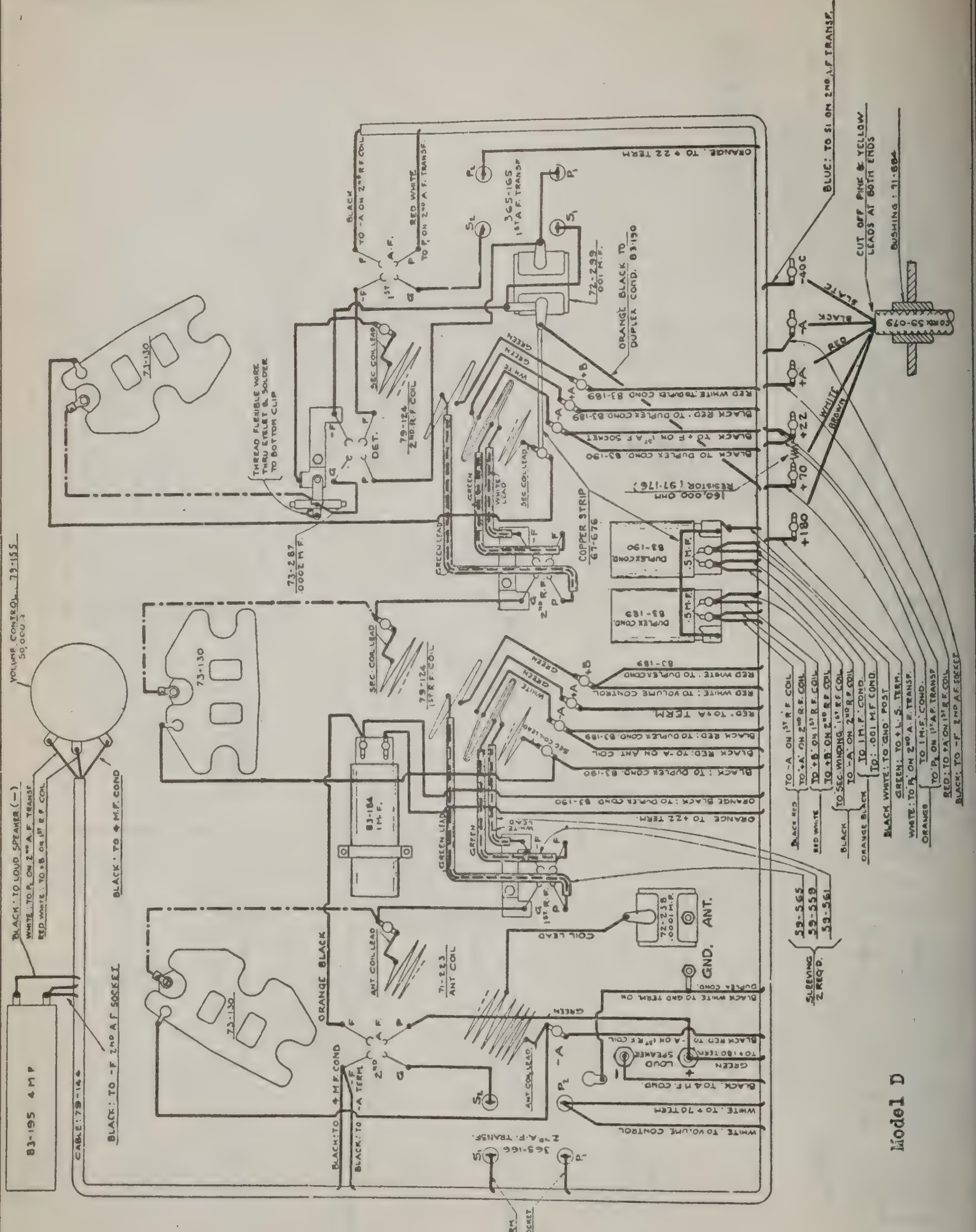
Plate voltages are measured between -F and the tube elements.

1st RF Plate	60 volts
2nd RF Plate	65 volts
Detector Plate	21*volts
1st AF Plate	70 volts
Output Plate	187 volts

Measured with low resistance voltmeter. When high resistance meter is used, voltage may be 50 volts.

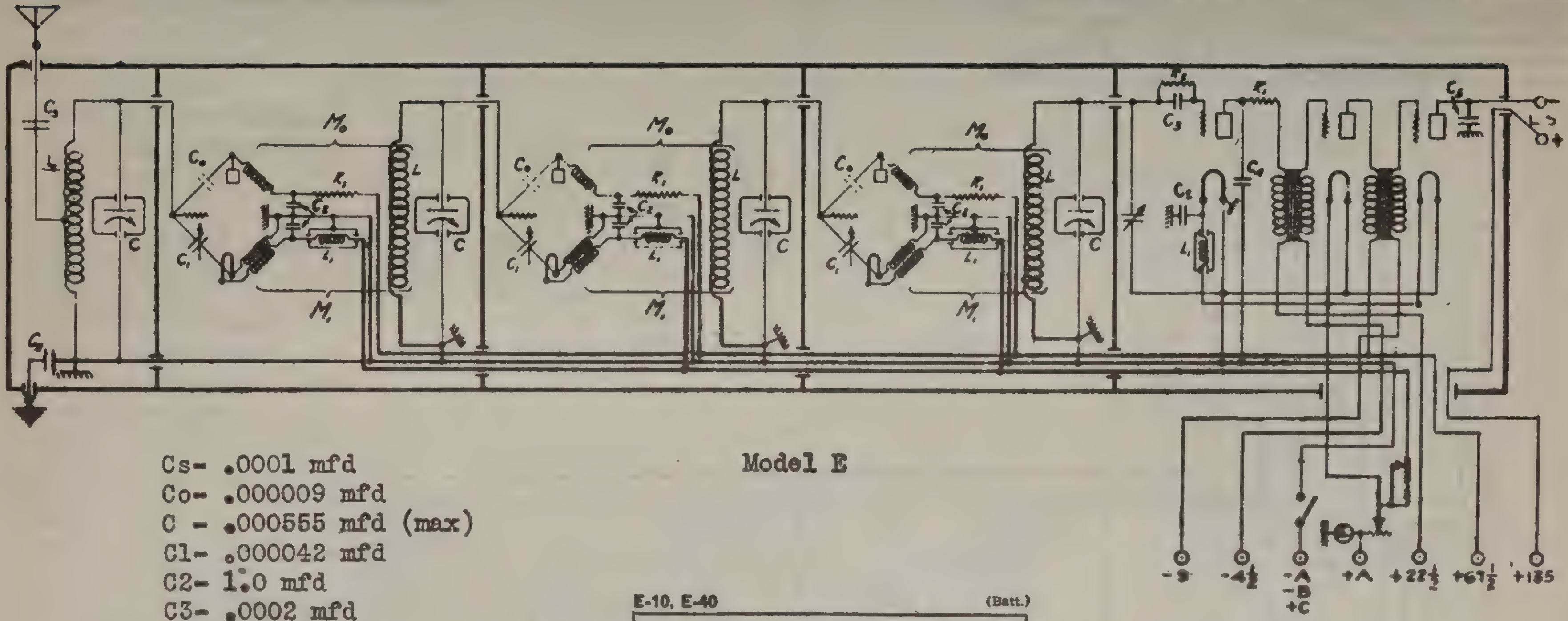
MODEL D(60 Cycle)
Receiver Chassis

FEDERAL RADIO CORP.


ORANGE . TO + 22 TERM
365-165
1ST A.F. TRANSF.
BLACK TO -A ON 2ND R F COIL
RED WHITE TO P2 ON 2ND A F TRANSF.
1ST A.F.
72-299
.001 M.F.
ORANGE BLACK TO DUPLEX COND. 83-190
BLUE: TO S1 ON 2ND A.F. TRANSF.
CUT OFF PINK & YELLOW LEADS AT BOTH ENDS
BUSHING : 71-884
CORD 53-079
SLATE
BLACK
RED
WHITE
BROWN
-40C
-A
+A
+22
+70
+180
71-130
SEC. COIL LEAD
79-124
2ND R.F. COIL
DET.
THREAD FLEXIBLE WIRE THRU EYELET & SOLDER TO BOTTOM CLIP
RED WHITE TO DUPLEX COND 83-189
BLACK RED : TO DUPLEX COND. 83-189
BLACK TO +F ON 1ST A F SOCKET
BLACK TO DUPLEX COND. 83-190
160,000 OHM RESISTOR (91-176)
COPPER STRIP 67-676
DUPLEX COND. 83-190
.5 M.F.
73-287
.0002 M.F.
GREEN LEAD
WHITE LEAD
2ND R.F.
VOLUME CONTROL 79-155 50,000 Ω
73-130
1ST R.F. COIL
83-189
RED WHITE : TO DUPLEX COND
RED WHITE : TO VOLUME CONTROL
RED : TO +A TERM
BLACK RED : TO DUPLEX COND 83-189
BLACK RED : TO -A ON ANT COIL
BLACK : TO DUPLEX COND. 83-190
ORANGE BLACK : TO DUPLEX COND 83-190
ORANGE TO +22 TERM.
83-184
1 M.F.
1ST R.F.
TO -A ON 1ST R F COIL
TO 'A' ON 2ND R.F. COIL
TO +B ON 1ST R.F. COIL
TO +B ON 2ND R.F. COIL
TO SEC WINDING 1ST R.F. COIL
TO -A ON 2ND R.F. COIL
TO 1 M.F. COND.
TO .001 M.F. COND.
BLACK WHITE : TO GND POST
GREEN : TO +L.S. TERM.
WHITE : TO P1 ON 2ND A.F. TRANSF.
TO 1 M.F. COND.
TO P2 ON 1ST A.F. TRANSF.
RED : TO +A ON 1ST R.F. COIL
BLACK : TO -F 2ND A.F. SOCKET
BLACK RED
RED WHITE
BLACK
ORANGE BLACK
BLACK WHITE
GREEN
WHITE
ORANGE
59-565
59-559
59-561
SLEEVING 2 REQ'D.
72-238
.001 M.F.
ANT.
GND.
COIL LEAD
ANT COIL LEAD
71-223
ANT COIL
ORANGE BLACK
2ND
BLACK WHITE TO GND TERM. ON DUPLEX COND.
BLACK RED TO -A ON 1ST R.F. COIL
TO +180 TERM.
LOUD SPEAKER
GREEN
BLACK . TO 4 M.F. COND.
WHITE . TO + 70 TERM
WHITE . TO VOLUME CONTROL
365-166
2ND A.F. TRANSF.
BLUE : TO -40C TERM.
RED WHITE : TO P ON 1ST AF SOCKET
BLACK : TO LOUD SPEAKER (-)
WHITE : TO P1 ON 2ND A.F. TRANSF
RED WHITE : TO +B ON 1ST R.F. COIL
BLACK : TO 4 M.F. COND
BLACK : TO -F 2ND A.F. SOCKET
CABLE: 79-144
BLACK : TO 4 M.F. COND
BLACK : TO -A TERM
83-195 4 M.F.
Model D

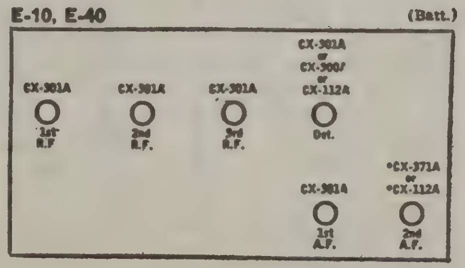
FEDERAL RADIO CORP.

MODEL E CODE 68-060
Schematic


C5
L
C
Co
C1
Mo
R1
C2
L1
M1
R2
C3
C4
- 9
- 4½
-A
-B
+C
+A
+22½
+67½
+135

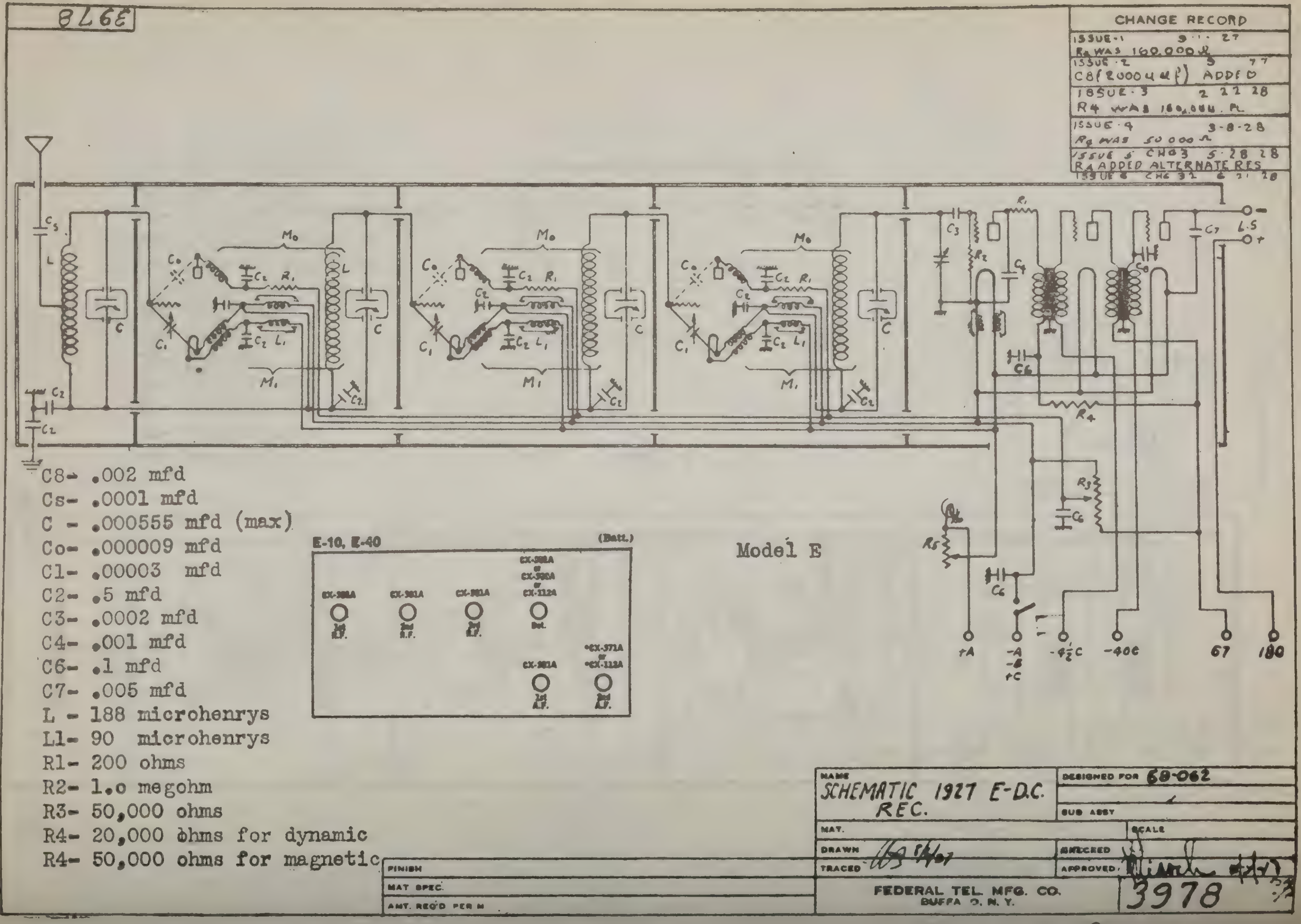
Model E

Cs- .0001 mfd
Co- .000009 mfd
C - .000555 mfd (max)
C1- .000042 mfd
C2- 1.0 mfd
C3- .0002 mfd
C4- .001 mfd
C5- .005 mfd
Mo- 25.5 microhenrys
M1- 5.25 microhenrys
R1- 200 ohms (low capacity)
R2- 1.0 megohm
L - 100 microhenry
L1- 360 microhenry


E-10, E-40
(Batt.)
CX-301A
1st R.F
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A or CX-300/ or CX-112A
Det.
CX-301A
1st A.F.
*CX-371A or *CX-112A
2nd A.F.

MODEL E DC
Schematic

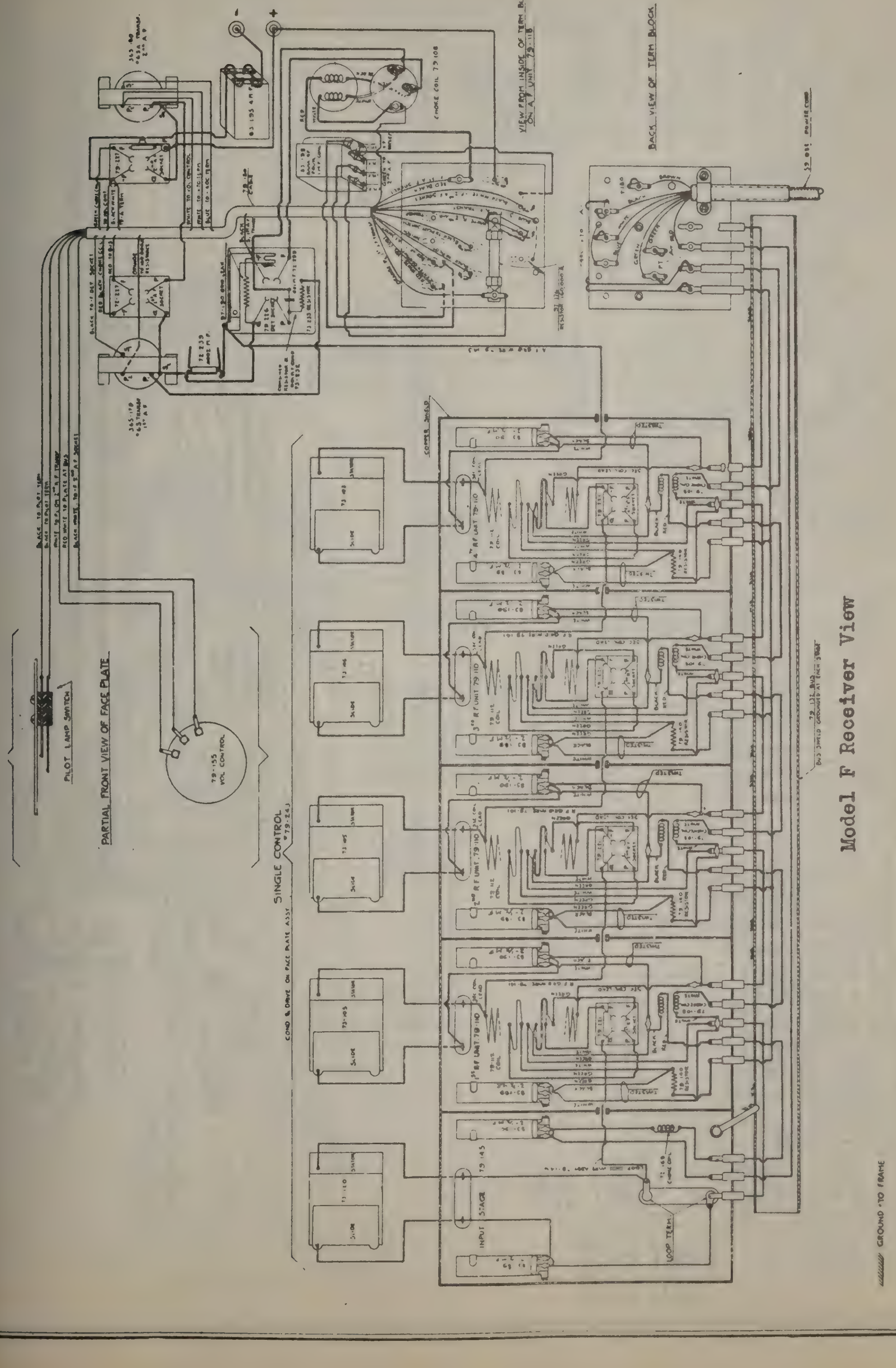
FEDERAL RADIO CORP.


3978
CHANGE RECORD
ISSUE·1 9·1·27
R4 WAS 160,000 Ω
ISSUE·2 5 77
C8(2000 μμf) ADDED
ISSUE·3 2 22 28
R4 WAS 160,000. Ω
ISSUE·4 3-8-28
R6 WAS 50 000 Ω
ISSUE 5 CH63 5·28 28
R4 ADDED ALTERNATE RES
ISSUE 6 CH6 32 6 21 28
Cs
L
C
C2
Co
C1
Mo
R1
L1
M1
C3
R2
C4
C7
L.S
Cg
C6
R4
R3
R5
+A
-A
-B
+C
-4½C
-40C
67
180
Model E
E-10, E-40
(Batt.)
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
*CX-371A or *CX-112A
2nd A.F.
NAME SCHEMATIC 1927 E-D.C. REC.
DESIGNED FOR 68-062
SUB ASSY
MAT.
SCALE
DRAWN
CHECKED
TRACED
APPROVED
FINISH
MAT SPEC.
AMT. REQ'D PER M
FEDERAL TEL. MFG. CO.
BUFFALO, N. Y.
3978

C8- .002 mfd
Cs- .0001 mfd
C - .000555 mfd (max)
Co- .000009 mfd
C1- .00003 mfd
C2- .5 mfd
C3- .0002 mfd
C4- .001 mfd
C6- .1 mfd
C7- .005 mfd
L - 188 microhenrys
L1- 90 microhenrys
R1- 200 ohms
R2- 1.0 megohm
R3- 50,000 ohms
R4- 20,000 ohms for dynamic
R4- 50,000 ohms for magnetic

FEDERAL RADIO CORP.

MODEL F, CODE 79-080
Receiver Chassis

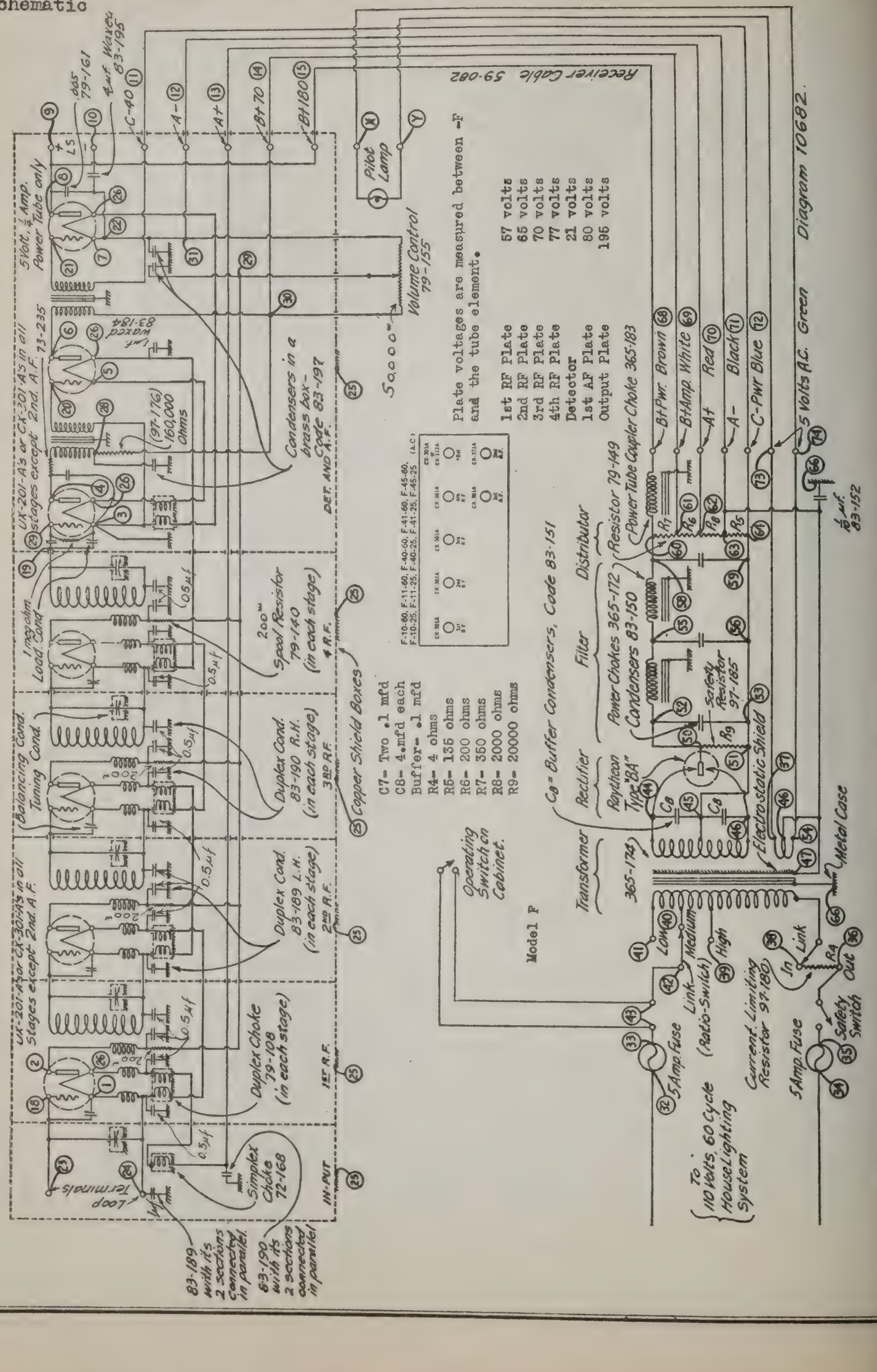

PARTIAL FRONT VIEW OF FACE PLATE
PILOT LAMP SWITCH
79-155 VOL CONTROL
SINGLE CONTROL #79-243
COND & DRIVE ON FACE PLATE ASSY
CHOKE COIL 79-108
VIEW FROM INSIDE OF TERM BLOCK ON A F UNIT 79-118
BACK VIEW OF TERM BLOCK
POWER CORD
COPPER SHIELD
INPUT STAGE
LOOP TERM
GROUND TO FRAME
-
+

Model F Receiver View

For Power Unit Chassis Wiring
See Index

MODEL F,CODE 79-080
Schematic

FEDERAL RADIO CORP.


Receiver Cable 59-082
Pilot Lamp
5 Volt, ¼ Amp. Power Tube only
4 µf. Waxed 83-195
.005 79-161
LS
C-40
A-
A+
B+70
B+180
UX-201-A's or CX-301-A's in all stages except 2nd. A.F. 73-235
1 µf. waxed 83-184
(97-176) 160,000 ohms
Condensers in a brass box- Code 83-197
DET. AND A.F.
50,000 Ω
Volume Control 79-155
1 megohm. Load Cond.
0.5 µf
200 Ω Spool Resistor 79-140 (in each stage)
4th R.F.
Balancing Cond.
Tuning Cond.
Duplex Cond. 83-190 R.H. (in each stage)
3rd R.F.
Copper Shield Boxes
UX-201-A's or CX-301-A's in all Stages except 2nd A.F.
Duplex Cond. 83-189 L.H. (in each stage)
2nd R.F.
Duplex Choke 79-108 (in each stage)
1st R.F.
Loop Terminals
Simplex Choke 72-168
IN-PUT
83-189 with its 2 sections connected in parallel
83-190 with its 2 sections connected in parallel
F-10-60, F-11-60, F-40-60, F-41-60, F-45-60, F-10-25, F-11-25, F-40-25, F-41-25, F-45-25 (A.C.)
CX 301A
CX 371A
Cs = Buffer Condensers, Code 83-151
Transformer
Rectifier
Filter
Distributor
Raytheon Type "BA"
Power Chokes 365-172
Condensers 83-150
Resistor 79-149
Power Tube Coupler Choke 365-183
Safety Resistor 97-185
Electro-static Shield
365-174
Operating Switch on Cabinet.
Model F
B+Pwr. Brown
B+Amp. White
A+ Red
A- Black
C-Pwr Blue
5 Volts A.C. Green
1/10 µf. 83-152
Metal Case
Low
Medium
High
Link
Link (Ratio-Switch)
5 Amp. Fuse
In
Out
R4
Current Limiting Resistor 97-180
Safety Switch
To 110 Volts, 60 Cycle House Lighting System
Diagram 10682.

C7- Two .1 mfd
C8- 4.mfd each
Buffer- .1 mfd
R4- 4 ohms
R5- 135 ohms
R6- 200 ohms
R7- 350 ohms
R8- 2000 ohms
R9- 20000 ohms

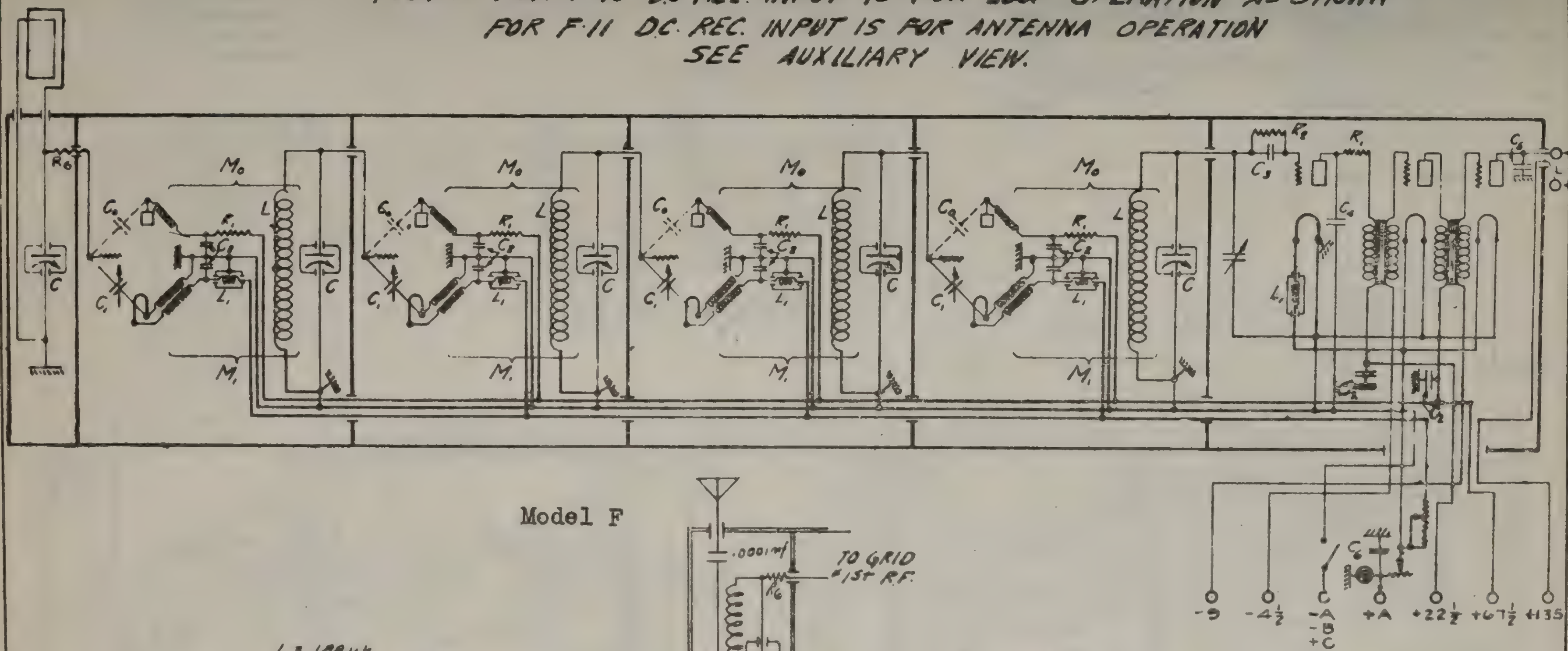
Plate voltages are measured between -F and the tube element.

1st RF Plate	57 volts
2nd RF Plate	65 volts
3rd RF Plate	70 volts
4th RF Plate	77 volts
Detector	21 volts
1st AF Plate	80 volts
Output Plate	196 volts

FEDERAL RADIO CORP.

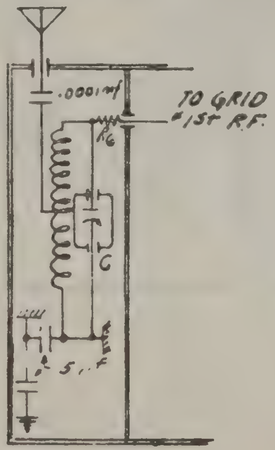
MODEL F-10 DC
F-11 DC

NOTE FOR F 10 DC. REC. INPUT IS FOR LOOP OPERATION AS SHOWN
FOR F-11 DC. REC. INPUT IS FOR ANTENNA OPERATION
SEE AUXILIARY VIEW.



R_6
C
C_0
C_1
M_0
M_1
L
R_1
C_2
L_1
R_2
C_3
C_4
C_5
C_6
-9
-4½
-A
-B
+C
+A
+22½
+67½
+135

Model F

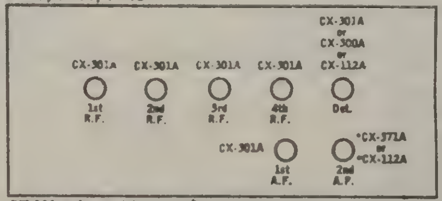


.0001mf
TO GRID #1ST R.F.
R_6
C
S
F

$L = 188 \mu h$
$C = 565 \mu\mu f$ (MAX.)
$C_0 = 9$ "
$C_1 = 42$ "
$M_0 = 35.6 \mu h$
$M_1 = 5.25 \mu h$
$C_2 = 1. \mu f$
$R_1 = 200 \omega$ (VERY LOW CAPACITY)
$R_2 = 1,000,000 \omega$
$C_3 = 250 \mu\mu f$
$C_4 = 1,000 \mu\mu f$
$C_5 = 5,000 \mu\mu f$
$L_1 = 360 \mu h$
$C6 = 2. \mu f$
$R6 = 900 \Omega$

ISSUE 4 10-3-28
ANT. UNIT ADDED FOR F-11 DC.
ISSUE 3 8-21-28
ADDED R6 TO LOOP STAGE
ISSUE 2 11-20-26
C transferred from +A (Batt) to 22½ lead. 11/20/26

F-10, F-11, F-40 (Batt.)



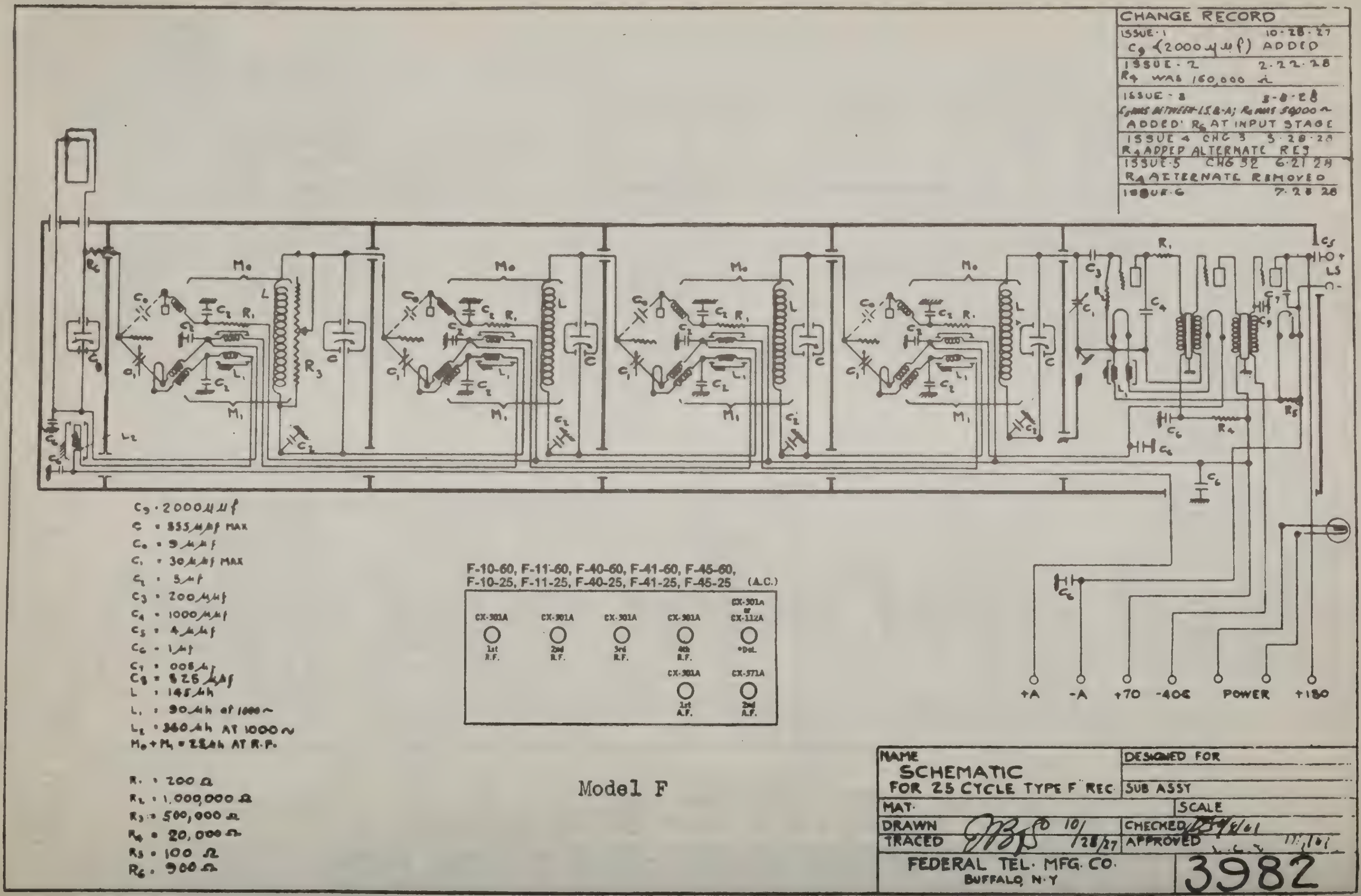
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A
4th R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.
*CX-371A or *CX-112A
2nd A.F.

*CX-299 tubes with a CX-220 in socket No. 7 may be used when storage battery or eliminator operation is not practical.

3964

MODEL F (25 Cycle)

FEDERAL RADIO CORP.


Mo
M1
L
L1
L2
C
C0
C1
C2
C3
C4
C5
C6
C7
C8
C9
R1
R3
R4
R5
R6
LS
+A
-A
+70
-40C
POWER
+180
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A
4th R.F.
CX-301A or CX-112A
*Det.
CX-301A
1st A.F.
CX-371A
2nd A.F.

CHANGE RECORD

ISSUE·1 10·28·27
C_9 (2000 μμf) ADDED

ISSUE·2 2·22·28
R_4 WAS 160,000 Ω

ISSUE·3 3·8·28
C_6 WAS BETWEEN LS & -A; R_6 WAS 50,000 Ω
ADDED R_6 AT INPUT STAGE

ISSUE 4 CHG 3 5·28·28
R_4 ADDED ALTERNATE RES

ISSUE·5 CHG 32 6·21 28
R_4 ALTERNATE REMOVED

ISSUE·6 7·28 28

C_9 = 2000 μμf
C = 355 μμf MAX
C_0 = 9 μμf
C_1 = 30 μμf MAX
C_2 = 5 μf
C_3 = 200 μμf
C_4 = 1000 μμf
C_5 = 4 μμf
C_6 = 1 μf
C_7 = 005 μf
C_8 = 825 μμf
L = 145 μh
L_1 = 90 mh at 1000~
L_2 = 360 mh AT 1000~
$M_0 + M_1$ = 28 μh AT R.F.

R_1 = 200 Ω
R_2 = 1,000,000 Ω
R_3 = 500,000 Ω
R_4 = 20,000 Ω
R_5 = 100 Ω
R_6 = 900 Ω

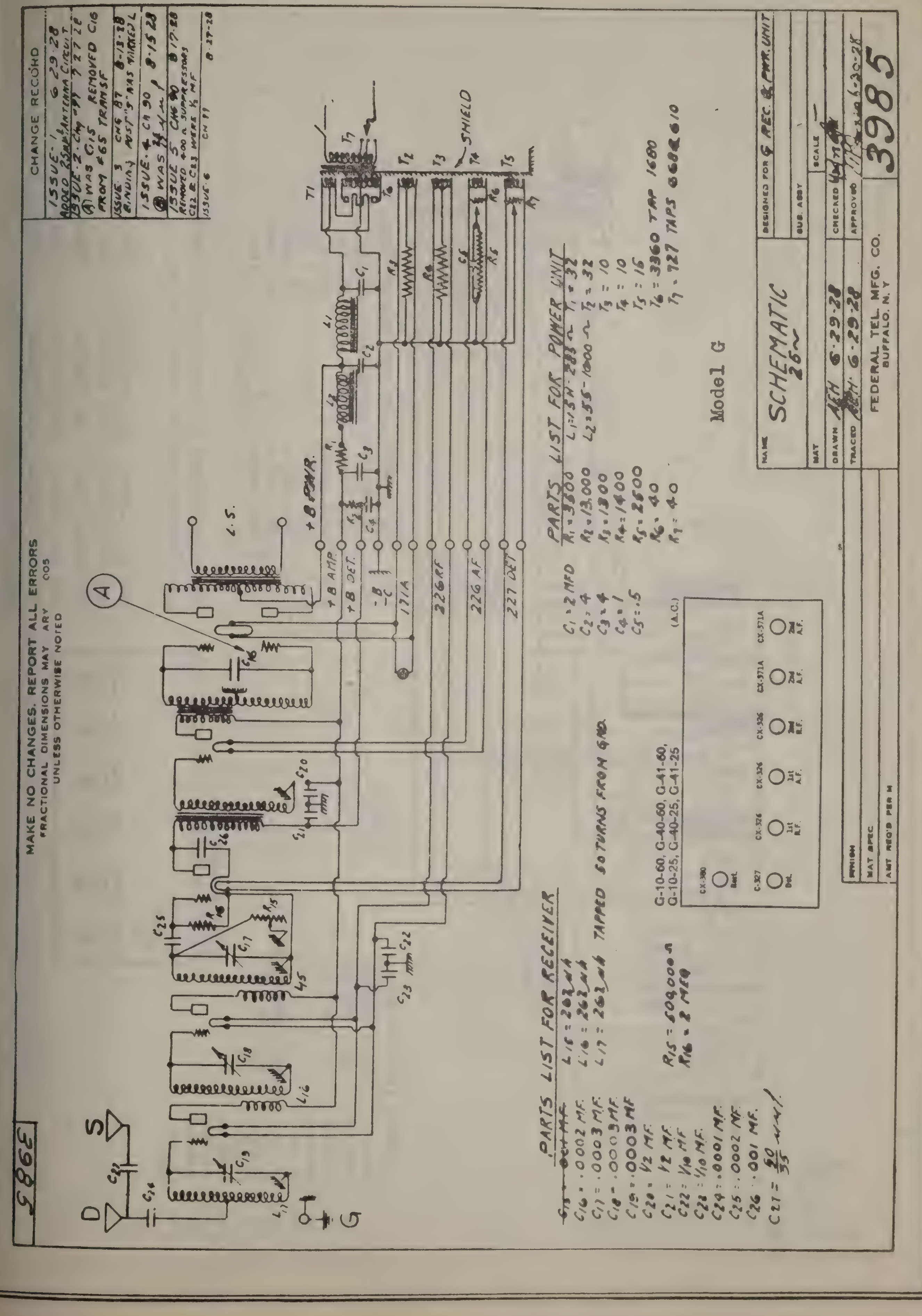
F-10-60, F-11-60, F-40-60, F-41-60, F-45-60,
F-10-25, F-11-25, F-40-25, F-41-25, F-45-25 (A.C.)

Model F

NAME SCHEMATIC
FOR 25 CYCLE TYPE "F" REC.
DESIGNED FOR
SUB ASSY
MAT.
SCALE
DRAWN
TRACED 10/28/27
CHECKED
APPROVED
FEDERAL TEL. MFG. CO.
BUFFALO, N.Y
3982

FEDERAL RADIO CORP.

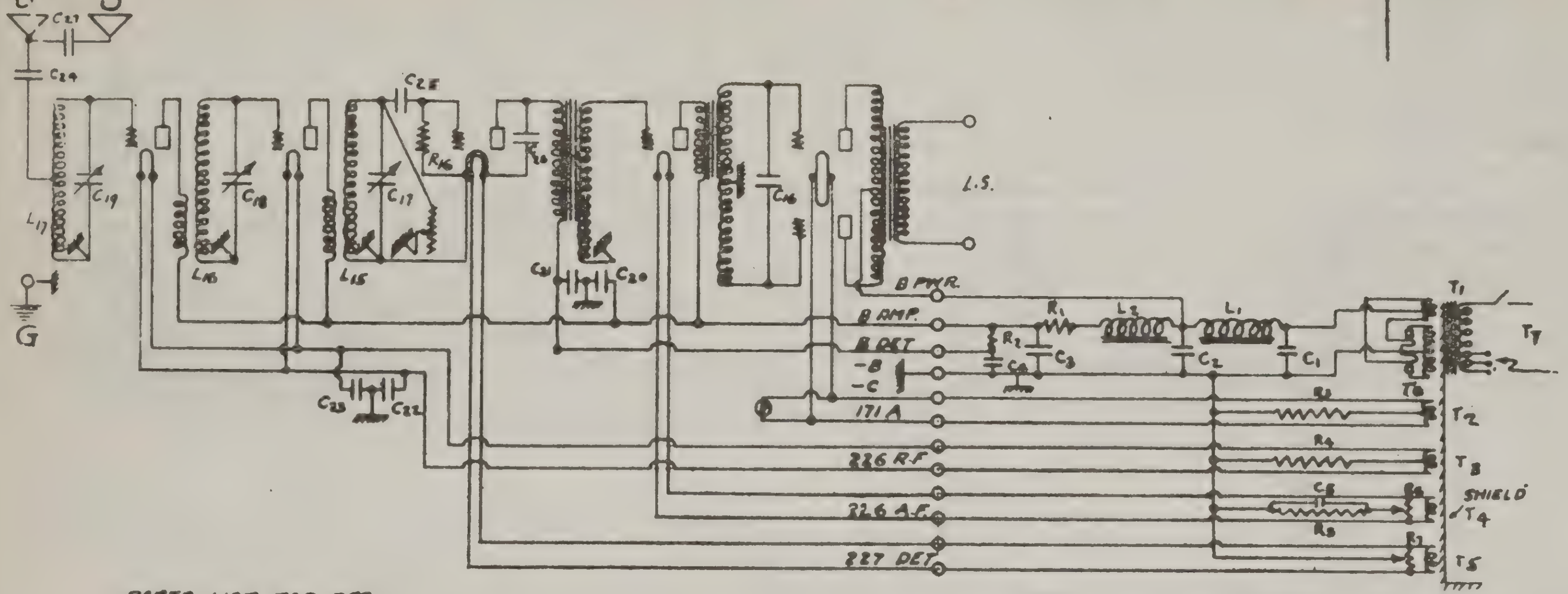
MODEL G (25 Cycle)


3985
MAKE NO CHANGES. REPORT ALL ERRORS
FRACTIONAL DIMENSIONS MAY VARY .005
UNLESS OTHERWISE NOTED
CHANGE RECORD
ISSUE 1 6-29-28
ADDED 25 SAMP. ANTENNA CIRCUIT
ISSUE 2 CHG #79 7-27-28
A WAS C15 REMOVED C16
FROM #65 TRANSF
ISSUE 3 CHG 87 8-13-28
BINDING POST "S" WAS MARKED L
ISSUE 4 CH 90 8-15-28
A WAS 24 ½ mmf
ISSUE 5 CHG 90 8-17-28
REMOVED 400 Ω SUPPRESSORS
C22 & C23 WERE ½ MF
ISSUE 6 CH 99 8-27-28
A
D
S
G
C24
C27
C19
L17
C18
L16
45
C25
R16
C17
R15
C23
C22
C26
C21
C20
L.S.
+B AMP.
+B DET.
-B
-C
171A
226 RF
226 AF
227 DET
+B PWR.
R1
C3
C4
R2
L2
C2
L1
C1
R3
R4
C5
R5
R6
R7
T1
T2
T3
T4
T5
T6
T7
SHIELD
PARTS LIST FOR RECEIVER
~~C15 = .001 MF.~~
C16 = .0002 MF.
C17 = .0003 MF.
C18 = .0003 MF.
C19 = .0003 MF
C20 = ½ MF.
C21 = ½ MF.
C22 = 1/10 MF
C23 = 1/10 MF.
C24 = .0001 MF.
C25 = .0002 MF.
C26 = .001 MF.
C27 = 50/35 mmf.
L15 = 262 mh
L16 = 262 mh
L17 = 262 mh TAPPED 50 TURNS FROM GRD.
R15 = 504,000 Ω
R16 = 2 MEG
PARTS LIST FOR POWER UNIT
C1 = 2 MFD
C2 = 4
C3 = 4
C4 = 1
C5 = .5
R1 = 3300
R2 = 13,000
R3 = 1300
R4 = 1400
R5 = 2500
R6 = 40
R7 = 40
L1 = 15H - 283 Ω
L2 = 55 - 1000 Ω
T1 = 32
T2 = 32
T3 = 10
T4 = 10
T5 = 16
T6 = 3360 TAP 1680
T7 = 727 TAPS 668 & 610
(A.C.)
G-10-60, G-40-60, G-41-60,
G-10-25, G-40-25, G-41-25
CX-380 Rect.
C-327 Det.
CX-326 1st R.F.
CX-326 1st A.F.
CX-326 2nd R.F.
CX-371A 2nd A.F.
CX-371A 2nd A.F.
Model G
NAME SCHEMATIC 25~
DESIGNED FOR G REC. & PWR. UNIT
SUB. ASSY
MAT
SCALE
DRAWN AEH 6-29-28
CHECKED
TRACED AEH 6-29-28
APPROVED 6-30-28
FEDERAL TEL. MFG. CO.
BUFFALO, N.Y.
3985
DIVISION
MAT SPEC
AMT REQ'D PER M

MODEL H CODE 71-030

FEDERAL RADIO CORP.

CHANGE RECORD
ISSUE-1 8-17-28


D
S
G
C_{27}
C_{24}
C_{19}
L_{17}
C_{18}
L_{16}
C_{25}
R_{16}
C_{17}
L_{15}
C_{26}
C_{21}
C_{20}
C_{16}
C_{23}
C_{22}
L.S.
B PWR.
B AMP.
B DET.
-B
-C
171 A
226 R.F.
226 A.F.
227 DET.
R_1
R_2
C_3
C_4
L_2
L_1
C_2
C_1
R_2
R_4
C_5
R_5
R_6
R_7
T_1
T_7
T_6
T_2
T_3
SHIELD
T_4
T_5

PARTS LIST FOR REC.

C_{16} = .0002 μf
C_{17} = .0003 μf
C_{18} = .0003 μf
C_{19} = .0003 μf
C_{20} = 1/2 μf
C_{21} = 1/2 μf
C_{22} = 1/10 μf
C_{23} = 1/10 μf
C_{24} = .0001 μf
C_{25} = .0002 μf
C_{26} = .001 μf
C_{27} = 50/35 μμf.

L_{15} = 262 μh
L_{16} = 262 μh
L_{17} = 262 μh

R_{15} = 500,000 Ω
R_{16} = 2 Meg

PARTS LIST FOR POWER UNIT

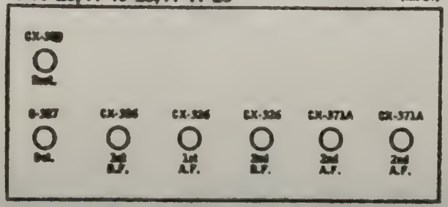
C_1 = 1 μf
C_2 = 1 μf
C_3 = 2 μf
C_4 = 1 μf
C_5 = 1/2 μf

R_1 = 3500 Ω
R_2 = 13,000 Ω
R_3 = 1300 Ω
R_4 = 1400 Ω
R_5 = 2500 Ω
R_6 = 40 Ω
R_7 = 40 Ω

L_1 = 15h - 285 Ω
L_2 = 55h - 1600 Ω

T_1 = 24
T_2 = 29
T_3 = 8
T_4 = 8
T_5 = 12
T_6 = 2390
T_7 = 573

H-10-60, H-40-60, H-41-60,
H-10-25, H-40-25, H-41-25 (A.C.)


CX-380
Rect.
C-327
Det.
CX-326
1st
R.F.
CX-326
1st
A.F.
CX-326
2nd
R.F.
CX-371A
2nd
A.F.
CX-371A
2nd
A.F.

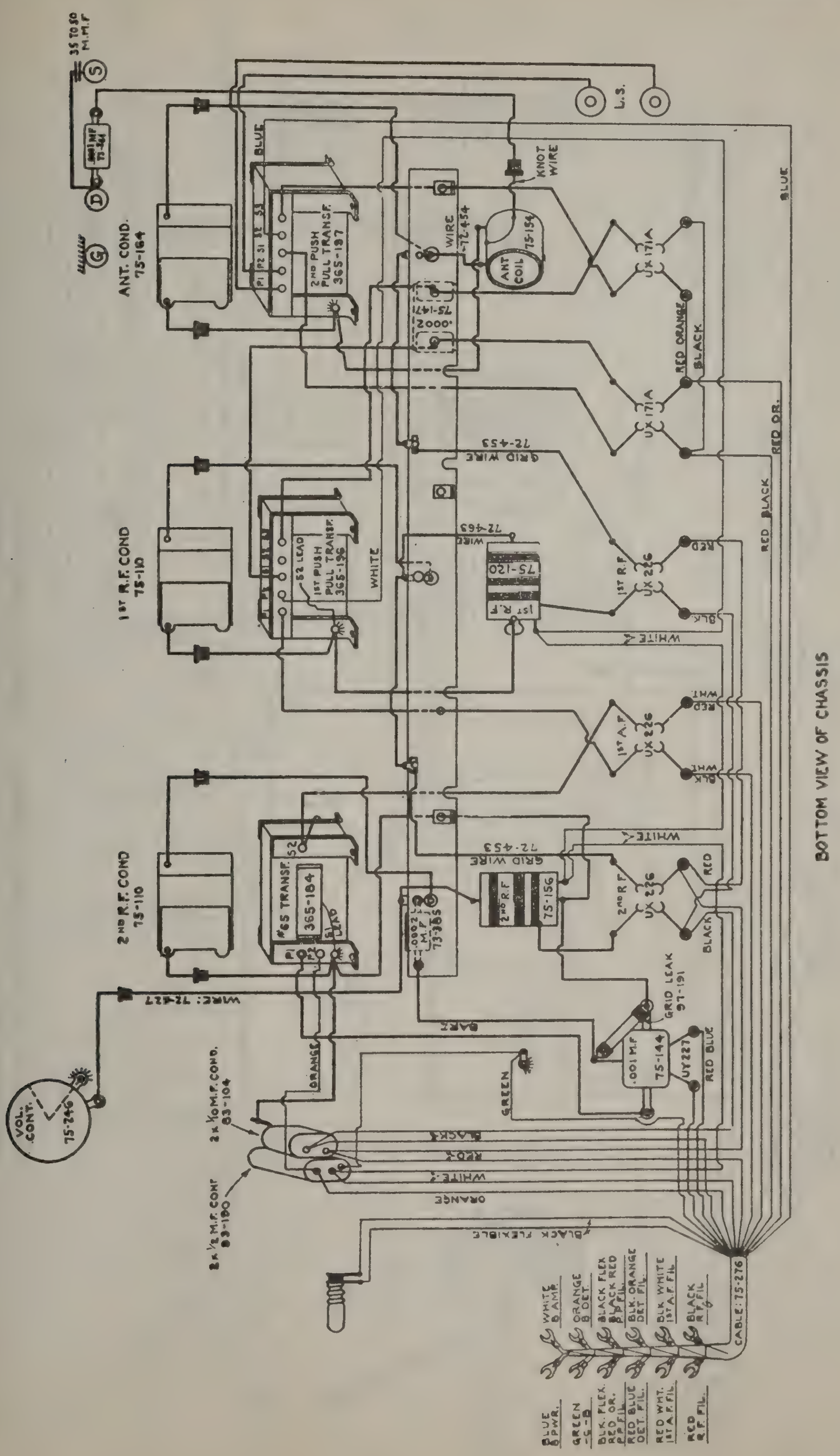
VOLTAGES

Plate voltages are measured between the chassis and the respective tube plates.

1st RF Plate	125 volts	1st RF Fil.	1.45 volts
2nd RF Plate	125 volts	2nd RF Fil.	1.45 volts
Detector Plate	62 volts	Detector Fil	2.25 volts
1st AF Plate	125 volts	1st AF Fil.	1.45 volts
Output Plates	190 volts	Output Fil.	5.1 volts
Grids and Cathodes	0 volts		

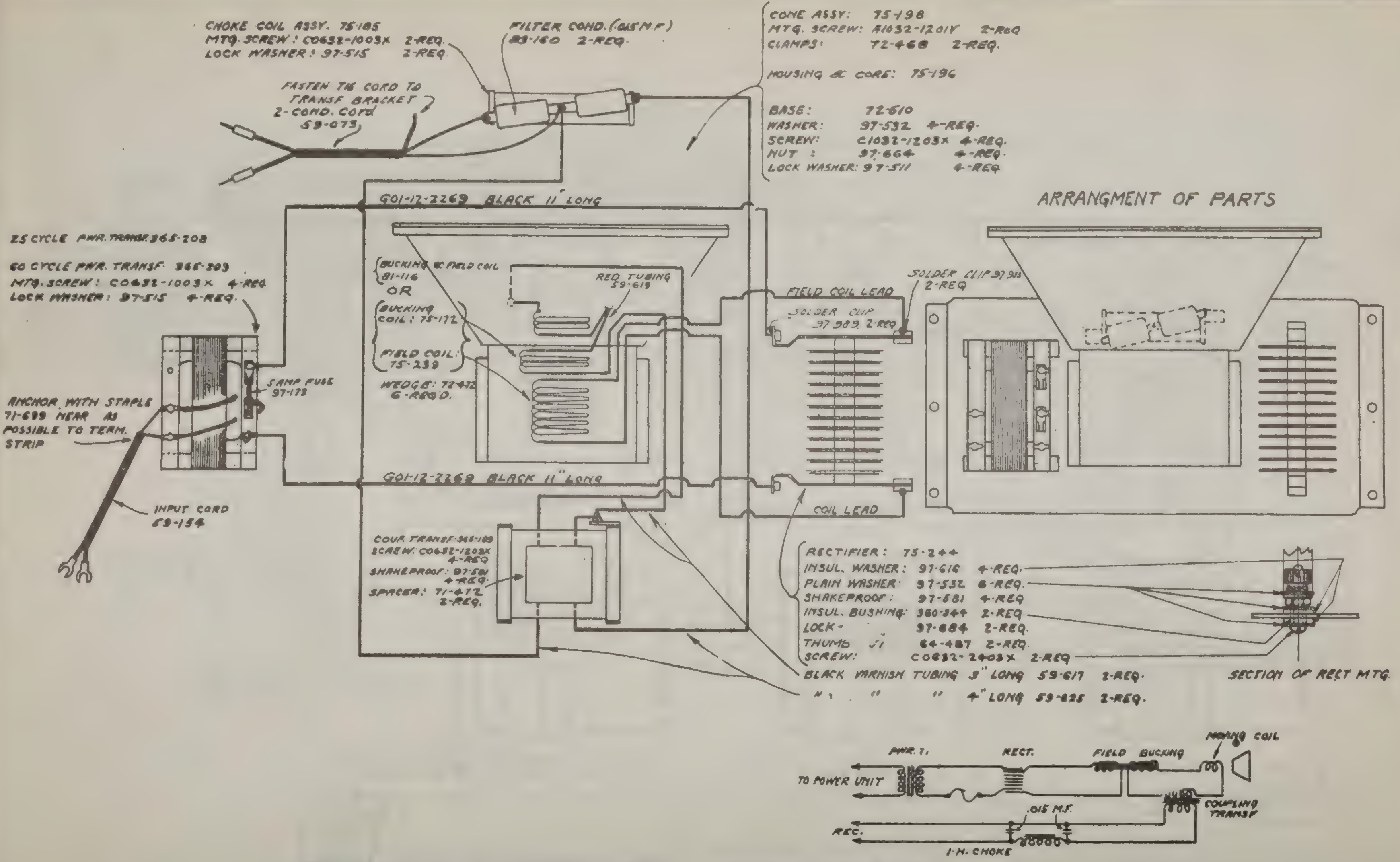
FEDERAL RADIO CORP.

MODEL H Receiver
Chassis Wiring


35 TO 50 M.M.F
S
D
G
ANT. COND. 75-164
L.S.
BLUE
2ND PUSH PULL TRANSF. 365-197
P1 P2 S1 S2 S3
WIRE 72-454
KNOT WIRE
ANT COIL 75-154
UX 171A
.0002 75-1471
RED ORANGE
BLACK
RED OR.
GRID WIRE 72-453
1ST R.F. COND 75-110
1ST PUSH PULL TRANSF. 365-196
S2 LEAD
WHITE
WIRE 72-463
75-120 1ST R.F.
1ST R.F. UX 226
RED
BLK
RED BLACK
BLUE
BOTTOM VIEW OF CHASSIS
1ST A.F. UX 226
RED WHT.
BLK WHT.
2ND R.F. COND 75-110
GS TRANSF. 365-184
S2
S1 LEAD
P1
.0002 M.F. 73-385
2ND R.F. 75-156
2ND R.F. UX 226
GRID LEAK 97-191
.001 M.F. 75-144
UY227
RED BLUE
GREEN
BARE
WIRE: 72-427
VOL. CONT. 75-246
2 x 1/2 M.F. COND. 83-104
2 x 1/2 M.F. COND 83-180
ORANGE
BLACK
RED
WHITE
BLACK FLEXIBLE
CABLE: 75-276
WHITE B AMP.
ORANGE B DET.
BLACK FLEX BLACK RED P.P. FIL.
BLK. ORANGE DET. FIL.
BLK WHITE 1ST A.F. FIL.
BLACK R.F. FIL.
BLUE B PWR.
GREEN -C-B
BLK. FLEX. RED OR. P.P. FIL.
RED BLUE DET. FIL.
RED WHT. 1ST A.F. FIL.
RED R.F. FIL.

MODEL H Power Unit Chassis Wiring

FEDERAL RADIO CORP.

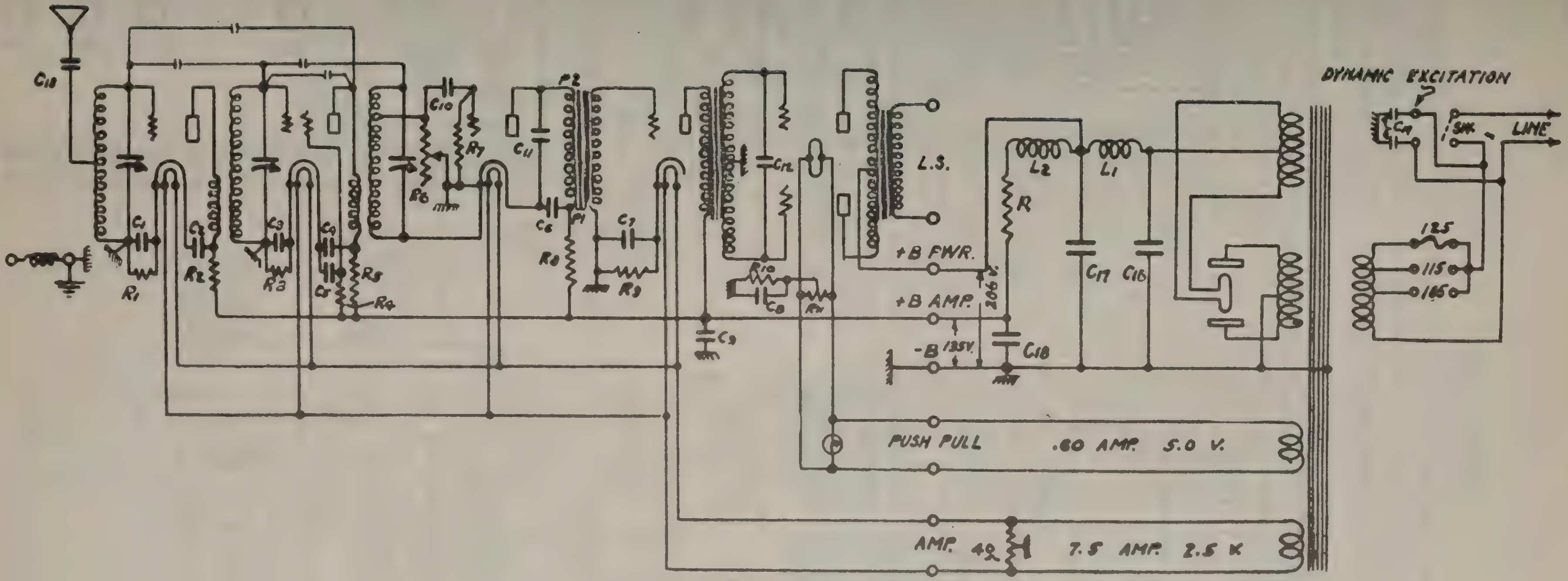

CHOKE COIL ASSY. 75-185
MTG. SCREW: C0632-1003X 2-REQ.
LOCK WASHER: 97-515 2-REQ.
FILTER COND. (.015 M.F.) 83-160 2-REQ.
FASTEN TIE CORD TO TRANSF BRACKET
2-COND. Cord 59-073
CONE ASSY: 75-198
MTG. SCREW: A1032-1201V 2-REQ
CLAMPS: 72-468 2-REQ.
HOUSING & CORE: 75-196
BASE: 72-610
WASHER: 97-532 4-REQ.
SCREW: C1032-1203X 4-REQ.
NUT: 97-664 4-REQ.
LOCK WASHER: 97-511 4-REQ.
ARRANGMENT OF PARTS
G01-12-2269 BLACK 11" LONG
25 CYCLE PWR. TRANSF. 365-208
60 CYCLE PWR. TRANSF. 365-209
MTG. SCREW: C0632-1003X 4-REQ.
LOCK WASHER: 97-515 4-REQ.
BUCKING & FIELD COIL 81-116
OR
BUCKING COIL: 75-172
FIELD COIL: 75-239
WEDGE: 72-472 6-REQ'D.
REQ TUBING 59-619
SOLDER CLIP 97-989 2-REQ
FIELD COIL LEAD
SOLDER CLIP 97-989, 2-REQ
5 AMP FUSE 97-173
ANCHOR WITH STAPLE 71-699 NEAR AS POSSIBLE TO TERM. STRIP
INPUT CORD 59-154
G01-12-2269 BLACK 11" LONG
COIL LEAD
COUP. TRANSF. 365-189
SCREW: C0632-1203X 4-REQ
SHAKEPROOF: 97-581 4-REQ.
SPACER: 71-472 2-REQ.
RECTIFIER: 75-244
INSUL. WASHER: 97-616 4-REQ.
PLAIN WASHER: 97-532 6-REQ.
SHAKEPROOF: 97-581 4-REQ
INSUL. BUSHING: 360-344 2-REQ
LOCK- " 97-684 2-REQ.
THUMB " 64-487 2-REQ.
SCREW: C0632-2403X 2-REQ
SECTION OF RECT. MTG.
BLACK VARNISH TUBING 3" LONG 59-617 2-REQ.
" " " 4" LONG 59-625 2-REQ.
TO POWER UNIT
PWR. T.
RECT.
FIELD
BUCKING
MOVING COIL
COUPLING TRANSF
.015 M.F.
REC.
1-H. CHOKE

CODE 81-104 25 CYCLE DYNAMIC SPEAKER- RETESTED CODE 81-103
CODE 81-106 60 " " " " " 81-105

81-104

FEDERAL RADIO CORP.

MODEL K


C18
R1
C1
C2
R2
C3
R3
C4
C5
R5
R4
C10
R7
R6
C11
P2
P1
C6
R8
C7
R9
C12
R10
C8
R11
C9
L.S.
+B PWR.
+B AMP.
-B
135V.
206 V.
R
L2
L1
C17
C16
C18
PUSH PULL
.60 AMP. 5.0 V.
AMP. 4Ω
7.5 AMP. 2.5 V
DYNAMIC EXCITATION
C4
SW.
LINE
125
115
165

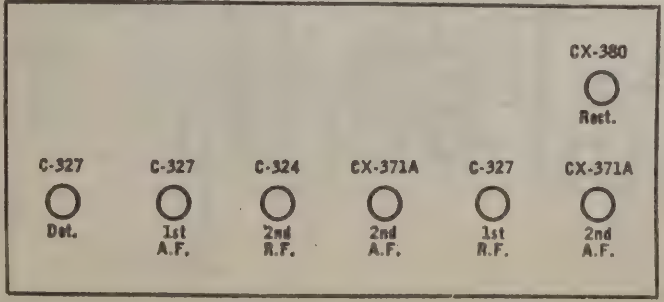
Model K

C1	.25 mf	R1	1500 Ω
C2	.25	R2	6000 Ω
C3	.25	R3	300 Ω
C4	.25	R4	40,000 Ω
C5	.25	R5	6,000 Ω
C6	.25	R6	700,000 Ω
C7	.25	R7	2 MEG
C8	.25	R8	12,000 Ω
C9	.25	R9	1500 Ω
C10	.0002	R10	1500 Ω
C11	.001	R11	40 Ω
C12	.0002		
C13	.0001		

25 CYCLE		60 CYCLE
1300 Ω	R	1300 Ω
15 H. 285 Ω	L1	15 H. 285 Ω
60 H. 1570 Ω	L2	60 H. 1570 Ω
2 M.F.	C16	1 M.F.
4 M.F.	C17	1 M.F.
4 M.F.	C18	2 M.F.
0.1 M.F.	C19	0.1 M.F.

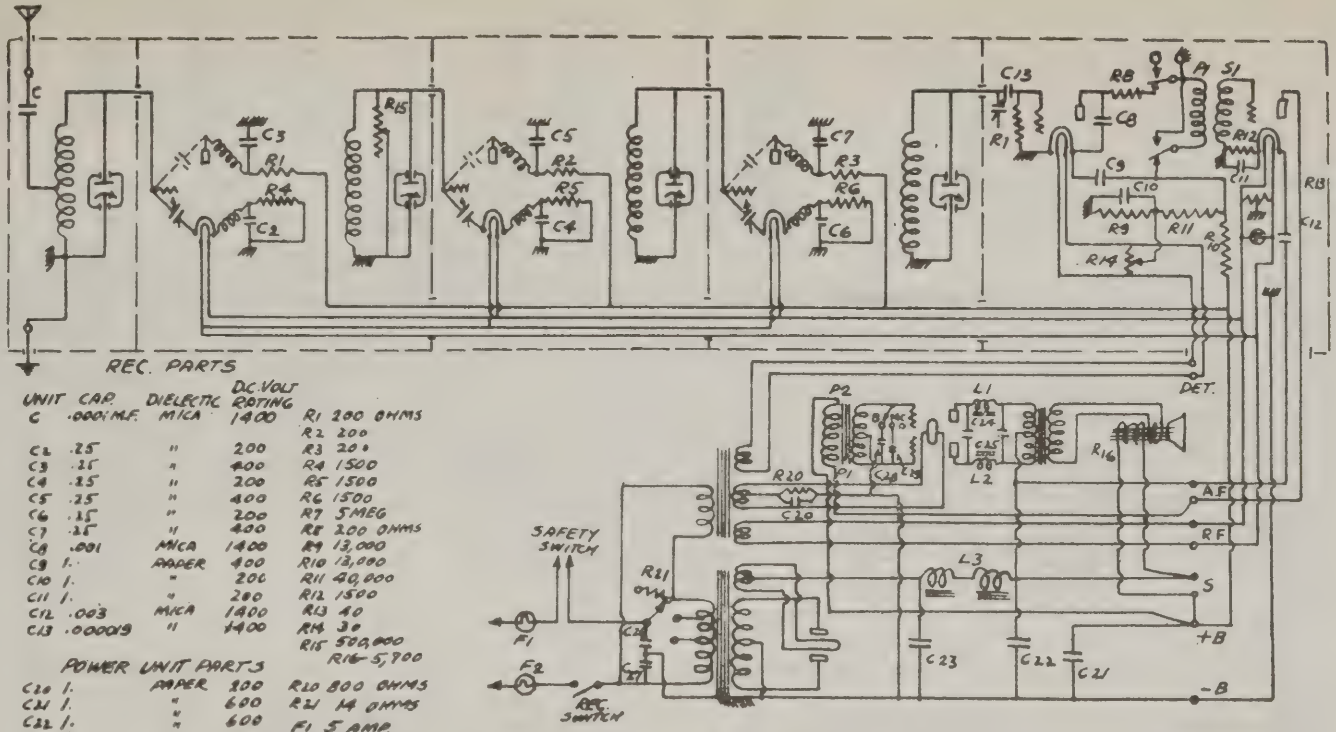
K-10-60, K-40-60, K-41-60,
K-10-25, K-40-25, K-41-25

(A.C.)


CX-380
Rect.
C-327
Det.
C-327
1st A.F.
C-324
2nd R.F.
CX-371A
2nd A.F.
C-327
1st R.F.
CX-371A
2nd A.F.

MODEL M

FEDERAL RADIO CORP.


C
C3
R1
R4
C2
R15
C5
R2
R5
C4
C7
R3
R6
C6
C13
R1
R8
C8
A
S1
R12
C11
C9
C10
R9
R11
R14
R10
R13
C12
I
DET.
P2
L1
C24
C25
L2
R16
R20
C20
P1
C26
C19
AF
RF
S
+B
-B
L3
C23
C22
C21
SAFETY SWITCH
R21
C28
C27
F1
F2
REC. SWITCH

REC. PARTS

UNIT	CAP.	DIELECTIC	D.C. VOLT ROTING
C	.0001 M.F.	MICA	1400
C2	.25	"	200
C3	.25	"	400
C4	.25	"	200
C5	.25	"	400
C6	.25	"	200
C7	.25	"	400
C8	.001	MICA	1400
C9	1.	PAPER	400
C10	1.	"	200
C11	1.	"	200
C12	.003	MICA	1400
C13	.000019	"	1400

R1 200 OHMS
R2 200
R3 200
R4 1500
R5 1500
R6 1500
R7 5 MEG
R8 200 OHMS
R9 13,000
R10 13,000
R11 40,000
R12 1500
R13 40
R14 30
R15 500,000
R16 5,900

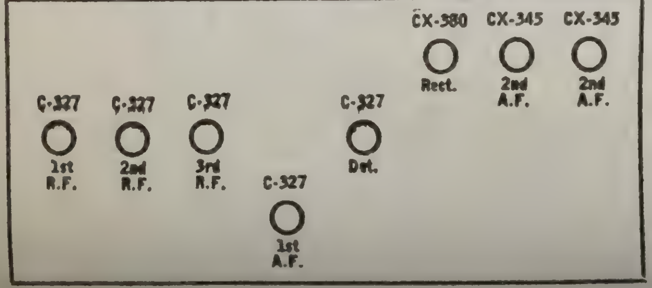
POWER UNIT PARTS

UNIT	CAP.	DIELECTIC	D.C. VOLT ROTING
C20	1.	PAPER	200
C21	1.	"	600
C22	1.	"	600
C23	2.	"	600
C24	.015	"	1400
C25	.020	"	1400
C26	.015	"	1400
C27	.015	"	1400
C28	.003	"	1400
C29	.0015	"	1400

R20 800 OHMS
R21 14 OHMS
F1 5 AMP.
F2 5 AMP
L1
L2
L3

Type M

M-35-60, M-40-60, M-41-60, M-45-60, M-46-60,
M-35-25, M-40-25, M-41-25, M-45-25, M-46-25 (A.C.)


CX-380
Rect.
CX-345
2nd A.F.
CX-345
2nd A.F.
C-327
1st R.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
Det.
C-327
1st A.F.

FEDERAL—Type M
Line Voltage 113—Set on 113 Volt Tap—Volume Control Position Off

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST R.F. DET. ETC. ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M.A. ⑩	PLATE M.A. GRID TEST ⑪	PLATE CHANGE M.A. ⑫	SCREEN GRID VOLTS ⑬
1	227	1st RF	2.7	160	2.5	116	0	-	13	16	3	
2	227	2nd RF	2.7	160	2.5	116	0	-	16	16	3	
3	227	3rd RF	2.7	160	2.5	116	0	-	13	16	3	
4	227	Det.	2.9	180	2.5	118	0	16	1	1	0	
5	227	1st AF	2.6	160	2.5	114	0	-	11	12	1	
6	245	1st P	2.7	276	2.5	252	48	-	30	34	4	
7	245	2nd P	2.7	276	2.5	252	48	-	30	34	4	
8	280	Rect.	5.0	-	4.9	-	-	-	120	-	-	
9												
10												

ODEL 35, 40
ata
ODEL "Cathedral Tone"
chematic

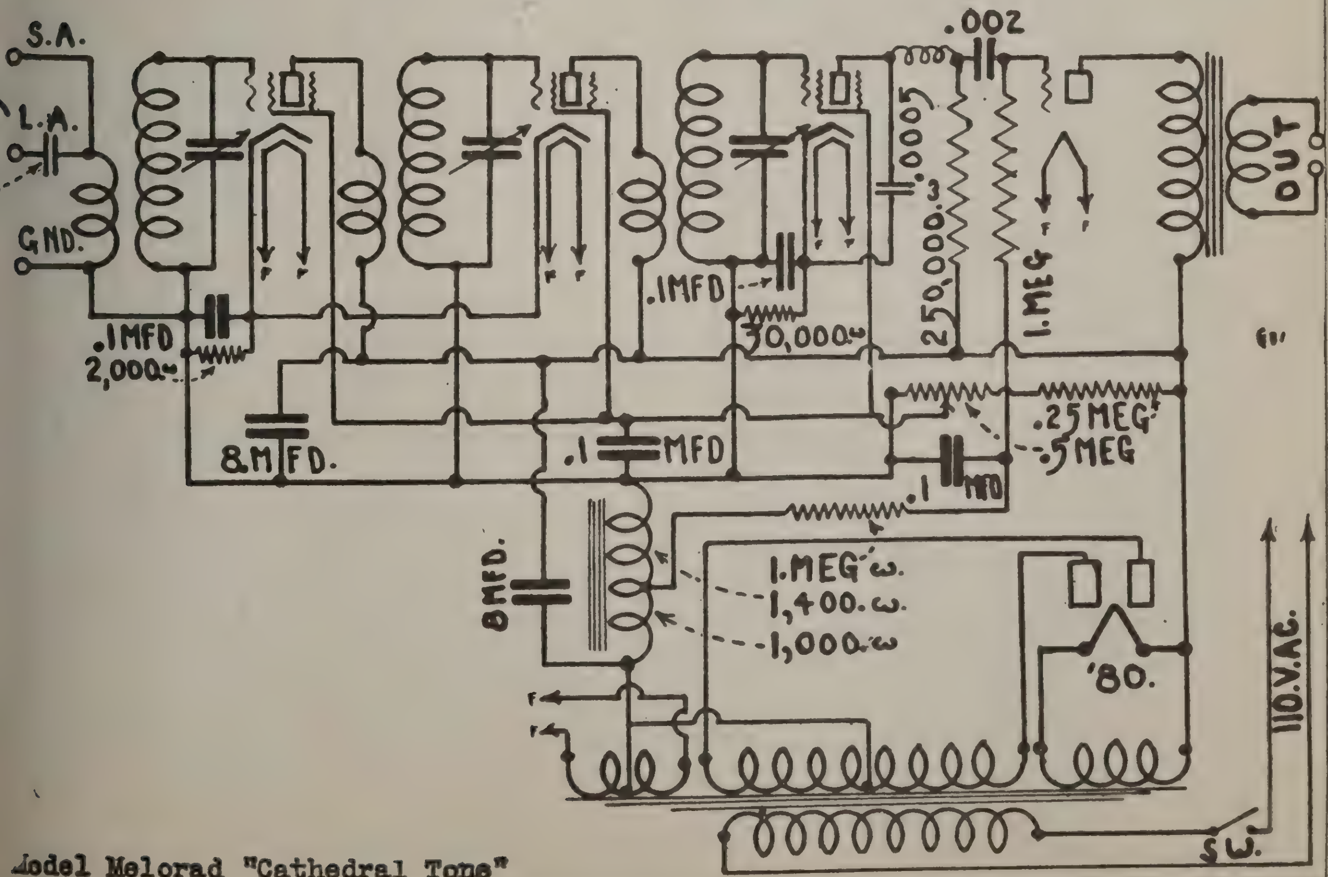
FEDERATED PURCHASER

Model 35, 40

ADJUSTMENTS The 175 kc. oscillator must be accurately tuned to 175 kc. and only 175 kc. If this precaution is not observed it will be impossible to align the oscillator to the rest of the set and the set will not operate correctly as the oscillator is designed for exact 175 kc. operation.

The second intermediate frequency amplifier transformer shield can is removed and one side of the small variator condenser is disconnected from the primary coil. This coil is connected so that it still is in the plate circuit of the tube but the tuning condenser is not connected in the circuit. Now remove the grid cap from the intermediate amplifier tube and connect a 3 megohm resistor from the control grid to ground. Now connect the output from the 175 kc. oscillator to the grid of the intermediate frequency amplifier tube and tune the secondary for maximum deflection of the output meter. (Low voltage alternating current meter, 0 to 3 volts, connected across the voice coil of speaker). Now remove the shield can and connect the small tuning condenser that was previously removed back across the primary coil. With the 175 kc. oscillator connected the same as before, tune the primary for a maximum deflection of the output meter. (Caution: Do not under any circumstances try to retune the secondary after having tuned the primary. **This is important.**) After having tuned this stage proceed to the next intermediate frequency:

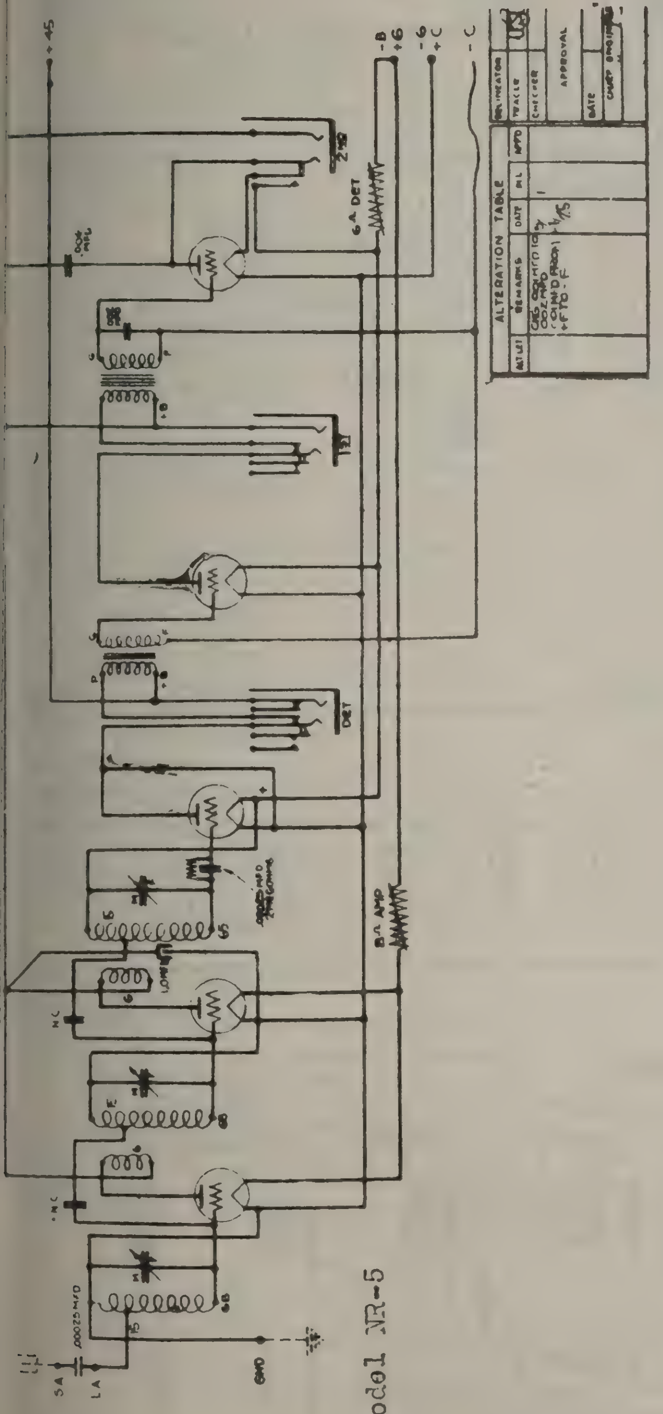
(b) Replace the grid cap on the intermediate frequency amplifier and proceed to the first detector tube. Remove this tube cap and connect the 175 kc. oscillator as before, being sure to connect the 3 megohm resistor from control grid to ground. Now proceed to tune the intermediate frequency transformer by tuning the secondary first for maximum deflection of the output meter and then tuning the primary for maximum deflection. Tuning this transformer must be done very carefully as the selectivity of the whole receiver depends entirely on the tuning of this transformer.



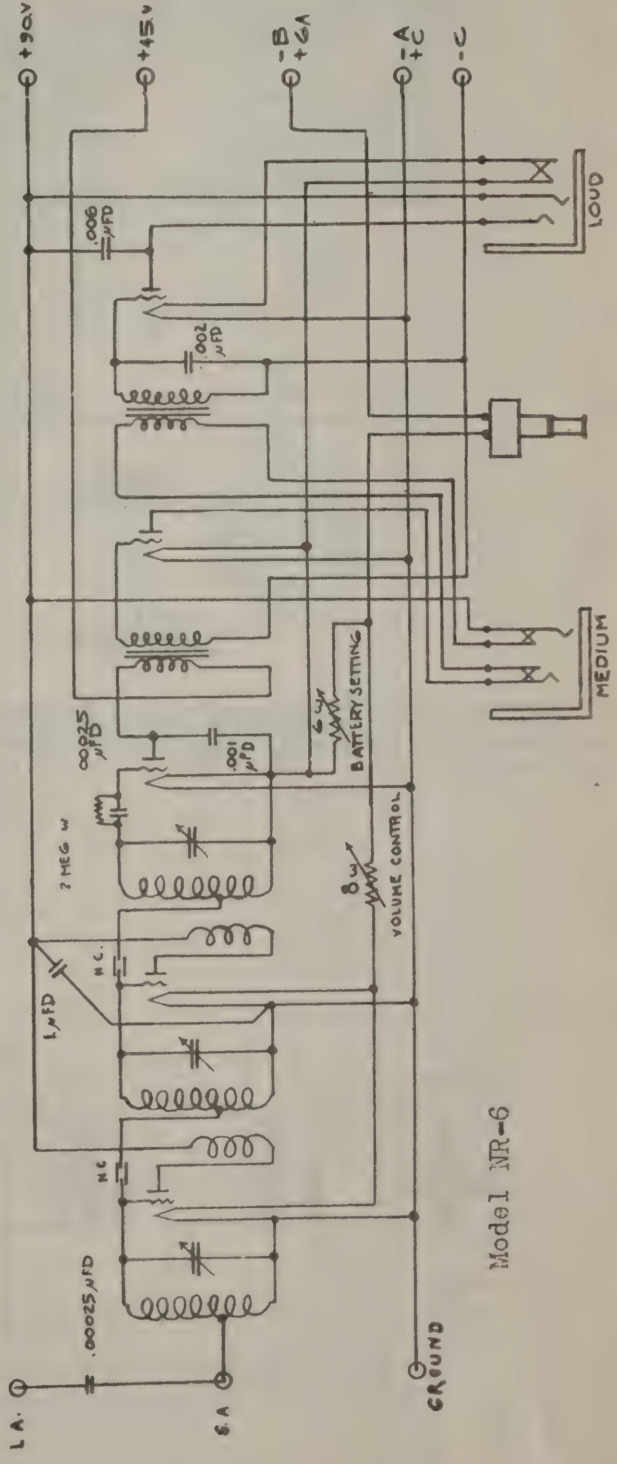
odel Melorad "Cathedral Tone"

FREED RADIO AND TELEVISION CORP.

MODEL NR-5
MODEL NR-6


+45
-B
+6
-6
+C
-C
2ND
6A DET
1ST
DET
BA AMP
.00025 MFD
S.A.
L.A.
GND
N.C.
ALTERATION TABLE
REMARKS
DATE
APPROVAL

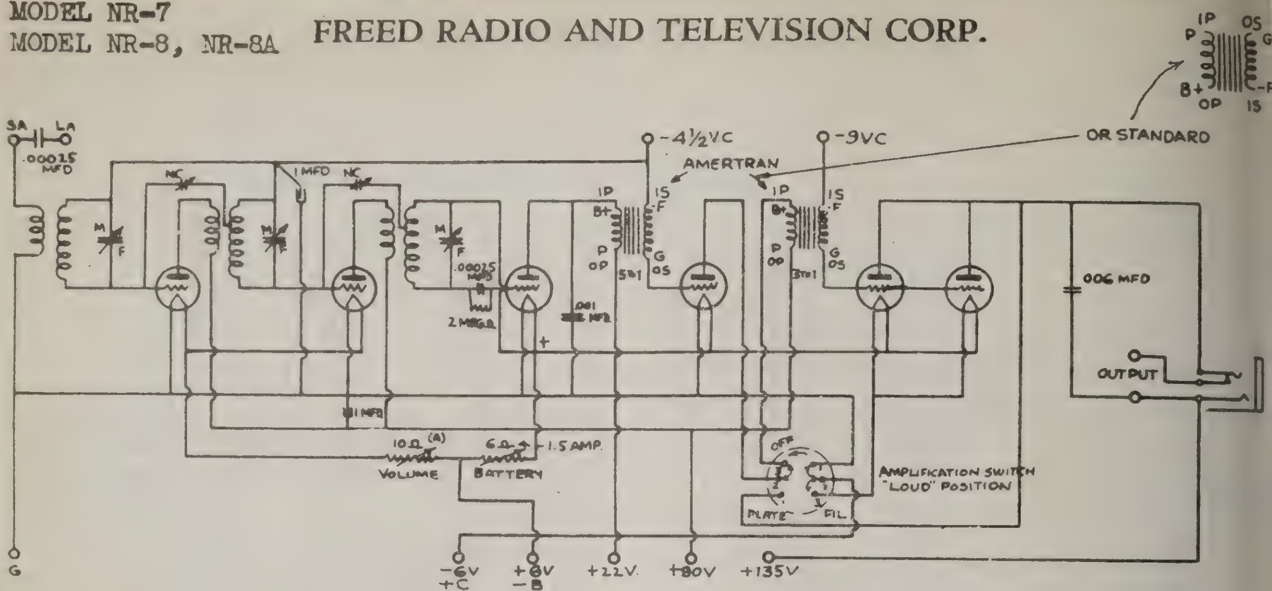
Model NR-5


+90V
+45V
-B
+6A
-A
+C
-C
LOUD
MEDIUM
.006 MFD
.002 MFD
.00025 MFD
.001 MFD
6 Ω
BATTERY SETTING
2 MEG Ω
8 Ω
VOLUME CONTROL
1 MFD
N.C.
.00025 MFD
L.A.
S.A.
GROUND

Model NR-6

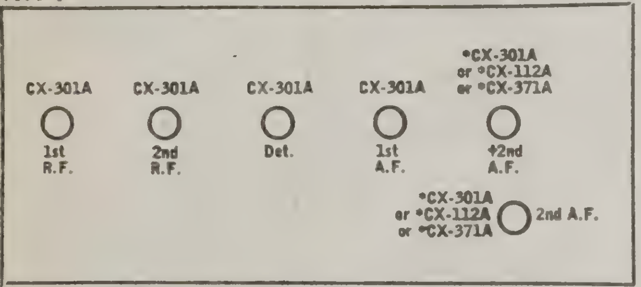
MODEL NR-7
MODEL NR-8, NR-8A

FREED RADIO AND TELEVISION CORP.


IP
OS
P
B+
OP
IS
OR STANDARD
SA
LA
.00025 MFD
-4½VC
-9VC
AMERTRAN
1MFD
NC
M
F
IP
B+
P
OP
IS
F
G
OS
5 to 1
3 to 1
.00025 MFD
2 MEG Ω
.001 MFD
+
.006 MFD
OUTPUT
1 MFD
10 Ω (A)
VOLUME
6 Ω
1.5 AMP.
BATTERY
OFF
PLATE
FIL.
AMPLIFICATION SWITCH
"LOUD" POSITION
G
-6V
+C
+6V
-B
+22V.
+90V
+135V

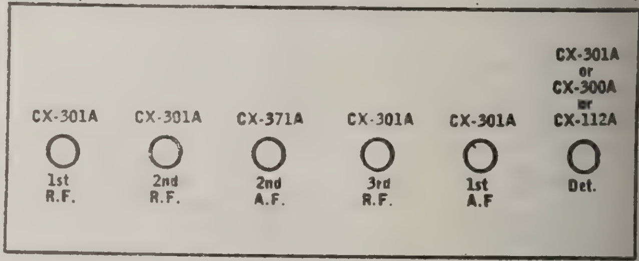
Model NR-7

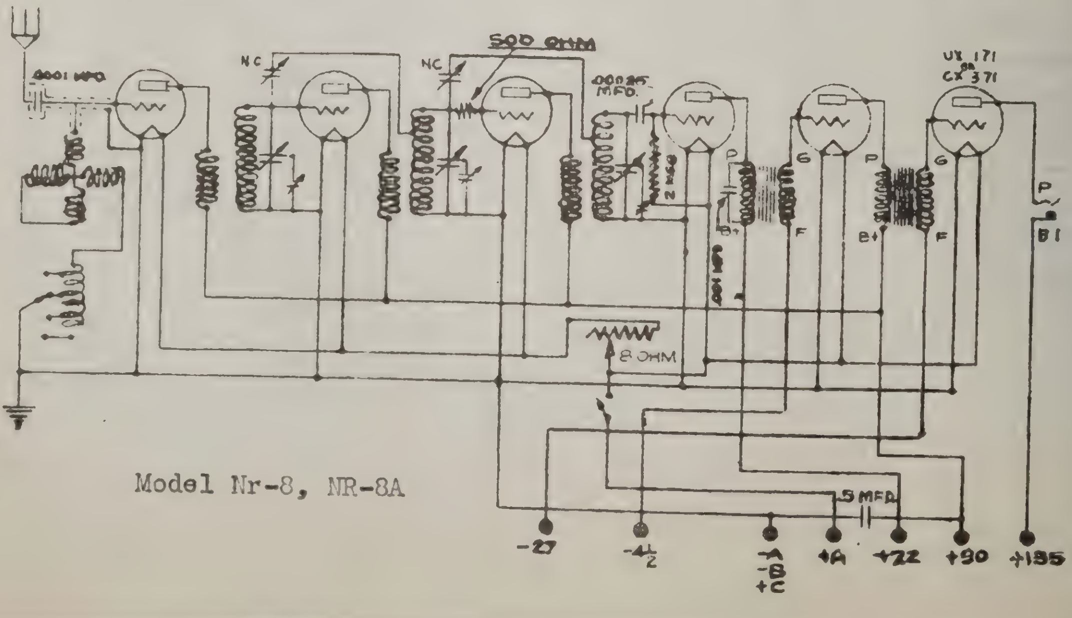
NR-7 (Batt.)


CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
Det.
CX-301A
1st A.F.
*CX-301A or *CX-112A or *CX-371A
†2nd A.F.
*CX-301A or *CX-112A or *CX-371A
2nd A.F.

† If CX-301A's are used, use both stages in parallel. If power tubes are used, one tube in either 2nd A. F. socket is sufficient.

NR-8, (Batt.)

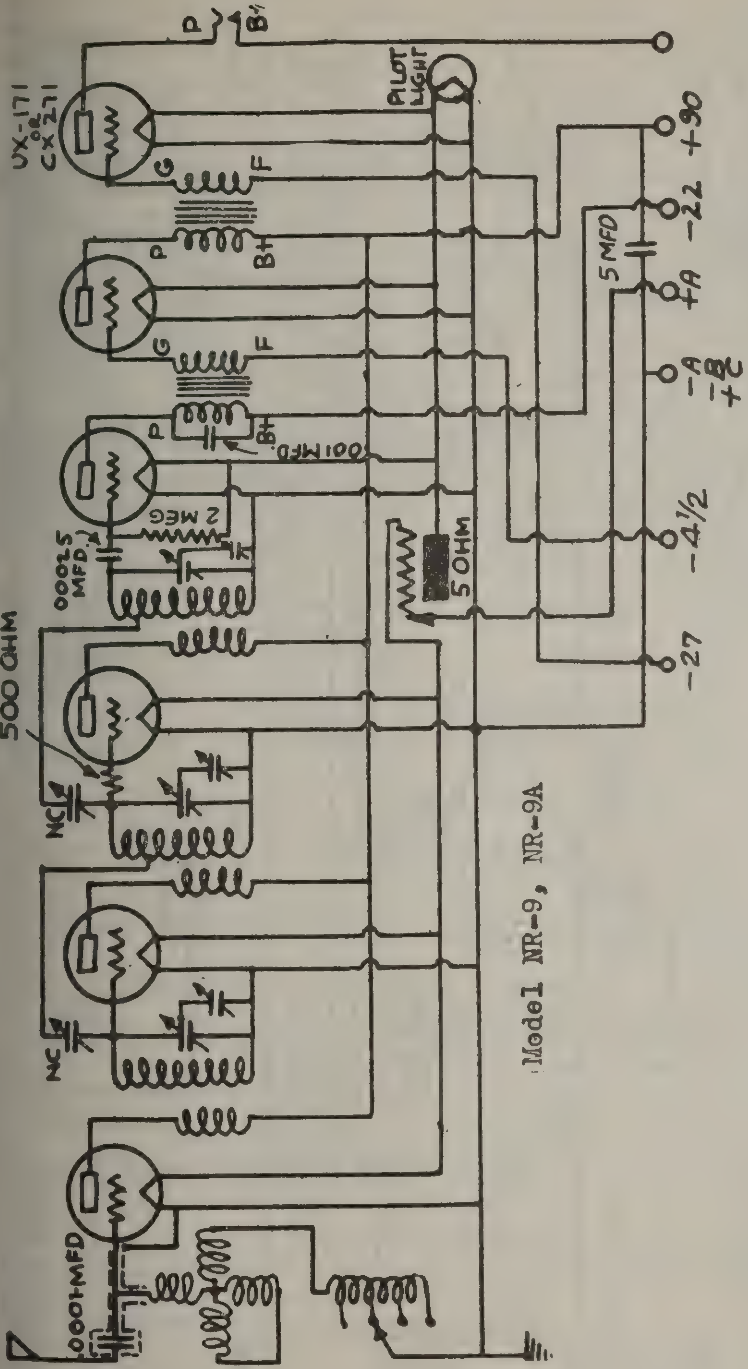

CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-371A
2nd A.F.
CX-301A
3rd R.F.
CX-301A
1st A.F
CX-301A or CX-300A or CX-112A
Det.


.0001 MFD
NC
NC
500 OHM
.00025 MFD.
2 MEG
UX 171
CX 371
P
G
B+
F
P
B+
G
F
P
B1
.001 MFD
8 OHM
.5 MFD
-27
-4½
-A
-B
+C
+A
+22
+90
+135

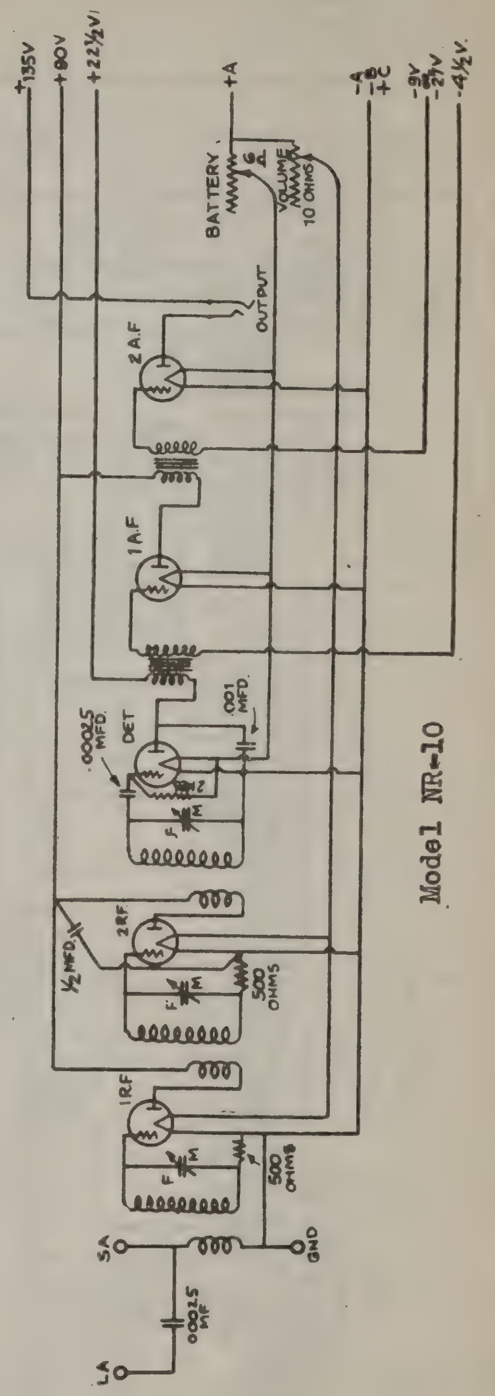
Model Nr-8, NR-8A

FREED RADIO AND TELEVISION CORP.

MODEL NR-9, NR-9A
MODEL NR-10

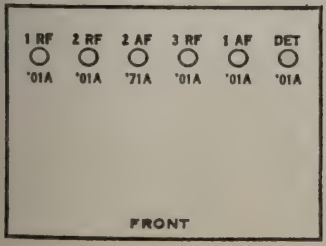

UX-171 OR CX 371
P
B+
PILOT LIGHT
G
F
+90
-22
5 MFD
+A
-A
-B
+C
.001 MFD
2 MEG
.00025 MFD.
-4½
5 OHM
-27
500 OHM
NC
NC
.0001 MFD

Model NR-9, NR-9A

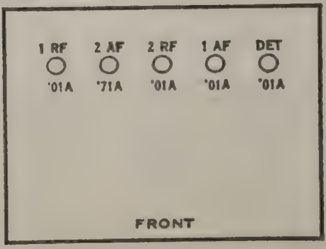

+135V
+90V
+22½V
+A
-A
-B
+C
-9V
-27V
-4½V
BATTERY
6 Ω
VOLUME
10 OHMS
OUTPUT
2 A.F
1 A.F
DET
.00025 MFD.
.001 MFD.
F
M
2 RF
½ MFD.
500 OHMS
1 RF
500 OHMS
S.A
GND
.00025 MF
LA

Model NR-10

Models NR-9

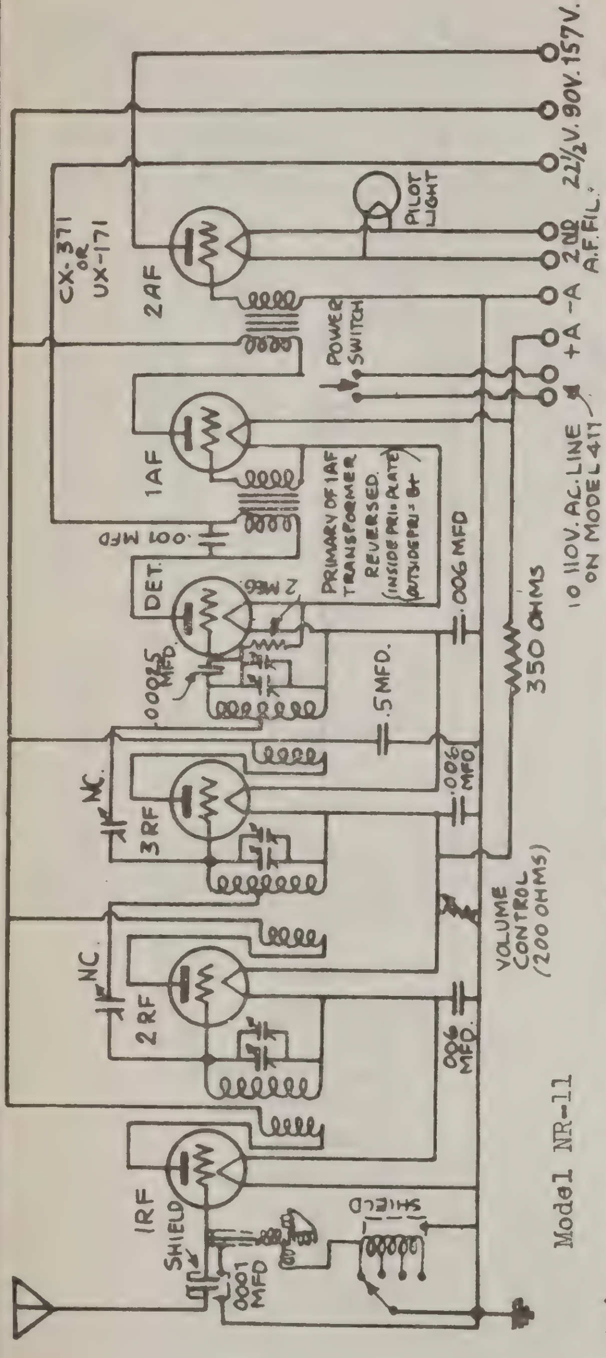

1 RF
'01A
2 RF
'01A
2 AF
'71A
3 RF
'01A
1 AF
'01A
DET
'01A
FRONT

Model NR-10

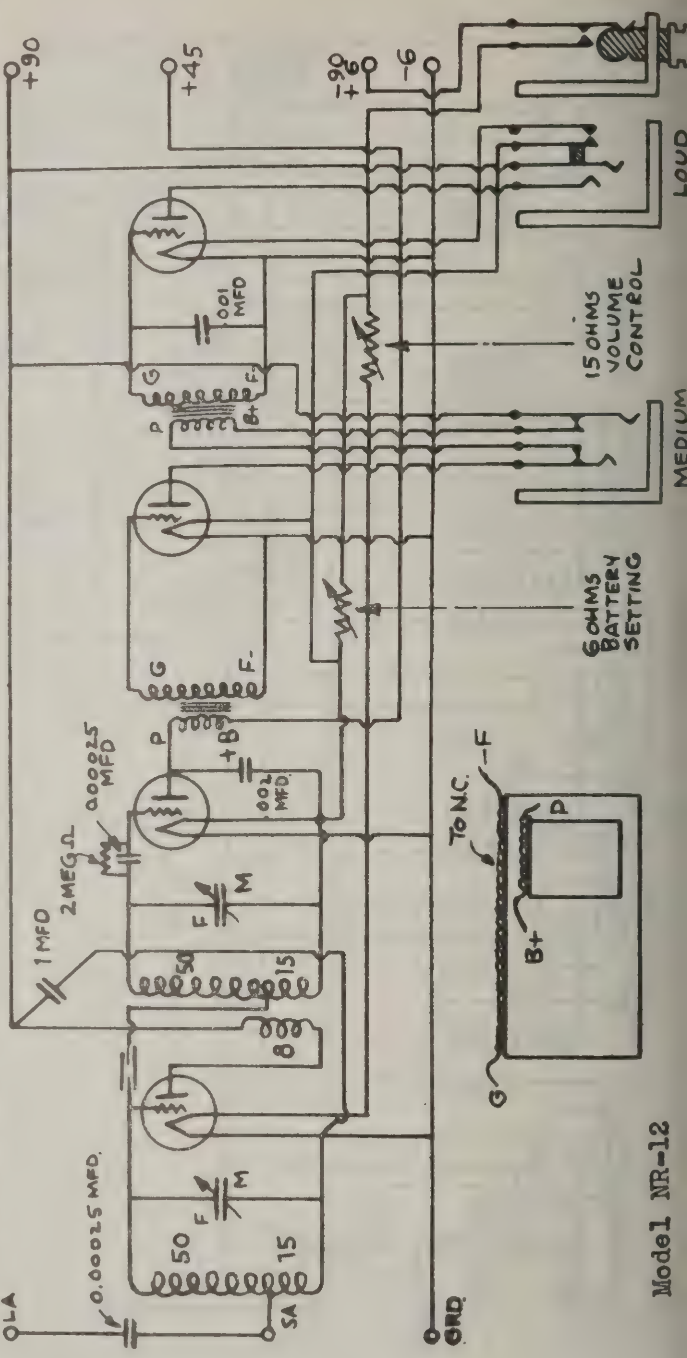

1 RF
'01A
2 AF
'71A
2 RF
'01A
1 AF
'01A
DET
'01A
FRONT

MODEL NR-11
MODEL NR-12

FREED RADIO AND TELEVISION CORP.


CX-371 OR UX-171
2AF
PILOT LIGHT
157V.
90V.
22½V.
2ND A.F. FIL.
-A
+A
POWER SWITCH
10 110V. A.C. LINE ON MODEL 411
1AF
.001 MFD
PRIMARY OF 1AF TRANSFORMER REVERSED. (INSIDE PRI=PLATE) (OUTSIDE PRI=B+)
DET.
2 MEG
.00025 MFD.
.006 MFD
350 OHMS
.5 MFD.
NC
3RF
.006 MFD
VOLUME CONTROL (200 OHMS)
NC.
2RF
.006 MFD.
IRF
SHIELD
.0001 MFD
SHIELD

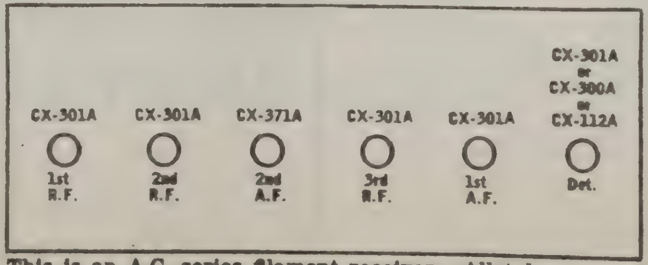
Model NR-11


+90
+45
-90
+6
-6
LOUD
.001 MFD
15 OHMS VOLUME CONTROL
G
F-
P
B+
MEDIUM
6 OHMS BATTERY SETTING
G
F-
P
+B
.00025 MFD
.001 MFD.
2 MEG.Ω
1 MFD
F
M
50
15
8
TO N.C.
-F
P
B+
G
0.00025 MFD.
50
15
F
M
LA
SA
GRD.

Model NR-12

Power Pack For NR-11 On Next Page

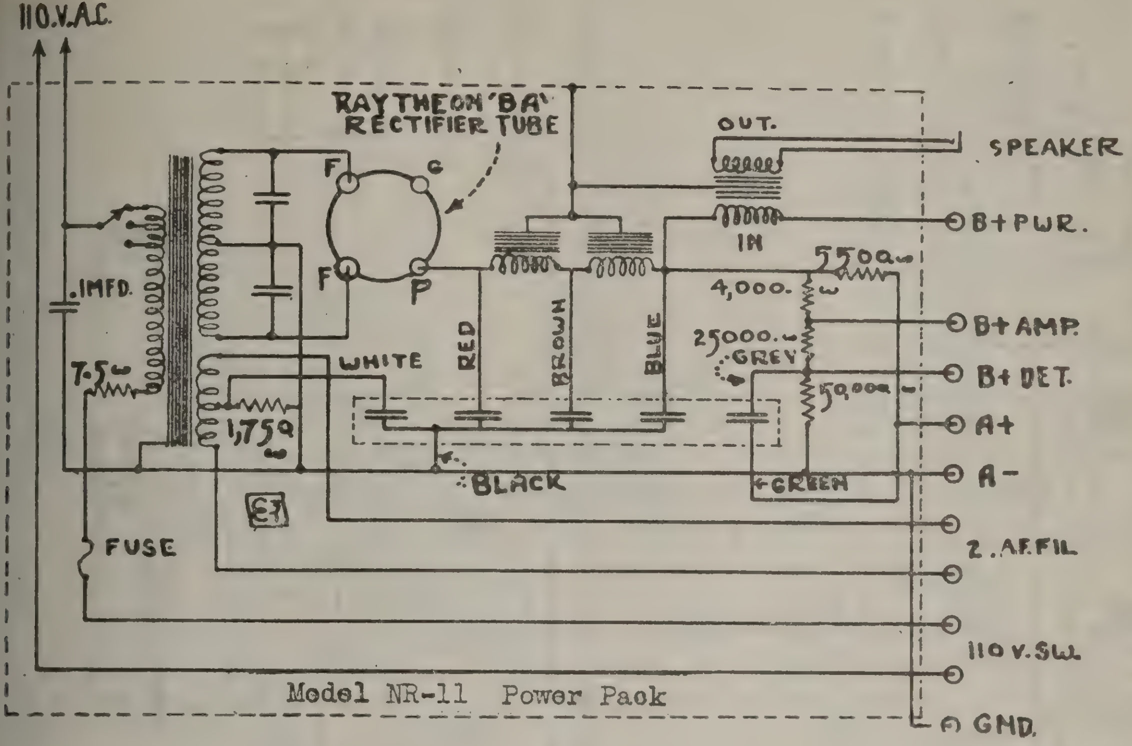
NR-11


CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-371A
2nd A.F.
CX-301A
3rd R.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.

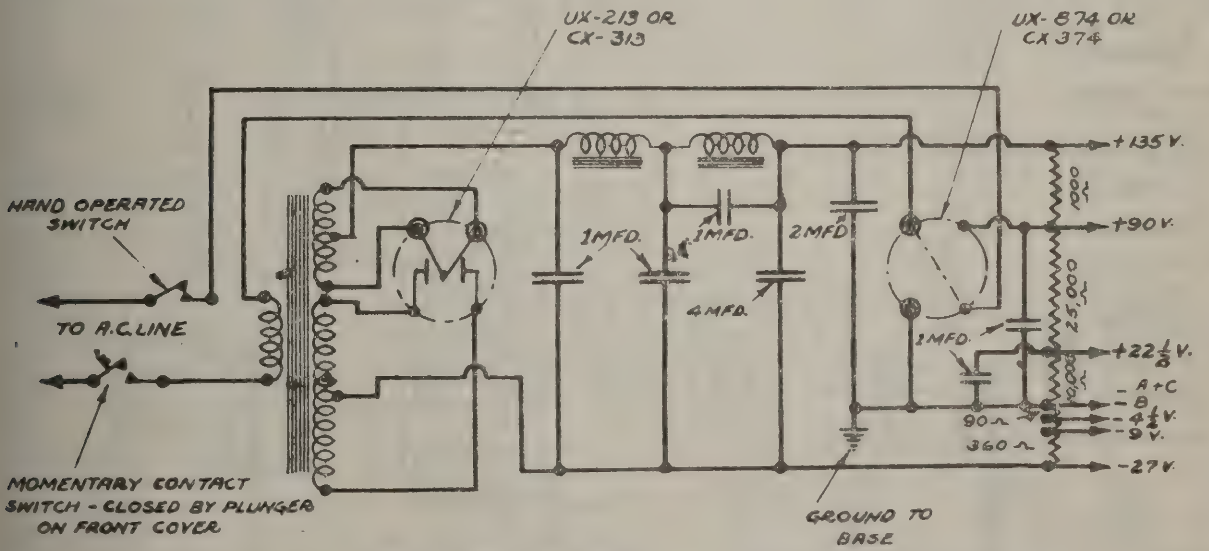
This is an A.C. series filament receiver. All tubes except the 2nd A.F. stage tube must be ¼ ampere tubes.

FREED RADIO AND TELEVISION CORP.

MODEL NR-11
Power Pack
MODEL ABC
Power Pack


110.V.A.C.
RAYTHEON 'BA' RECTIFIER TUBE
F
G
F
P
OUT.
IN
SPEAKER
B+PWR.
550Ω
4,000.ω
25000.ω
GREY
50,000Ω
B+AMP.
B+DET.
A+
A-
.1MFD.
7.5ω
1,75Ω
WHITE
RED
BROWN
BLUE
BLACK
+GREEN
FUSE
2.AF.FIL
110 V.SW.
GND.

Model NR-11 Power Pack


UX-213 OR
CX-313
UX-874 OR
CX 374
HAND OPERATED SWITCH
TO A.C.LINE
MOMENTARY CONTACT SWITCH - CLOSED BY PLUNGER ON FRONT COVER
1MFD.
1MFD.
2MFD.
4MFD.
1MFD.
+135 V.
1000Ω
+90 V.
25,000Ω
+22½ V.
10,000Ω
-A+C
-B
-4½ V.
-9 V.
90Ω
360Ω
-27 V.
GROUND TO BASE
FILAMENT TERMINALS.

Model ABC Power Pack

ALTERATION TABLE				
ALT. LET	REMARKS	DATE	IN'L	APP'D
C	REDRAWN	10-6	J L	Ugm

DELINEATOR J. L.
TRACER
CHECKER
APPROVAL
DATE 11/10/26
CHIEF ENGINEER

Freed-Eisemann
SPERRY BUILDING BROOKLYN NEW YORK

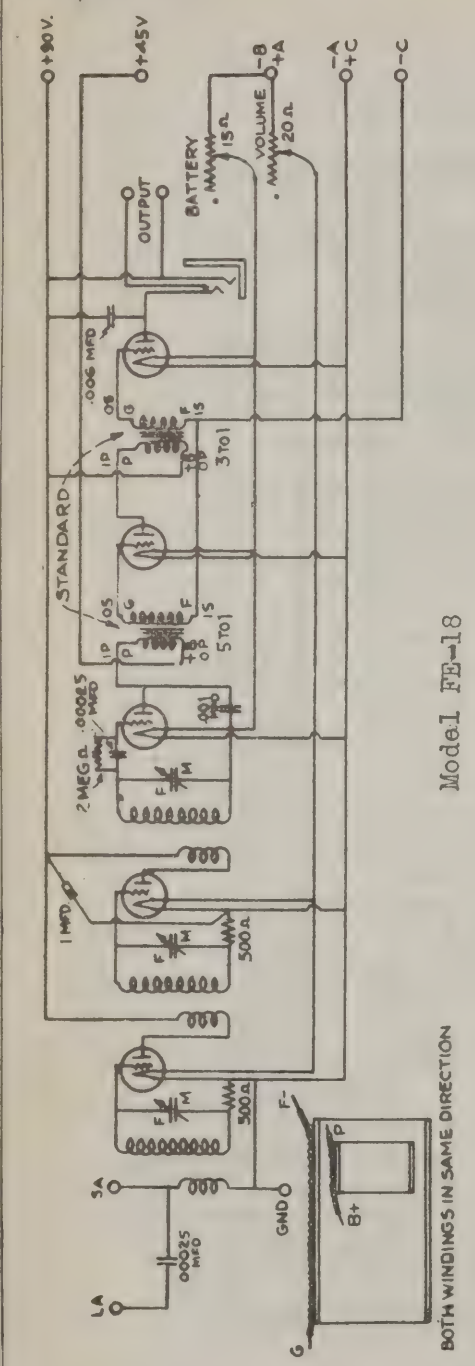
SCHEMATIC CIRCUIT
DIAGRAM
~OF~
"B" AND "C" ELIMINATOR
SCALE
DATE 4 12 27

949

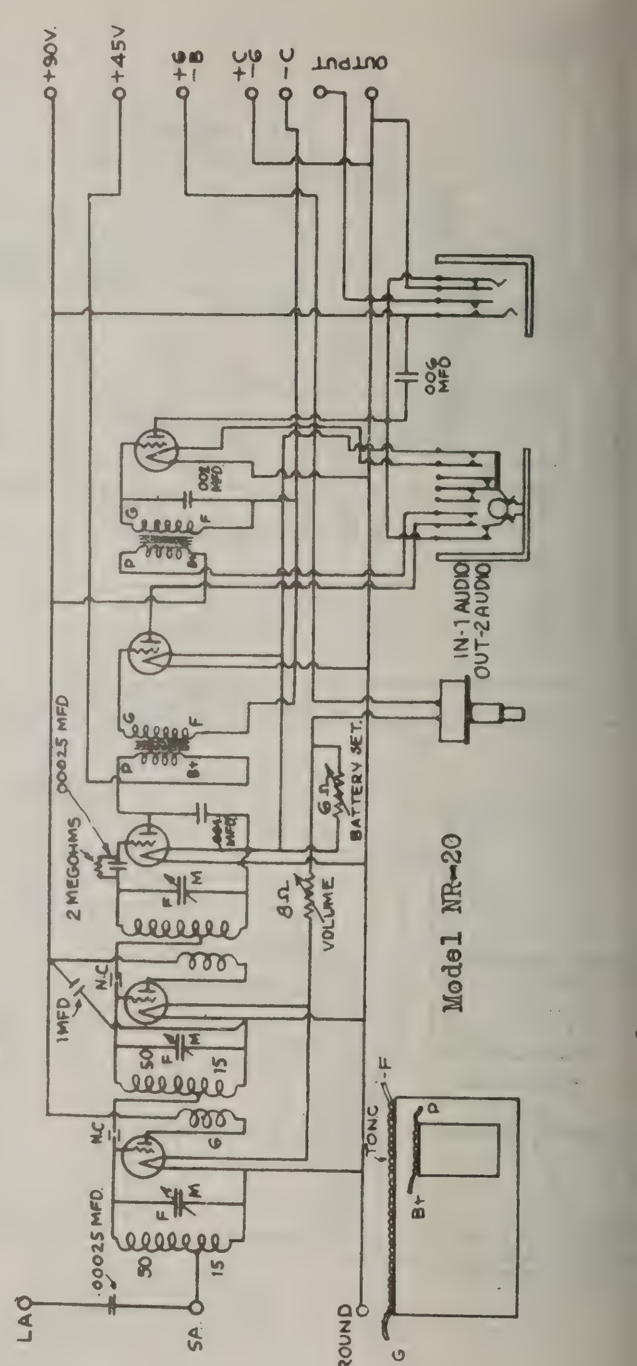
DRAWING NUMBER W.D.-16

MODEL FE-15
MODEL FE-18
MODEL NR-20

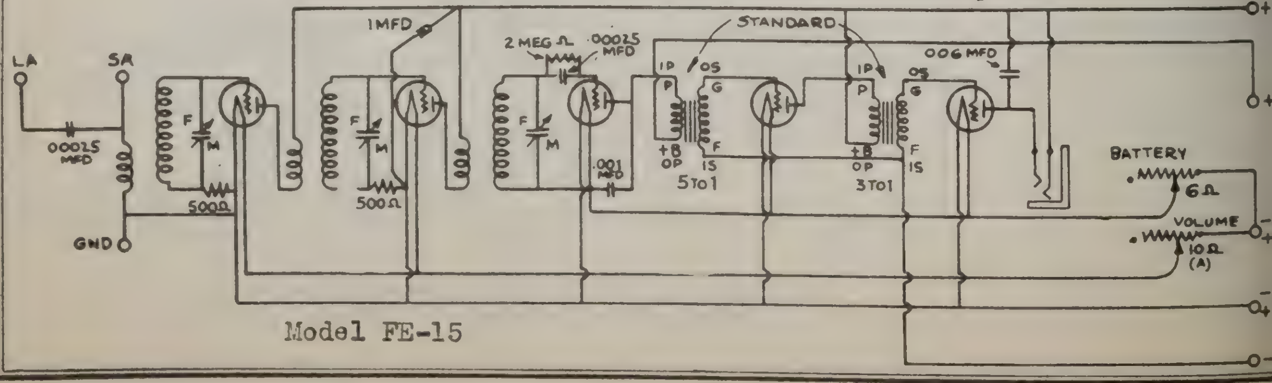
FREED RADIO AND TELEVISION CORP.


+90V.
+45V
-B
+A
-A
+C
-C
OUTPUT
BATTERY
15Ω
VOLUME
20Ω
.006 MFD
STANDARD
3 TO 1
5 TO 1
.00025 MFD
2 MEG Ω
.001 MFD
1 MFD
500Ω
.00025 MFD
SA
LA
GND
F-
P
B+
G
BOTH WINDINGS IN SAME DIRECTION

Model FE-18


+90V.
+45V
+B
-B
+C
-C
-C
OUTPUT
.006 MFD
.002 MFD
.00025 MFD
2 MEGOHMS
.001 MFD
6Ω
BATTERY SET.
8Ω
VOLUME
IN-1 AUDIO
OUT-2 AUDIO
1MFD
N.C.
50
15
.00025 MFD.
LA
SA
GROUND
TONC
-F
P
B+
G

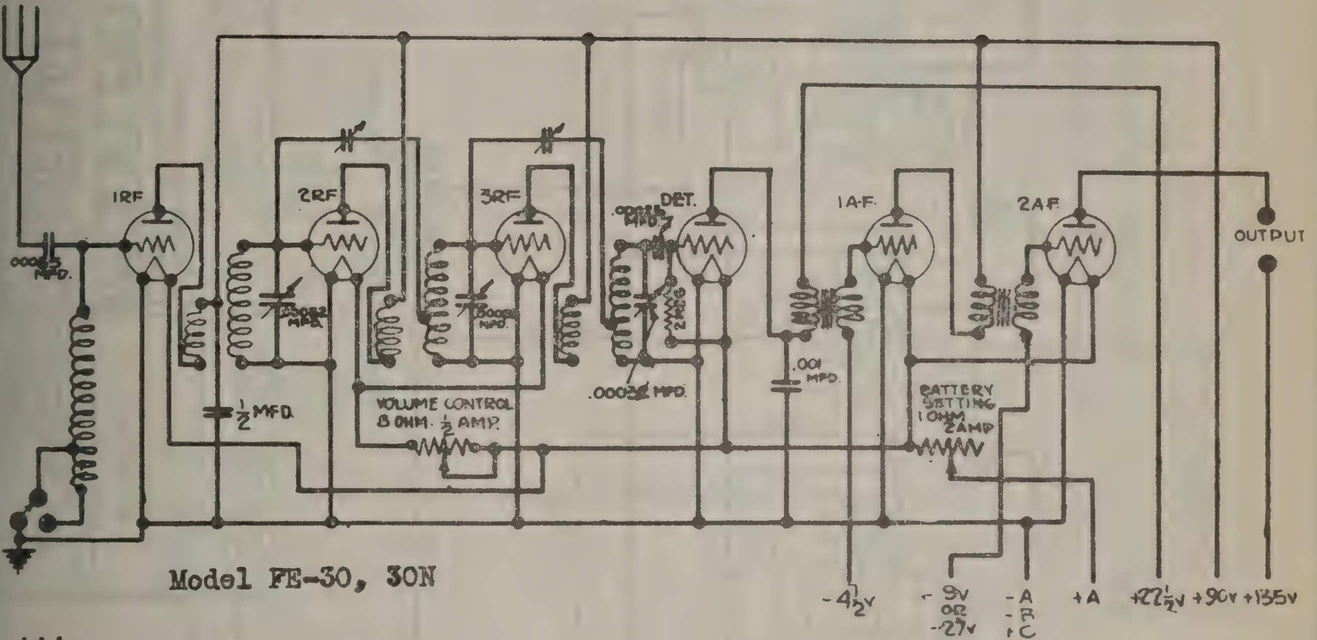
Model NR-20


LA
SA
.00025 MFD
GND
500Ω
1 MFD
2 MEG Ω
.00025 MFD
.001 MFD
STANDARD
5 TO 1
3 TO 1
.006 MFD
BATTERY
6Ω
VOLUME
10Ω (A)

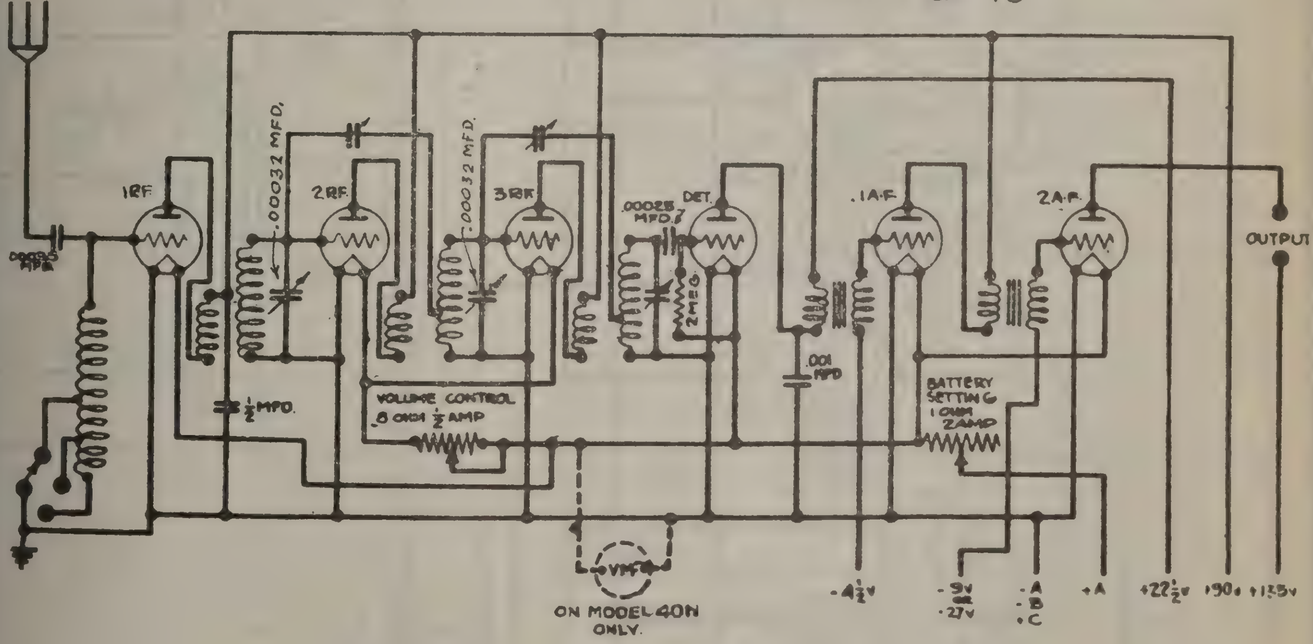
Model FE-15

FREED - EISEMANN RADIO CORP.

MODEL FE-30, 30N
MODEL 40N, 48N


1RF
2RF
3RF
DET.
1A.F.
2A.F.
OUTPUT
.00025 MFD.
.00032 MFD.
.00025 MFD.
2 MEG
.00032 MFD.
.001 MFD.
½ MFD.
VOLUME CONTROL 8 OHM. ½ AMP.
BATTERY SETTING 1 OHM 2 AMP
-4½v
-9v OR -27v
-A -B +C
+A
+22½v
+90v
+135v

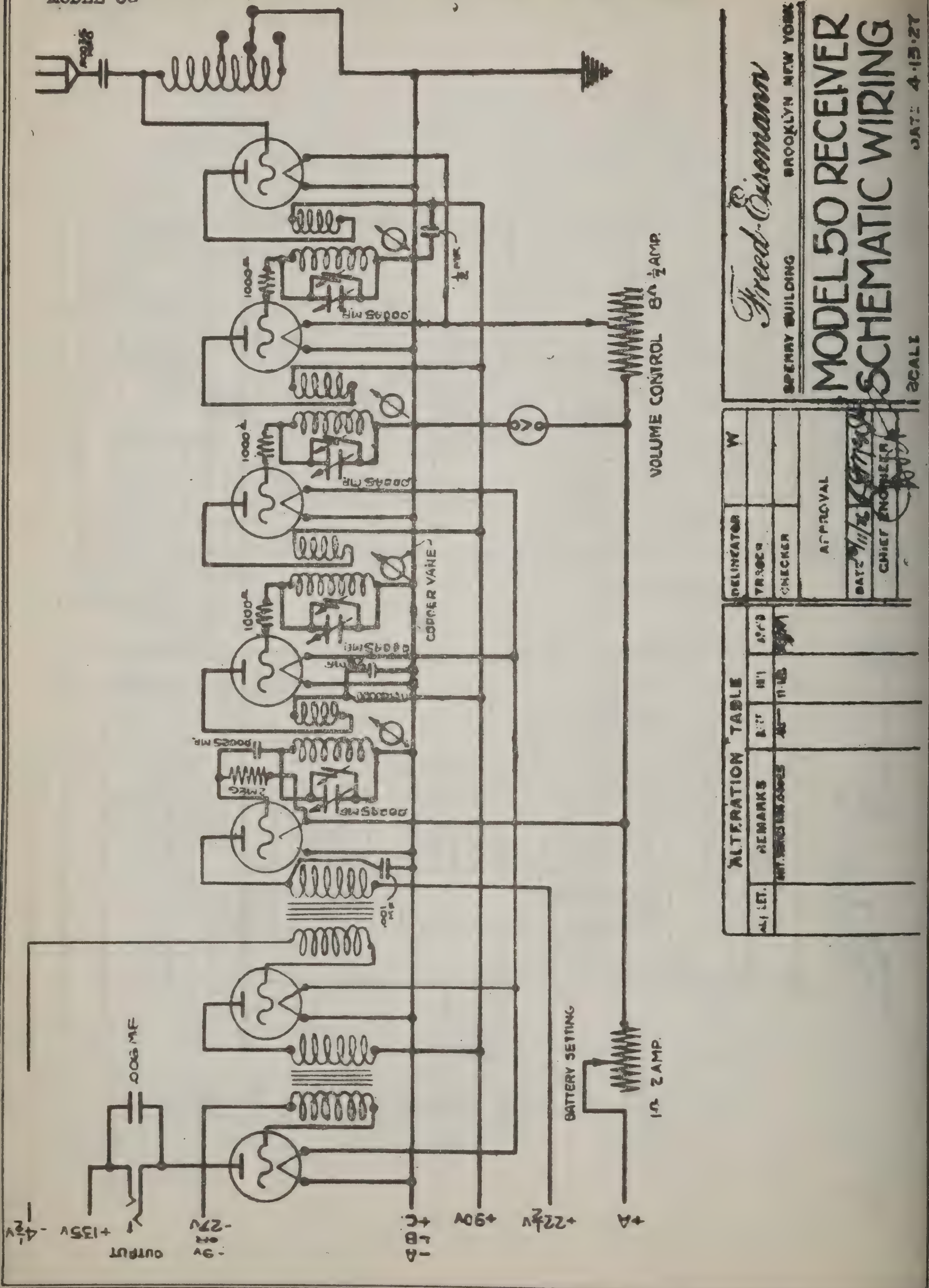
Model FE-30, 30N


1RF
2RF
3RF
DET.
1A.F.
2A.F.
OUTPUT
.00025 MFD.
.00032 MFD.
.00032 MFD.
.00025 MFD.
2 MEG
.001 MFD
½ MFD.
VOLUME CONTROL 8 OHM ½ AMP
BATTERY SETTING 1 OHM 2 AMP
VMF
ON MODEL 40N ONLY.
-4½v
-9v or -27v
-A -B +C
+A
+22½v
+90v
+135v

Model 40N, 48N

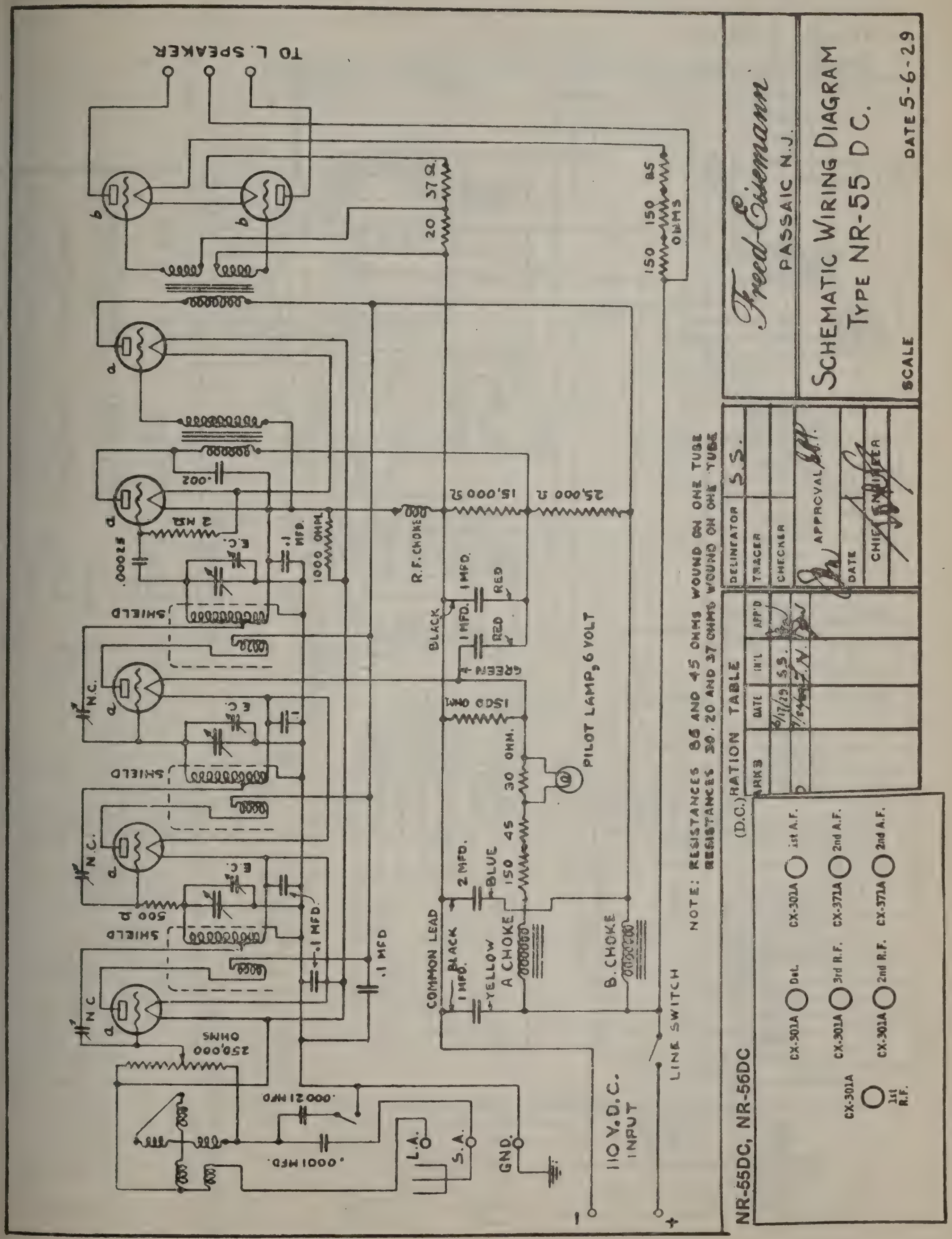
MODEL 50

FREED RADIO AND TELEVISION CORP.

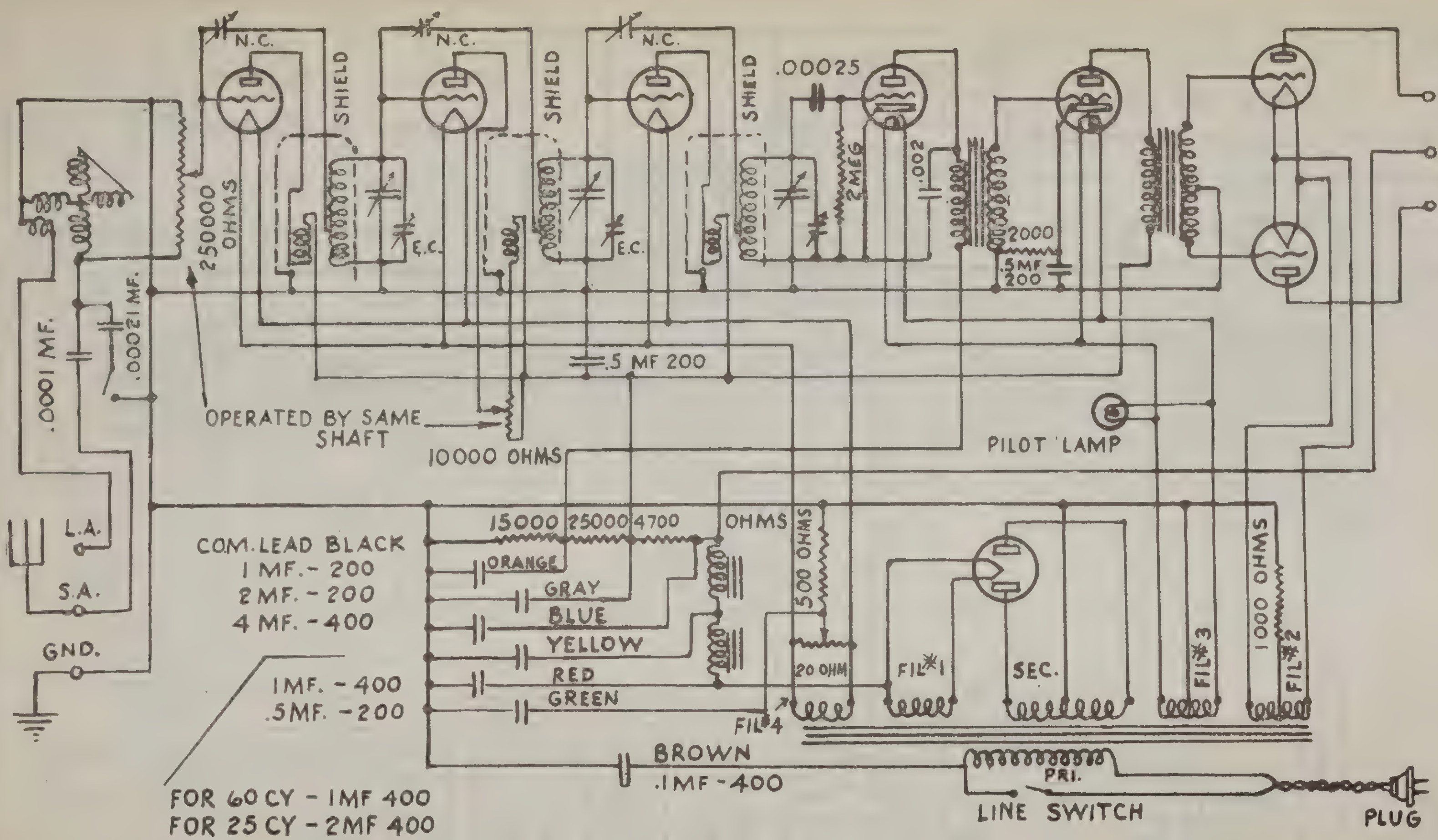

.00025 MF
1000Ω
.00035 MF
½ MF
2 MEG
.00025 MF
COPPER VANE
VOLUME CONTROL 8Ω ½ AMP.
BATTERY SETTING
1Ω 2 AMP.
.006 MF
1 MF
OUTPUT
-4½V
+135V
-27V
-9V
-A
-B
+C
+90V
+22½V
+A
ALTERATION TABLE
REMARKS
DELINEATOR
TRACER
CHECKER
APPROVAL
DATE
CHIEF ENGINEER
Freed-Eisemann
SPERRY BUILDING BROOKLYN NEW YORK
MODEL 50 RECEIVER
SCHEMATIC WIRING
SCALE
DATE 4-13-27

FREED RADIO AND TELEVISION CORP.

MODEL NR-55 DC


TO L. SPEAKER
b
b
20
37 Ω
150
150
85
OHMS
a
.002
2 MΩ
.00025
E.C.
.1 MFD.
1000 OHM
R.F. CHOKE
15,000 Ω
25,000 Ω
SHIELD
1 MFD.
RED
BLACK
1 MFD.
RED
GREEN
1500 OHM
N.C.
30 OHM.
PILOT LAMP, 6 VOLT
150
45
2 MFD.
BLUE
500 Ω
.1 MFD.
.1 MFD
COMMON LEAD
BLACK
1 MFD.
YELLOW
A CHOKE
B. CHOKE
LINE SWITCH
250,000 OHMS
.00012 MFD.
.0001 MFD.
L.A.
S.A.
GND.
110 V. D.C. INPUT
-
+
NOTE: RESISTANCES 85 AND 45 OHMS WOUND ON ONE TUBE
RESISTANCES 150, 20 AND 37 OHMS WOUND ON ONE TUBE
Freed-Eisemann
PASSAIC N.J.
SCHEMATIC WIRING DIAGRAM
TYPE NR-55 D C.
DATE 5-6-29
SCALE
DELINEATOR S.S.
TRACER
CHECKER
APPROVAL
DATE
CHIEF ENGINEER
(D.C.) RATION TABLE
MARKS
DATE
IN'L
APP'D
6/17/29
S.S.
NR-55DC, NR-56DC
CX-301A 1st R.F.
CX-301A Det.
CX-301A 1st A.F.
CX-301A 3rd R.F.
CX-371A 2nd A.F.
CX-301A 2nd R.F.
CX-371A 2nd A.F.

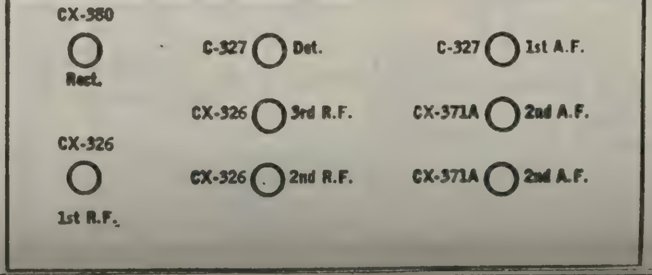
MODEL NR-55, NR-56 AC FREED RADIO AND TELEVISION CORP.


N.C.
N.C.
N.C.
SHIELD
SHIELD
SHIELD
E.C.
E.C.
.00025
2 MEG
.002
2000
.5 MF 200
TO L. SPEAKER
250000 OHMS
.0001 MF.
.00021 MF.
.5 MF 200
OPERATED BY SAME SHAFT
10000 OHMS
PILOT LAMP
L.A.
S.A.
GND.
COM. LEAD BLACK
1 MF. - 200
2 MF. - 200
4 MF. - 400
15000 25000 4700 OHMS
ORANGE
GRAY
BLUE
YELLOW
RED
GREEN
500 OHMS
20 OHM
FIL #1
SEC.
FIL #3
1000 OHMS
FIL #2
FIL #4
1 MF. - 400
.5 MF. - 200
BROWN
.1 MF - 400
PRI.
LINE SWITCH
PLUG
FOR 60 CY - 1 MF 400
FOR 25 CY - 2 MF 400

FREED-EISEMANN—Model 55
Line Voltage 116—Volume Control Position Full On

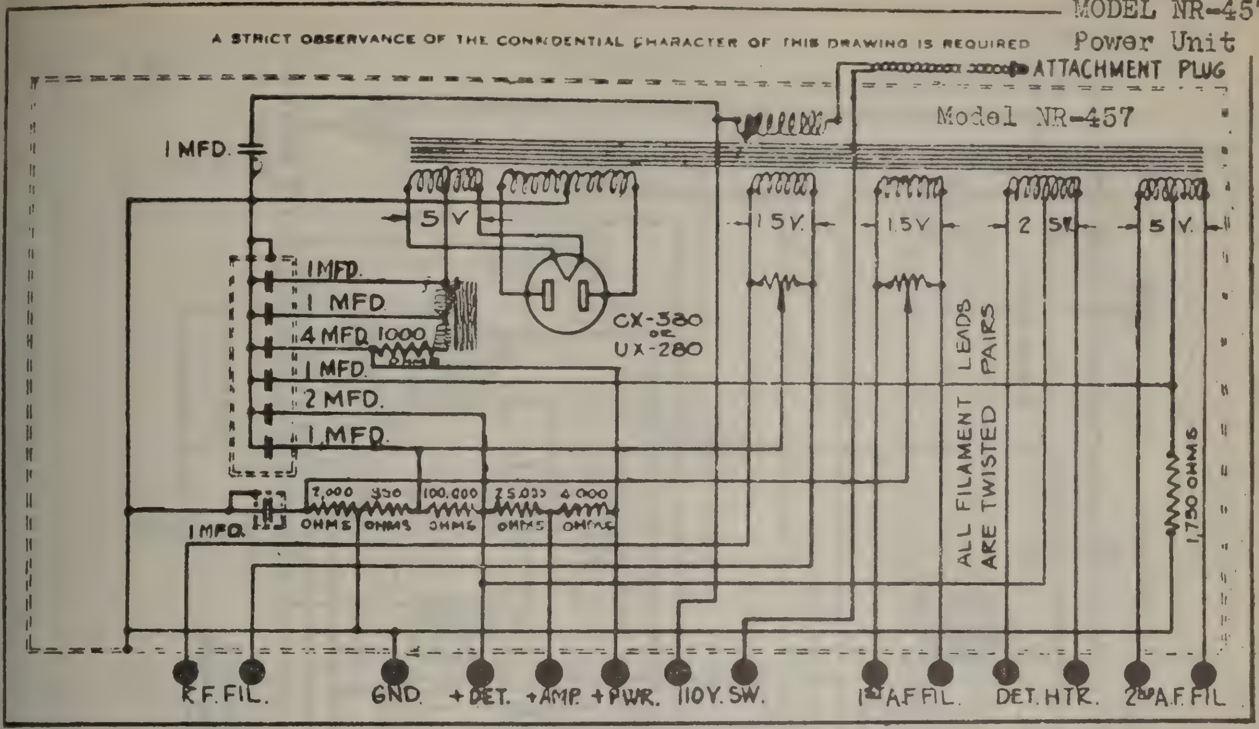
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. ETC	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS (CONTROL GRID)	CATHODE-HEATER VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE CHANGE MA	SCREEN GRID VOLTS
1	226	1st RF	1.5	80	1.46	76	5	-	2.4	4.6	2.2	
2	226	2nd RF	1.5	80	1.46	76	5	-	2.4	4.6	2.2	
3	226	3rd RF	1.5	80	1.47	76	5	-	2.4	4.6	2.2	
4	227	Det.	2.14	32	1.9	20	-	-	1.0	1.0	0.0	
5	227	1st A	2.15	98	1.97	72	4.5	5	2.5	5.0	2.5	
6	171A	2nd A	5.0	135	4.65	125	29	-	13.4	35	22	
7	171A	2nd A	5.0	135	4.65	125	29	-	13	35	22	
8	280	Rect.	5.6	-	5.4	-	-	-	40	-	-	
9												
10												

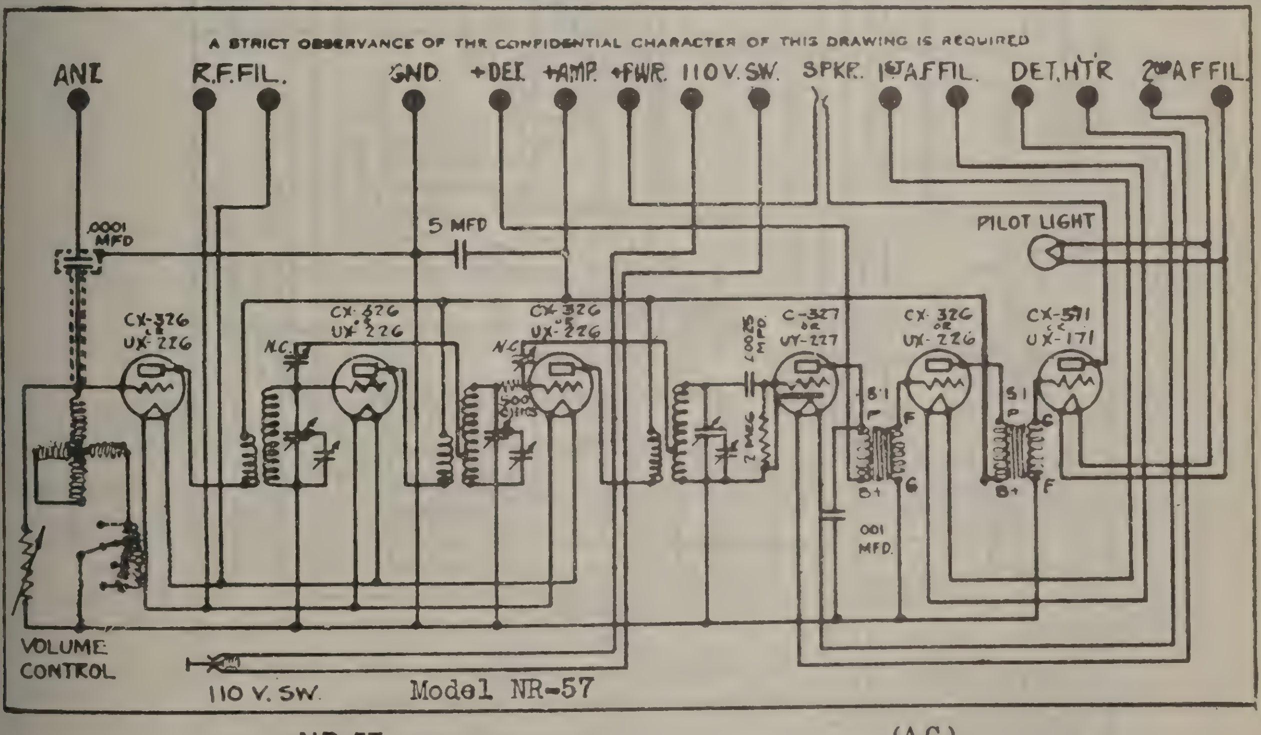
NR-55, NR-56 (A.U.)


CX-380
Rect.
C-327 Det.
C-327 1st A.F.
CX-326 3rd R.F.
CX-371A 2nd A.F.
CX-326
1st R.F.
CX-326 2nd R.F.
CX-371A 2nd A.F.

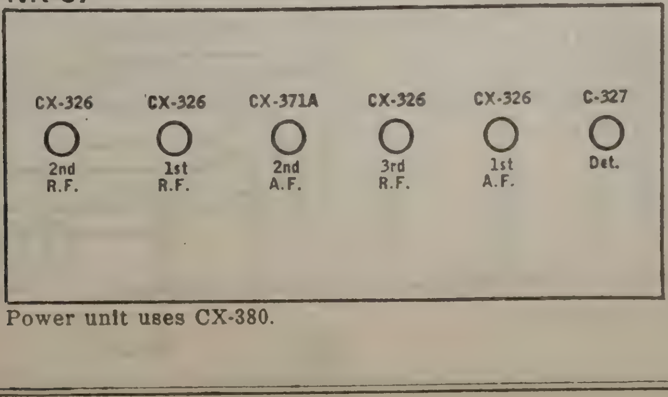
FREED RADIO AND TELEVISION CORP.

MODEL NR-57
Schematic
MODEL NR-457
Power Unit


A STRICT OBSERVANCE OF THE CONFIDENTIAL CHARACTER OF THIS DRAWING IS REQUIRED
ATTACHMENT PLUG
Model NR-457
1 MFD.
5 V
1.5 V.
1.5 V
2.5 V.
5 V.
CX-380 OR UX-280
1 MFD.
1 MFD.
4 MFD.
1000 OHMS
1 MFD.
2 MFD.
1 MFD.
2,000 OHMS
350 OHMS
100,000 OHMS
25,000 OHMS
4,000 OHMS
1 MFD.
ALL FILAMENT LEADS ARE TWISTED PAIRS
1,750 OHMS
R.F. FIL.
GND.
+DET.
+AMP.
+PWR.
110 V. SW.
1st A.F. FIL.
DET. HTR.
2nd A.F. FIL.

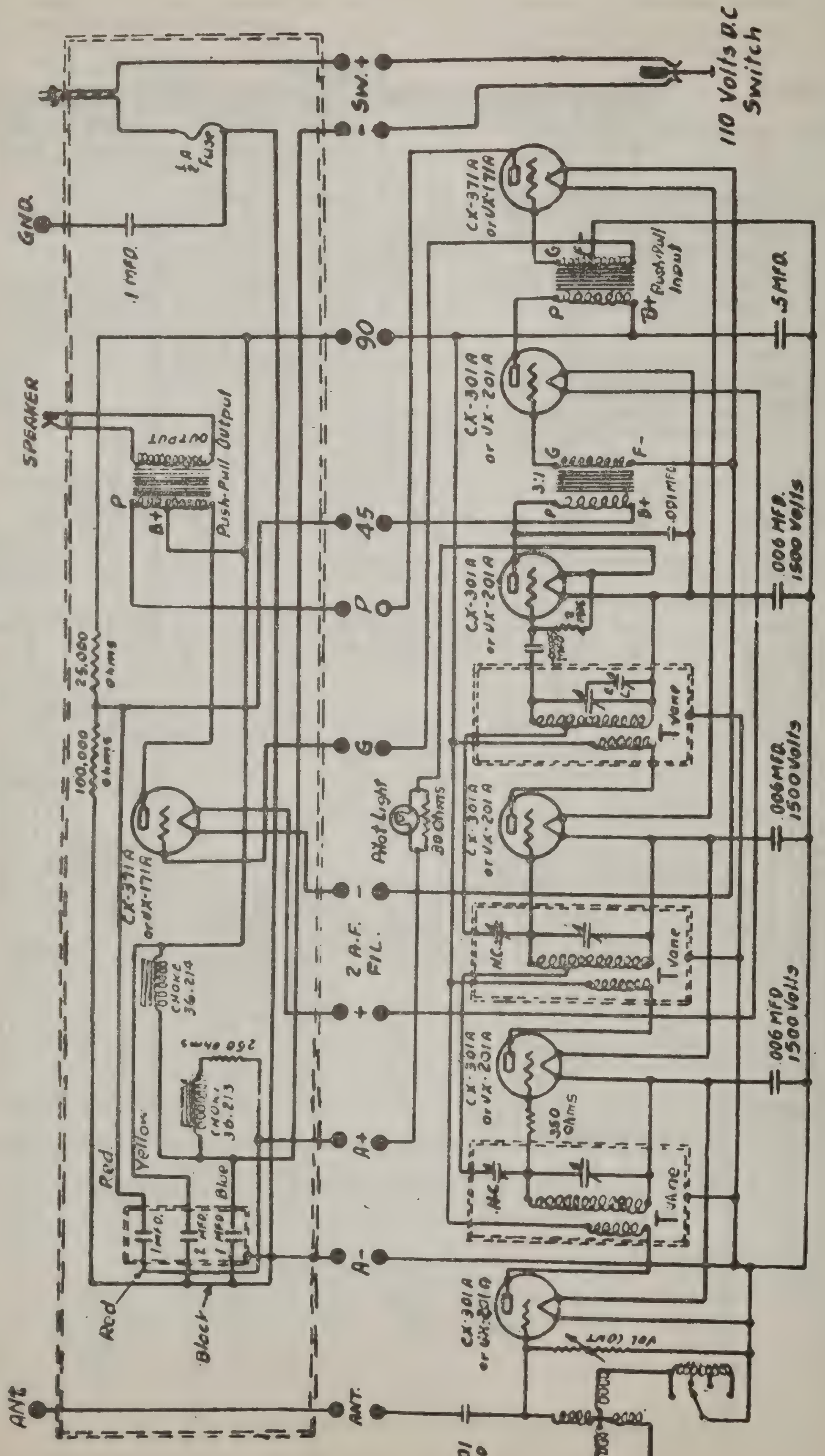

A STRICT OBSERVANCE OF THE CONFIDENTIAL CHARACTER OF THIS DRAWING IS REQUIRED
ANT.
R.F. FIL.
GND.
+DET.
+AMP.
+PWR.
110 V. SW.
SPKR.
1st A.F. FIL.
DET. HTR.
2nd A.F. FIL.
.0001 MFD
5 MFD
PILOT LIGHT
CX-326 OR UX-226
CX-326 OR UX-226
N.C.
CX-326 OR UX-226
N.C.
500 OHMS
C-327 OR UY-227
2 MEG
CX-326 OR UX-226
CX-371 OR UX-171
3:1
P
F
B+
G
3:1
P
G
B+
F
.001 MFD.
VOLUME CONTROL
110 V. SW.
Model NR-57

NR-57 (A.C.)


CX-326
2nd R.F.
CX-326
1st R.F.
CX-371A
2nd A.F.
CX-326
3rd R.F.
CX-326
1st A.F.
C-327
Det.

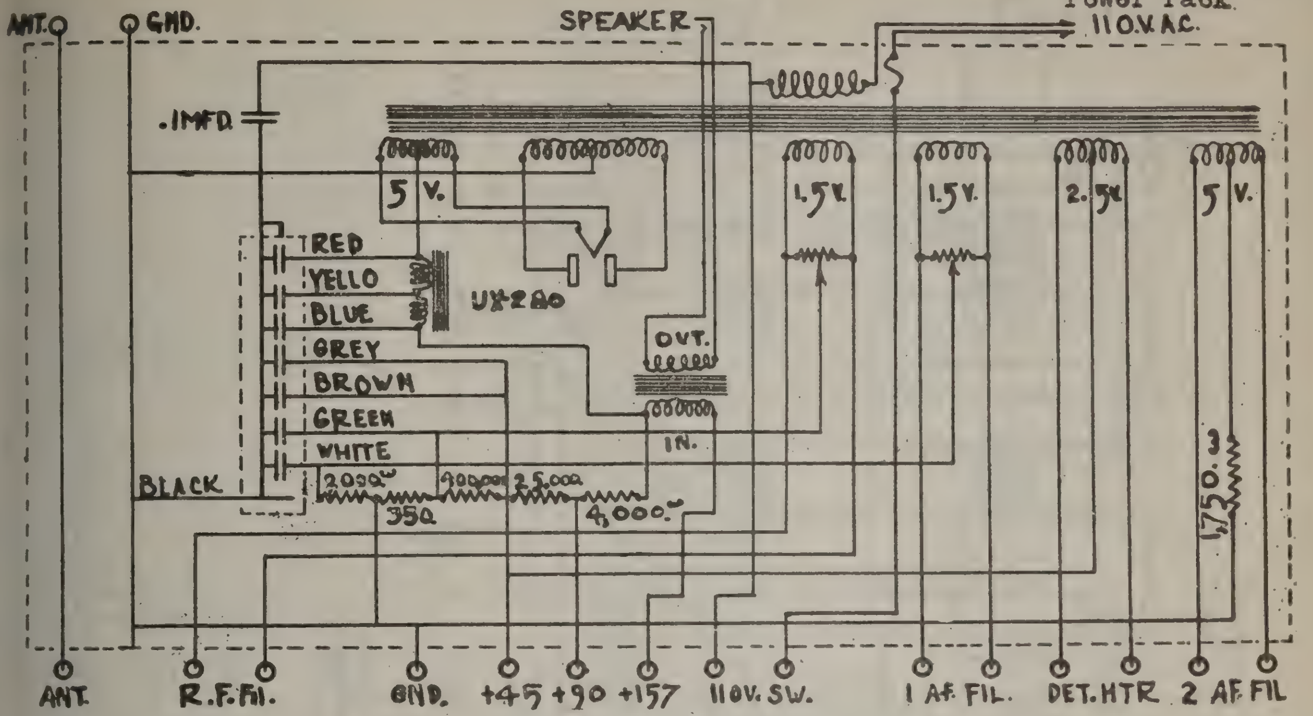
Power unit uses CX-380.

MODEL NR-60 DC FREED RADIO AND TELEVISION CORP.

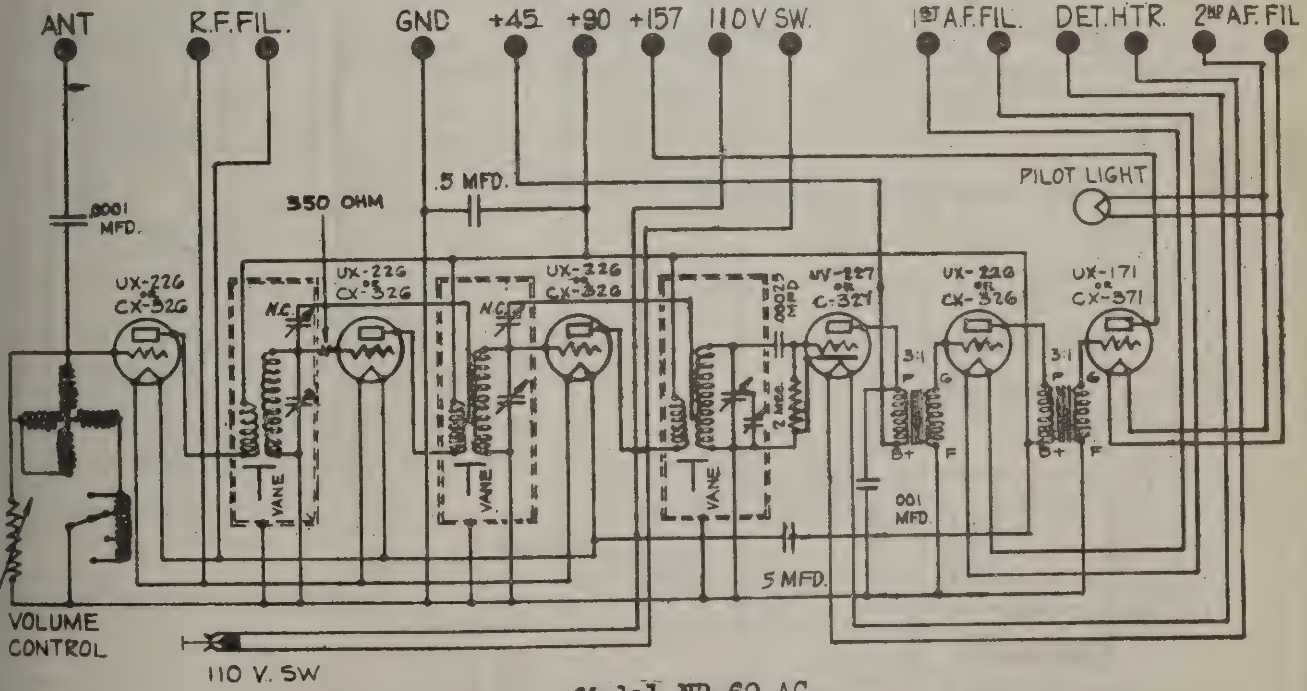

110 Volts D.C
Switch
SW. +
SW. -
½ A Fuse
GND.
.1 MFD.
CX-371A or UX-171A
G
F
P
B+ Push-Pull Input
.5 MFD.
90
SPEAKER
OUTPUT
Push-Pull Output
P
B+
CX-301A or UX-201A
3:1
F-
B+
.001 MFD.
45
P
CX-301A or UX-201A
.006 MFD. 1500 Volts
25,000 Ohms
100,000 Ohms
T vane
G
Pilot Light
30 Ohms
CX-371A or UX-171A
CX-301A or UX-201A
.006 MFD. 1500 Volts
-
2 A.F. FIL.
+
NC
T vane
CHOKE 36.214
260 Ohms
CHOKE 36.213
CX-301A or UX-201A
.006 MFD. 1500 Volts
350 Ohms
Red
Yellow
Blue
1 MFD.
2 MFD.
1 MFD.
A+
NC
T vane
A-
Red
Black
CX-301A or UX-201A
VOL CONT
ANT.
ANT.
.0001 MFD

FREED RADIO AND TELEVISION CORP.

MODEL NR-60 AC
Schematic
MODEL NR-460 AC
Power Pack

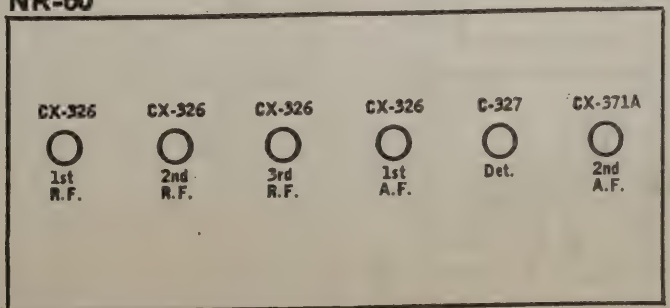

ANT.
GND.
SPEAKER
110V.AC.
.1MFD.
5 V.
1.5V.
1.5V.
2.5V.
5 V.
RED
YELLO
BLUE
GREY
BROWN
GREEN
WHITE
BLACK
UX-280
OUT.
IN.
2000
900
25,000
350
4,000
1750
ANT.
R.F.FIL.
GND.
+45
+90
+157
110V. SW.
1 AF. FIL.
DET. HTR.
2 AF. FIL

Model NR-460 AC.

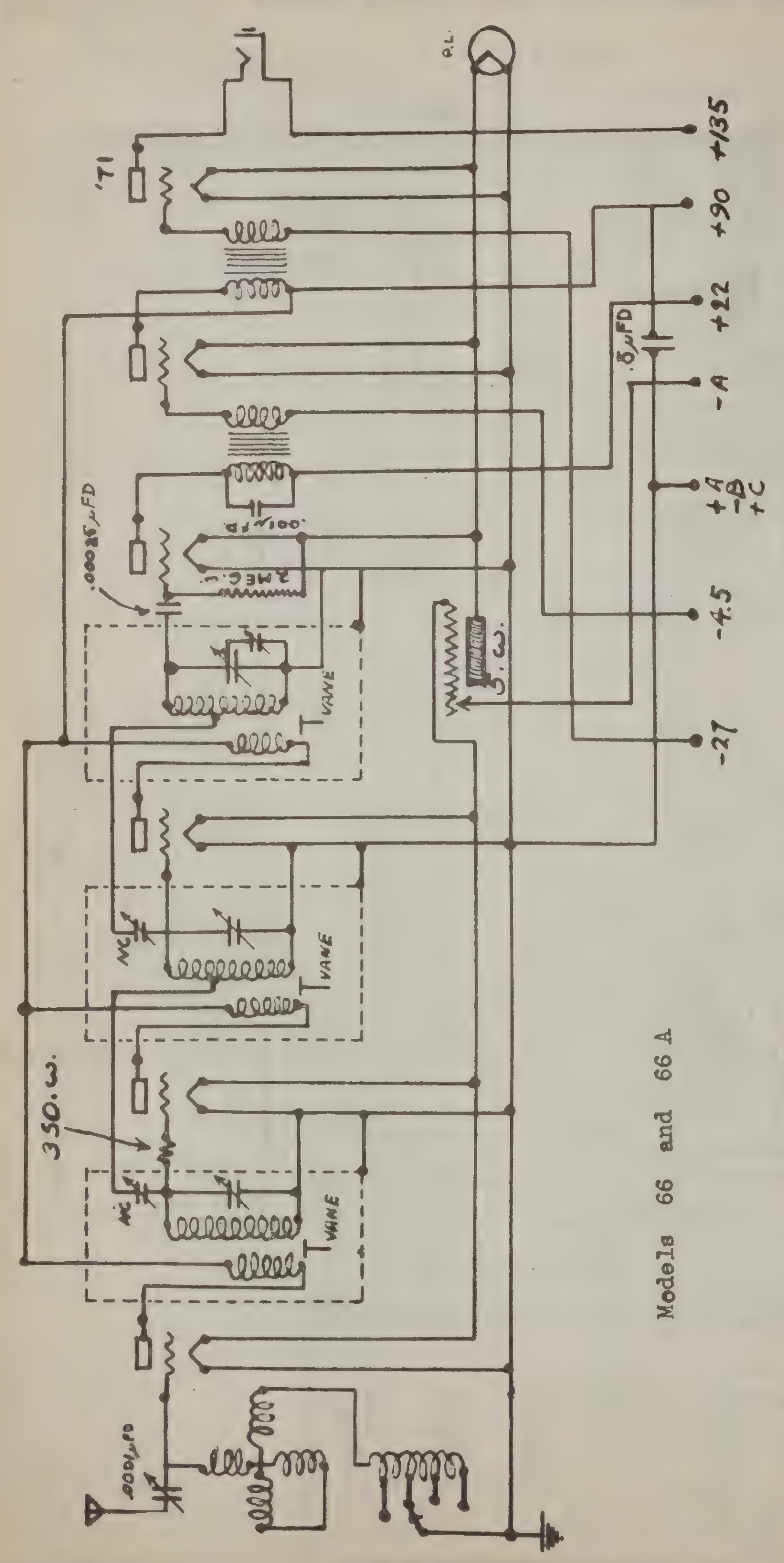

ANT
R.F.FIL.
GND
+45
+90
+157
110V SW.
1ST A.F.FIL.
DET.HTR.
2ND A.F.FIL
PILOT LIGHT
.5 MFD.
350 OHM
.0001 MFD.
UX-226 or CX-326
UX-226 or CX-326
UX-226 or CX-326
UY-227 or C-327
UX-226 or CX-326
UX-171 or CX-371
N.C.
N.C.
VANE
VANE
VANE
.00025 MFD.
2 MEG.
3:1
3:1
P
G
B+
F
.001 MFD.
5 MFD.
VOLUME CONTROL
110 V. SW

Model NR-60 AC

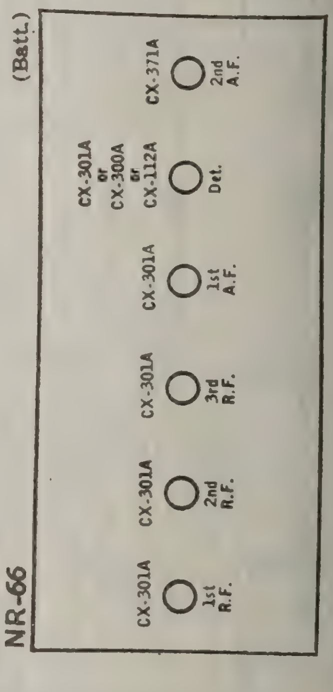
NR-60 (A.C.)


CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
CX-326
1st A.F.
C-327
Det.
CX-371A
2nd A.F.

MODEL NR-66, 66A FREED RADIO AND TELEVISION CORP.

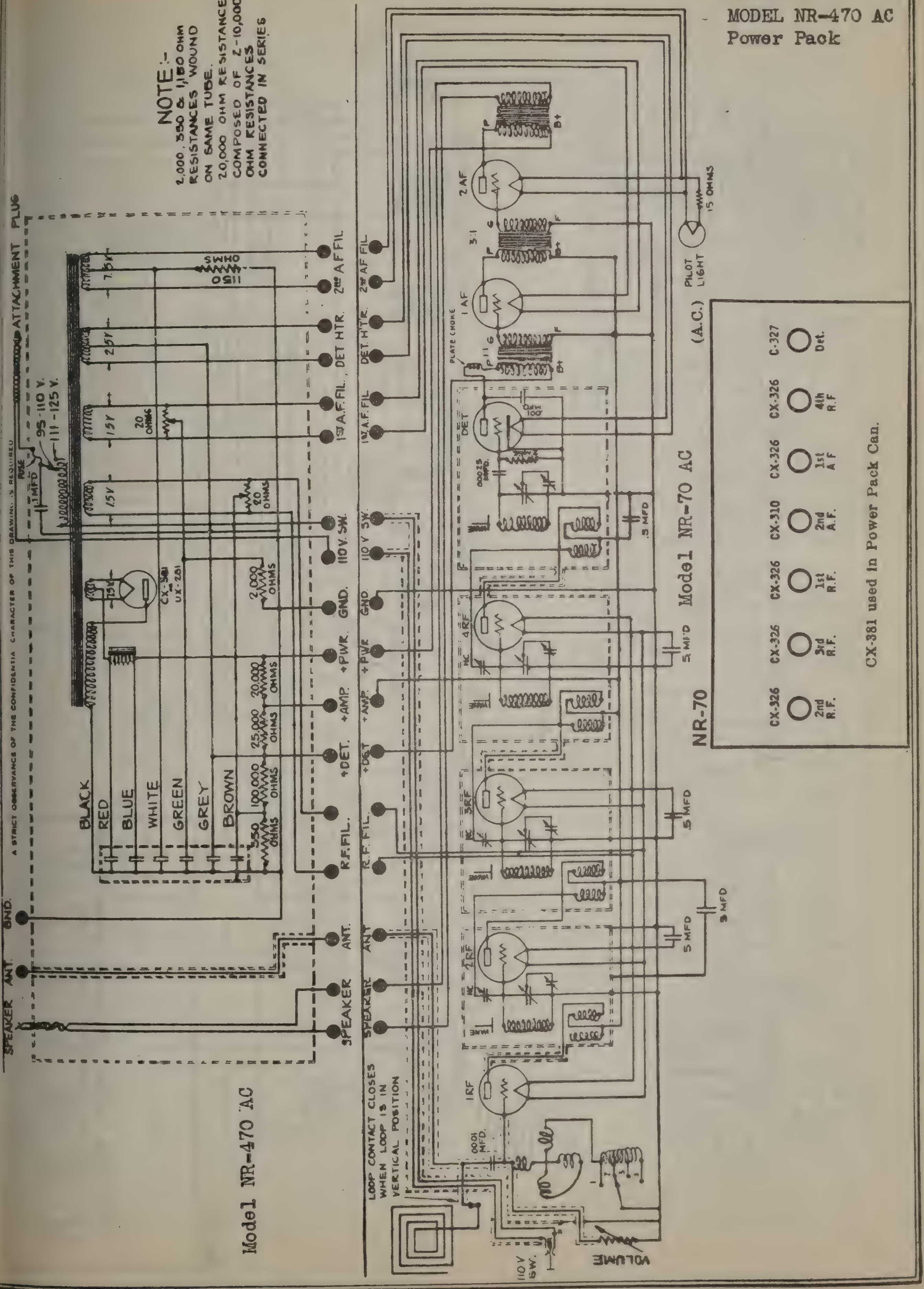

P.L.
'71
+135
+90
+22
.5 µFD
-A
+A
-B
+C
-4.5
-27
.00025 µFD
.001 µFD
2 MEG.
3 ω.
VANE
NC
350 ω.
.0001 µFD

Models 66 and 66 A


(Batt.)
NR-66
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-371A
2nd A.F.

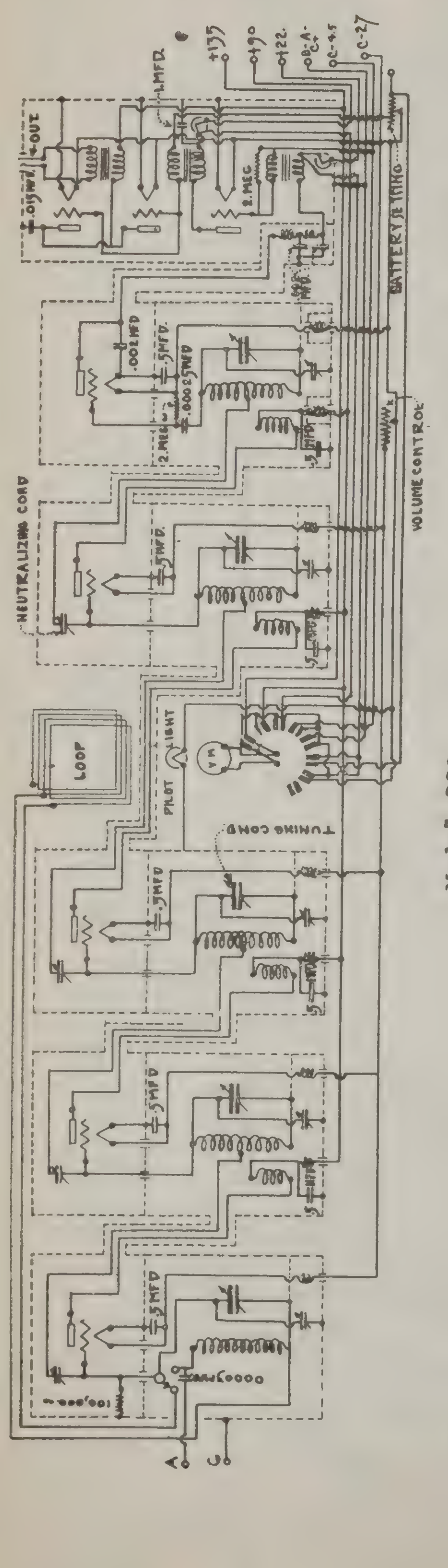
FREED RADIO AND TELEVISION CORP.

MODEL NR-70 AC
Receiver
MODEL NR-470 AC
Power Pack

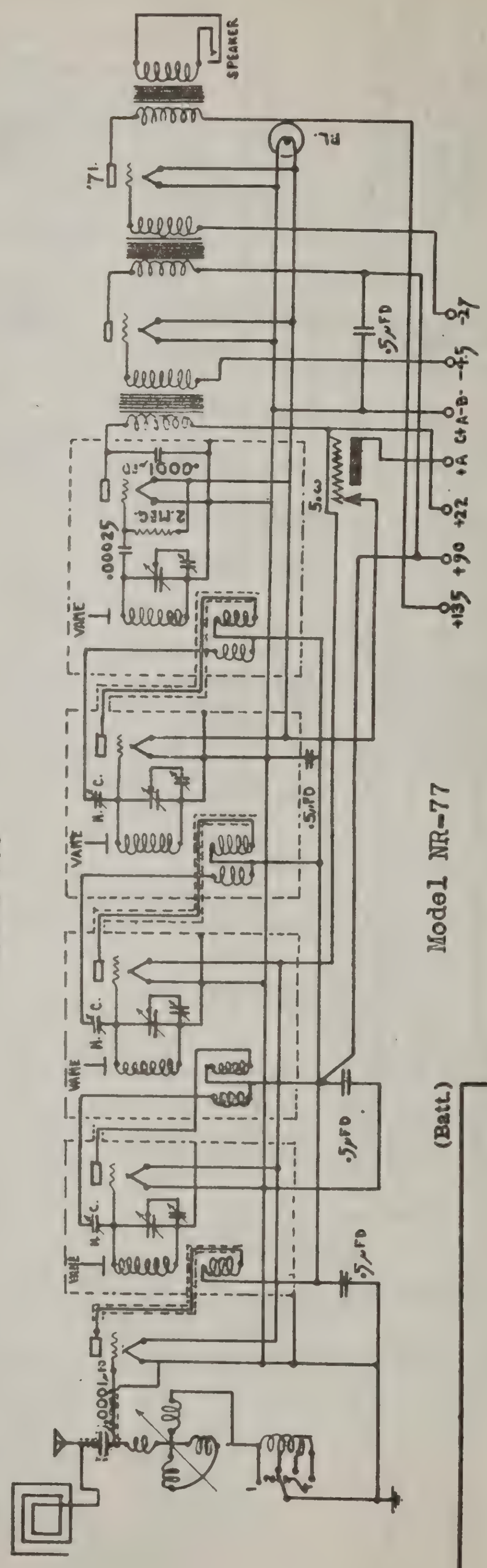

NOTE:-
2,000, 350 & 1,150 OHM RESISTANCES WOUND ON SAME TUBE.
20,000 OHM RESISTANCE COMPOSED OF 2-10,000 OHM RESISTANCES CONNECTED IN SERIES
A STRICT OBSERVANCE OF THE CONFIDENTIAL CHARACTER OF THIS DRAWING IS REQUIRED
ATTACHMENT PLUG
95-110 V.
111-125 V.
FUSE
1 MFD
7.5V
1150 OHMS
2.5V
1.5V
20 OHMS
1.5V
80 OHMS
CX-381
UX-281
2,000 OHMS
20,000 OHMS
25,000 OHMS
100,000 OHMS
350 OHMS
BLACK
RED
BLUE
WHITE
GREEN
GREY
BROWN
2nd AF FIL.
DET HTR.
1st A.F. FIL.
110V. SW.
GND.
+PWR.
+AMP.
+DET.
R.F. FIL.
ANT.
SPEAKER
GND.
ANT.
SPEAKER
Model NR-470 AC
2 AF
1 AF
3:1
P
G
F
B+
PILOT LIGHT
15 OHMS
PLATE CHOKE
DET
.00025 MFD.
.5 MFD
4RF
.5 MFD
3RF
.5 MFD
2RF
.5 MFD
.5 MFD
1RF
.0001 MFD.
LOOP CONTACT CLOSES WHEN LOOP IS IN VERTICAL POSITION
110V SW.
VOLUME
(A.C.)
NR-70
Model NR-70 AC
CX-326 2nd R.F.
CX-326 3rd R.F.
CX-326 1st R.F.
CX-310 2nd A.F.
CX-326 1st A.F.
CX-326 4th R.F.
C-327 Det.
CX-381 used in Power Pack Can.

MODEL NR-77
MODEL 800

FREED RADIO AND TELEVISION CORP.

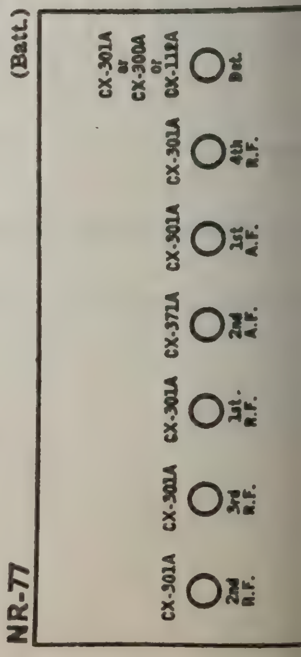

+135
+90
+22
B-A- C+
C-4.5
C-27
1 MFD
4-OUT
.01 MFD
2 MEG
BATTERY SETTING
.002 MFD
.5 MFD
.0002 MFD
2 MEG
VOLUME CONTROL
NEUTRALIZING COND
LOOP
PILOT LIGHT
VM
TUNING COND
100,000 Ω
A
G

Model 800


SPEAKER
PL
'71
.5 MFD
-27
-4.5
C+ A- B-
+A
+22
+90
+135
.001
2 MEG
.00025
5 Ω
VANE
N
C
.0001

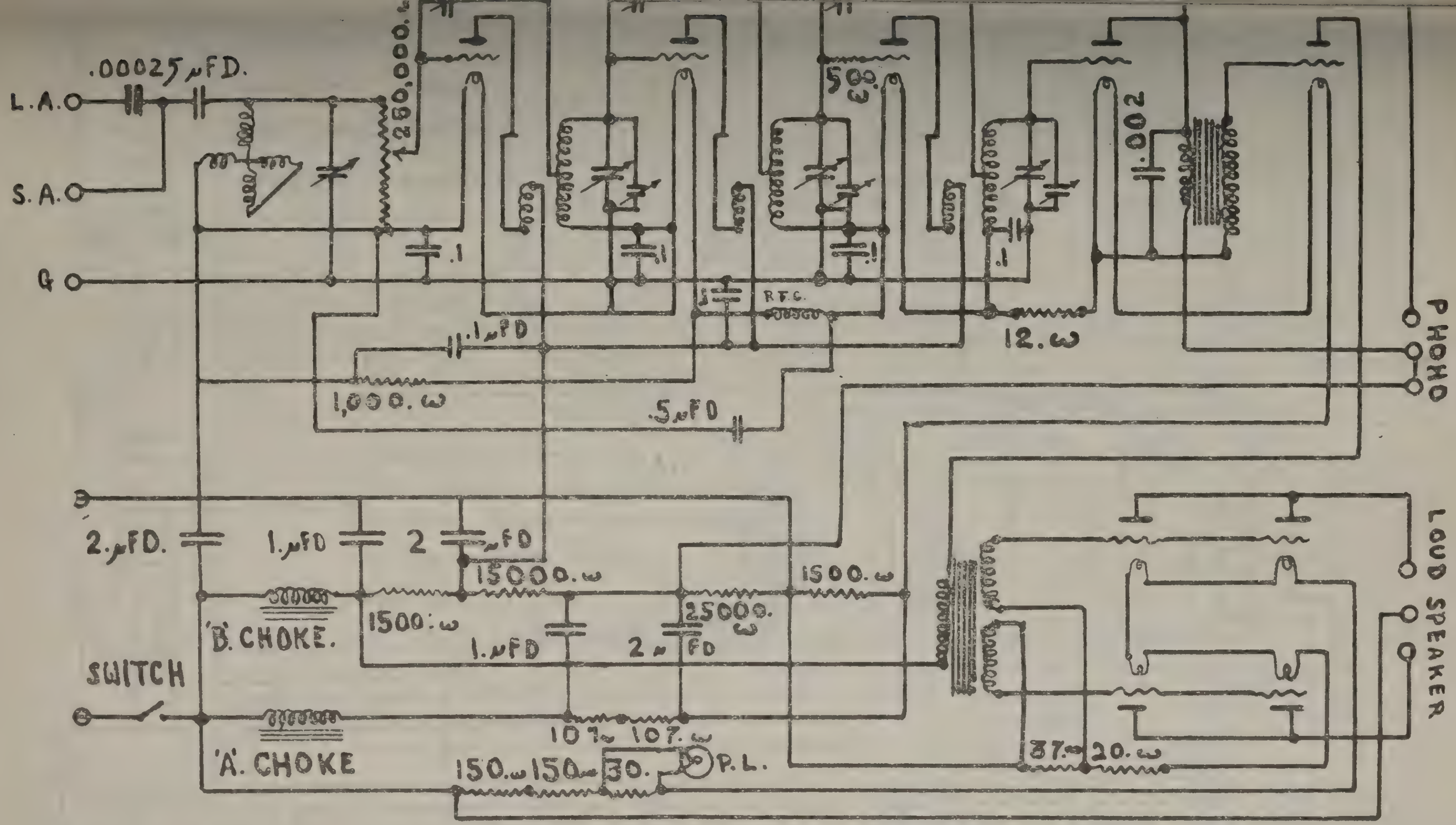
Model NR-77

(Batt.)

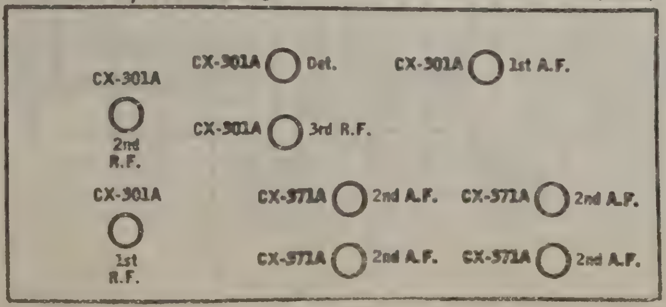

NR-77
CX-301A 2nd R.F.
CX-301A 3rd R.F.
CX-301A 1st R.F.
CX-371A 2nd A.F.
CX-301A 1st A.F.
CX-301A 4th R.F.
CX-301A or CX-300A or CX-112A Det.

FREED RADIO AND TELEVISION CORP.

MODEL NR-78 DC
NR-79 DC


.00025 μFD.
L.A.
S.A.
G
1,250,000. ω
.1
500. ω
.1
.1
.002
R.F.C.
.5
.1 μFD
12. ω
1,000. ω
.5 μFD
PHONO
2. μFD.
1. μFD
2 μFD
15000. ω
1500. ω
1500. ω
'B' CHOKE.
1. μFD
2 μ FD
25000. ω
SWITCH
107 ω 107. ω
'A'. CHOKE
150. ω 150 ω 30.
P.L.
37 ω 20. ω
LOUD SPEAKER

NR-78DC, NR-79DC (D.C.)

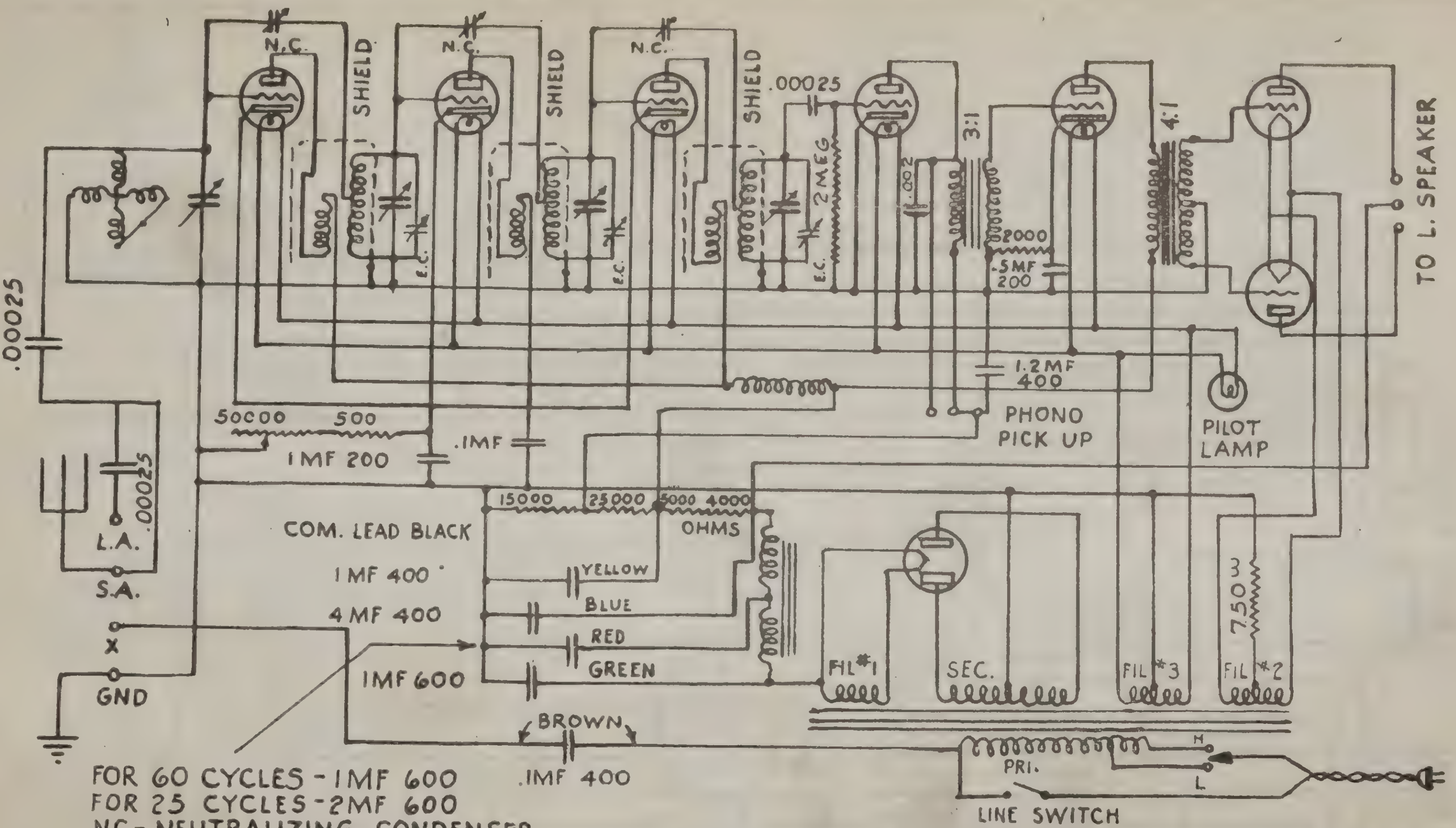

CX-301A
2nd R.F.
CX-301A Det.
CX-301A 1st A.F.
CX-301A 3rd R.F.
CX-301A
1st R.F.
CX-371A 2nd A.F.
CX-371A 2nd A.F.
CX-371A 2nd A.F.
CX-371A 2nd A.F.

FREED-EISEMANN—Model 78 D. C.
Line Voltage 110 D. C.—Set on D. C. Volt Tap—Volume Control Position Full On

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS CONTROL GRID	CATHODE-HEATER VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE CHANGE M A	SCREEN GRID VOLTS
1	201A	1st RF	-	-	4.5	75	4.5	-	3.7	4.0	.3	
2	201A	2nd RF	-	-	4.5	75	4.2	-	3.7	4.0	.3	
3	201A	3rd RF	-	-	4.5	75	0	-	3.7	4.0	.3	
4	201A	Det.	-	-	4.5	31	3.5	-	0.5	2.9	2.4	
5	201A	1st A	-	-	4.5	75	4.0	-	1.0	3.5	2.5	
6	171A	2nd A	-	-	4.5	75	15	-	6.0	24	18.0	
7	171A	2nd A	-	-	4.5	75	15	-	6.0	24	18.0	
8	171A	2nd A	-	-	4.5	75	15	-	6.0	24.6	13.0	
9	171A	2nd A	-	-	4.5	75	15	-	6.0	24	18.0	
10												

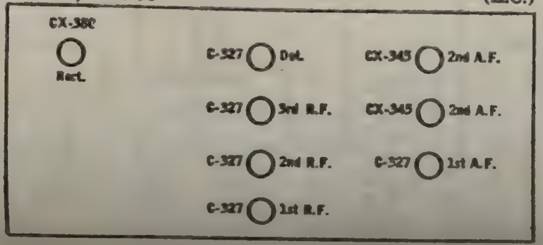
MODEL NR-78 AC
NR-79 AC

FREED RADIO AND TELEVISION CORP.


TO L. SPEAKER
N.C.
SHIELD
N.C.
SHIELD
N.C.
SHIELD
.00025
2 MEG
E.C.
E.C.
E.C.
.002
3:1
2000
.5MF 200
4:1
1.2MF 400
PHONO PICK UP
PILOT LAMP
.00025
50000
500
1 MF 200
.IMF
15000
25000
5000
4000
OHMS
COM. LEAD BLACK
1 MF 400
4 MF 400
IMF 600
YELLOW
BLUE
RED
GREEN
BROWN
.IMF 400
.00025
L.A.
S.A.
X
GND
3
750
FIL #1
SEC.
FIL #3
FIL #2
PRI.
H
L
LINE SWITCH

FOR 60 CYCLES - 1MF 600
FOR 25 CYCLES - 2MF 600
NC - NEUTRALIZING CONDENSER
EC - EQUALIZING CONDENSER

NR-78, NR-79 (A.C.)

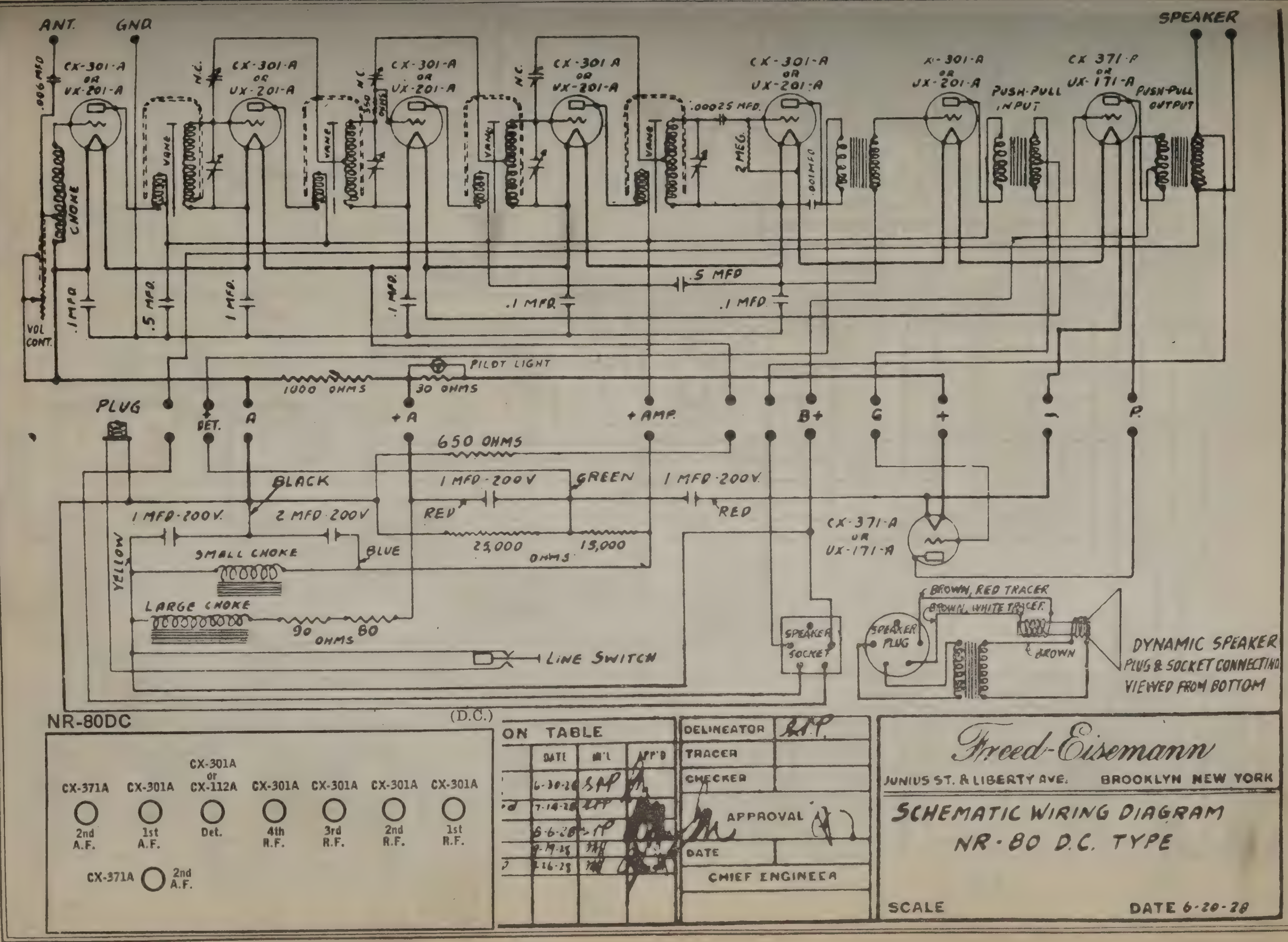

CX-380 Rect.
C-327 Det.
CX-345 2nd A.F.
C-327 3rd R.F.
CX-345 2nd A.F.
C-327 2nd R.F.
C-327 1st A.F.
C-327 1st R.F.

FREED-EISEMANN—Model 78-79
Line Voltage 116—Set on High Volt Tap—Volume Control Position Full On

Tube No. in Order	Type of Tube	Position of Tube (1st RF, Det. etc.)	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts	B Volts	A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate MA	Plate MA Grid Test	Plate Change MA	Screen Grid Volts
1	227	1st RF	2.18	92	2.07	86	5	5	3.3	7.8	4.5	
2	227	2nd RF	2.18	92	2.07	86	5	5	3.3	7.8	4.5	
3	227	3rd RF	2.18	92	2.07	86	5	5	3.3	7.8	4.5	
4	227	Det.	2.18	35	2.07	31	0.5	-	0.9	-0.9	0	
5	227	1st A	2.22	100	2.07	81	5	5	2.8	5.6	2.8	
6	245	2nd A	2.45	220	2.33	196	37	-	23	62	6	
7	245	2nd A	2.45	220	2.33	196	37	-	23	62	6	
8	280	Rect.	5.4	-	4.88	-	-	-	60	-	-	

FREED RADIO AND TELEVISION CORP.

MODEL NR-80 DC


ANT.
GND
SPEAKER
.006 MFD
CX-301-A OR UX-201-A
CHOKE
VOL CONT.
.1 MFD
.5 MFD
1 MFD.
N.C.
VANE
350 OHMS
.1 MFD
.5 MFD
.00025 MFD.
2 MEG.
.001 MFD
X-301-A OR UX-201-A
PUSH-PULL INPUT
CX 371-A OR UX-171-A
PUSH-PULL OUTPUT
PILOT LIGHT
1000 OHMS
30 OHMS
PLUG
DET.
A
+ A
+ AMP.
B+
G
+
–
P.
650 OHMS
BLACK
1 MFD·200 V
GREEN
1 MFD·200V.
RED
1 MFD·200V.
2 MFD·200V
YELLOW
SMALL CHOKE
BLUE
25,000 OHMS
15,000
CX-371-A OR UX-171-A
LARGE CHOKE
90 OHMS
80
LINE SWITCH
SPEAKER SOCKET
SPEAKER PLUG
BROWN, RED TRACER
BROWN, WHITE TRACER
BROWN
DYNAMIC SPEAKER PLUG & SOCKET CONNECTING VIEWED FROM BOTTOM

NR-80DC

(D.C.)

CX-371A	CX-301A	CX-301A or CX-112A	CX-301A	CX-301A	CX-301A	CX-301A
2nd A.F.	1st A.F.	Det.	4th R.F.	3rd R.F.	2nd R.F.	1st R.F.

CX-371A 2nd A.F.

ON TABLE

	DATE	M'L	APP'D
	6-30-28	SAP	
d	7-14-28	RPP	
	8-6-28	[illegible]	
	9-19-28	[illegible]	
)	11-16-28	[illegible]	

DELINEATOR	R.P.P.
TRACER	
CHECKER	
APPROVAL	
DATE	
CHIEF ENGINEER	

Freed-Eisemann

JUNIUS ST. & LIBERTY AVE. BROOKLYN NEW YORK

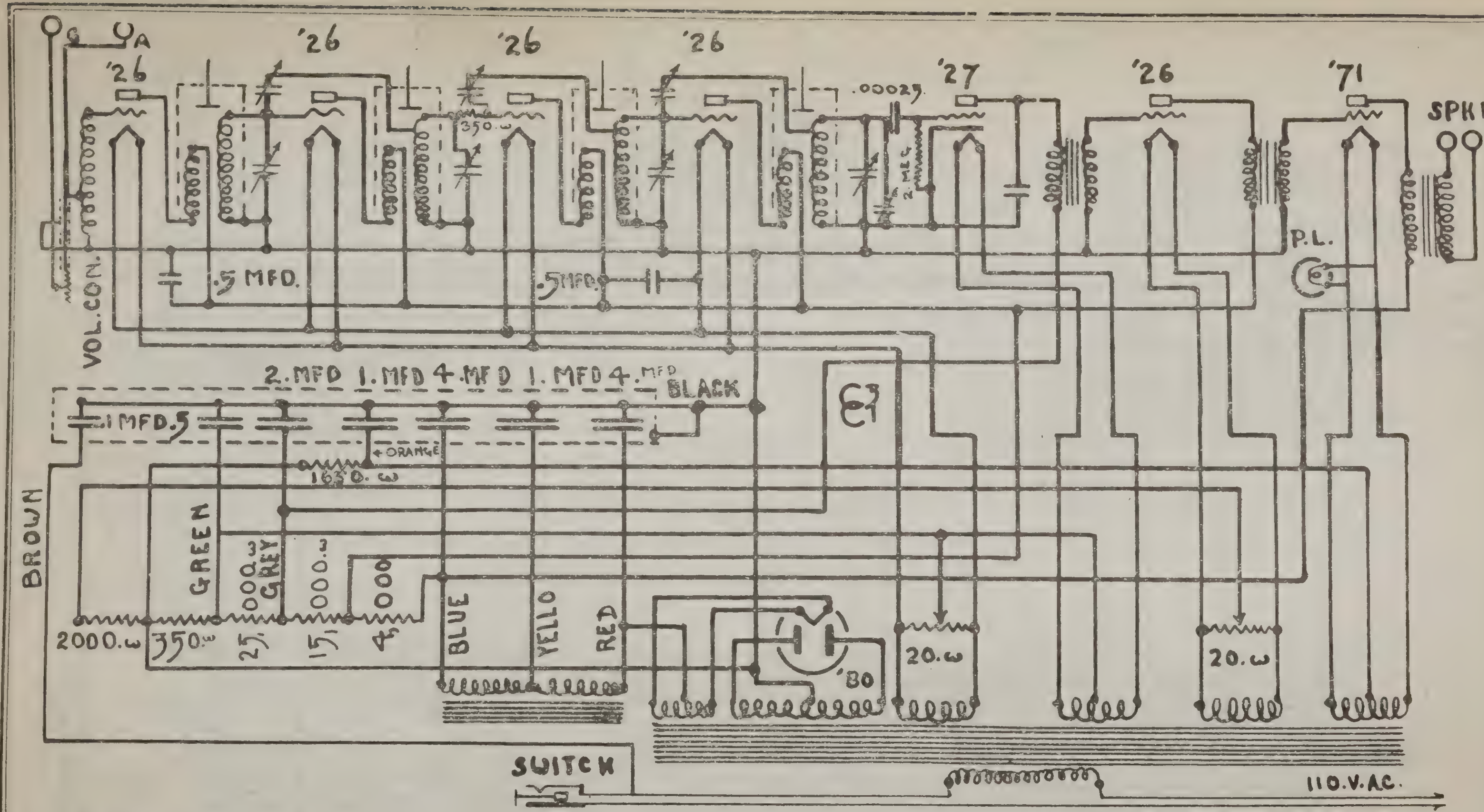
SCHEMATIC WIRING DIAGRAM
NR-80 D.C. TYPE

SCALE

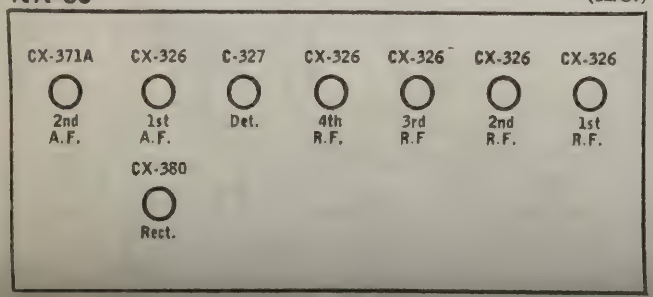
DATE 6-20-28

MODEL NR-80 AC

FREED RADIO AND TELEVISION CORP.


G
A
'26
'26
'26
'26
'27
'26
'71
SPKR
.00025
2 MEG
350.ω
P.L.
VOL.CON.
.5 MFD.
.5MFD.
2.MFD 1.MFD 4.MFD 1.MFD 4.MFD
BLACK
1 MFD.5
ORANGE
1630.ω
BROWN
GREEN
GREY
3000.ω
15000.ω
4000
2000.ω
350.ω
25
15
4
BLUE
YELLO
RED
'80
20.ω
20.ω
SWITCH
110.V.AC.

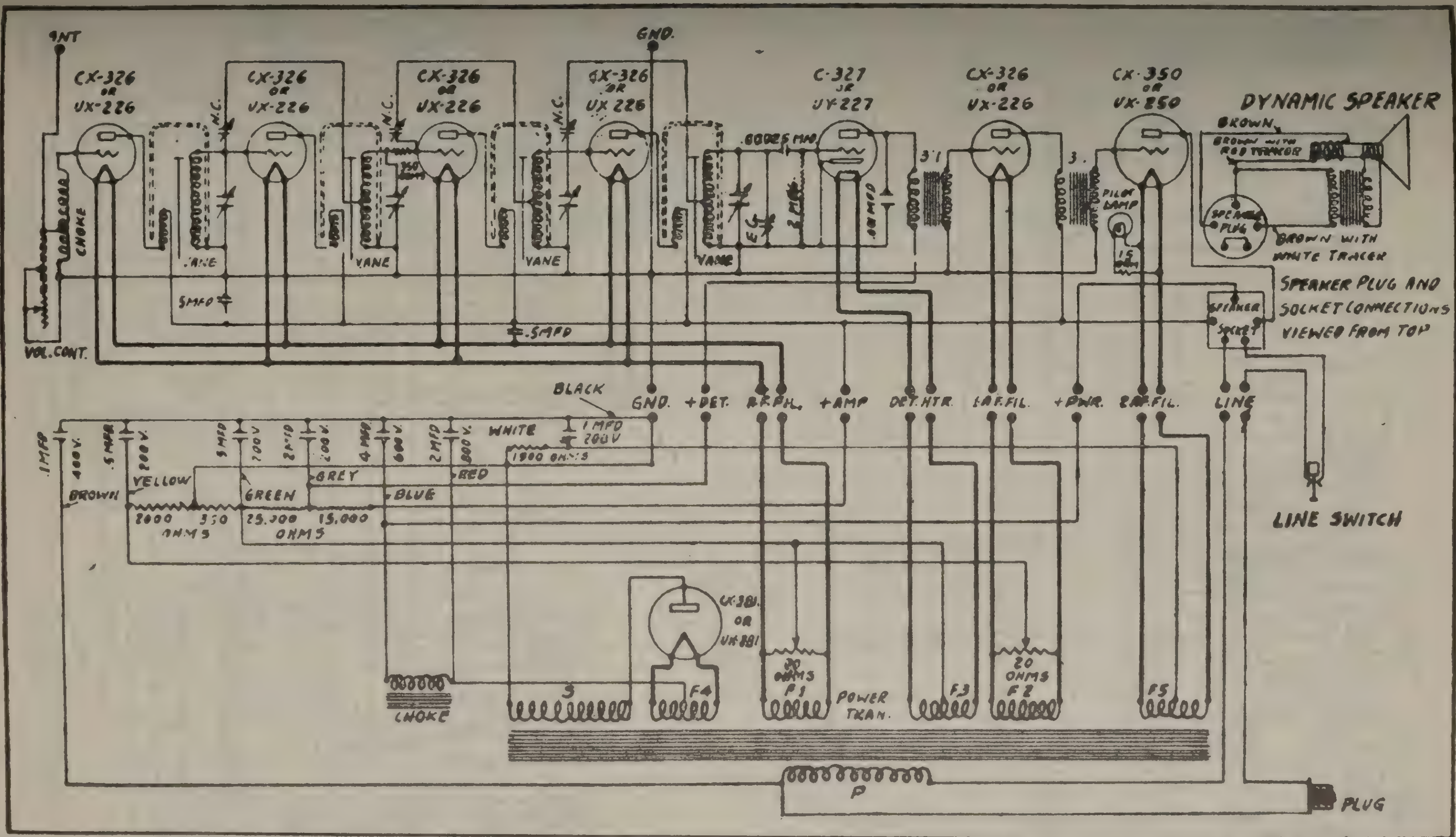
NR-80 (A.C.)


CX-371A
2nd A.F.
CX-326
1st A.F.
C-327
Det.
CX-326
4th R.F.
CX-326
3rd R.F
CX-326
2nd R.F.
CX-326
1st R.F.
CX-380
Rect.

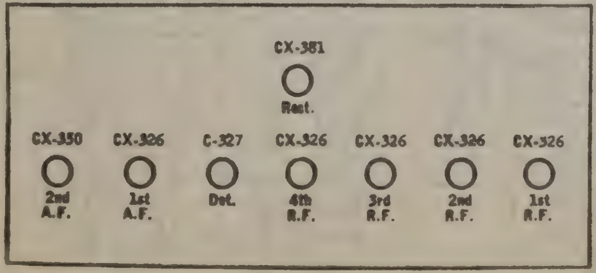
FREED-EISEMANN—Model NR-80
Line Voltage 120

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF. DET. ETC.	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA.	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st.R.F.	1.5	105	1.45	90	6.0	-	3.5	7.7	4.2
2	226	2nd.R.F.	1.5	105	1.45	90	6.0	-	3.5	7.7	4.2
3	226	3rd.R.F.	1.5	105	1.45	90	6.0	-	3.5	7.7	4.2
4	226	4th.R.F.	1.5	105	1.45	90	6.0	-	3.5	7.7	4.2
5	227	Detector	2.25	60	2.10	45	0.0	-	2.0	2.0	0.0
6	226	1st.A.F.	1.5	105	1.45	90	6.5	-	3.2	7.2	4.0
7	171	2nd.A.F.	5.2	192	5.00	150	30.0	-	17.0	18.5	1.0
8	280	Rectifier	5.2	-	5.00	-	-	-	20.0	-	-
9											
10											

FREED RADIO AND TELEVISION CORP.


ANT
GND.
CX-326 OR UX-226
CX-326 OR UX-226
CX-326 OR UX-226
CX-326 OR UX 226
C-327 OR UY-227
CX-326 OR UX-226
CX-350 OR UX-250
DYNAMIC SPEAKER
BROWN
BROWN WITH RED TRACER
BROWN WITH WHITE TRACER
SPEAKER PLUG
SPEAKER PLUG AND SOCKET CONNECTIONS VIEWED FROM TOP
SPEAKER SOCKET
PILOT LAMP
1.5
N.C.
VANE
CHOKE
VOL. CONT.
.5 MFD
.5 MFD
.00025 MFD
2 MEG.
3:1
3:1
LINE SWITCH
BLACK
GND.
+DET.
R.F.PL.
+AMP
DET.HTR.
1st.A.F.FIL.
+PWR.
2nd.A.F.FIL.
LINE
1 MFD 200V
WHITE
1900 OHMS
.1 MFD
400 V.
.5 MFD
200 V.
.5 MFD
700 V
2 MFD
200 V.
4 MFD
600 V.
2 MFD
800 V.
YELLOW
BROWN
GREEN
GREY
BLUE
RED
2000 350 OHMS
25,300 15,000 OHMS
CX-381 OR UX-881
20 OHMS F1
20 OHMS F2
F3
F4
F5
S
POWER TRAN.
CHOKE
P
PLUG

NR-85


CX-381
Rect.
CX-350
2nd A.F.
CX-326
1st A.F.
C-327
Det.
CX-326
4th R.F.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.

(A.C.) FREED-EISEMANN—Model NR-85

Line Voltage 120

Tube No. in Order	Type of Tube	Position of Tube 1st. R.F., Det., etc.	Readings Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.5	112	1.45	100	6.0	-	3.7	8.2	4.5
2	226	2nd.R.F.	1.5	112	1.45	100	6.0	-	3.7	8.2	4.5
3	226	3rd.R.F.	1.5	112	1.45	100	6.0	-	3.7	8.2	4.5
4	226	4th.R.F.	1.5	112	1.45	100	6.0	-	3.7	8.2	4.5
5	227	Detector	2.35	110	2.20	35	0.0	-	1.8	1.8	0.0
6	226	1st.A.F.	1.5	112	1.45	100	6.2	-	3.7	8.2	4.5
7	250	2nd.A.F.	7.65	380	7.5	310	54.0	-	35.0	43.5	8.0
8	281	Rectifier	7.65	-	7.5	-		-	28.0	-	-
9											
10											

Freed-Eisemann

JUNIUS ST. & LIBERTY AVE. BROOKLYN NEW YORK

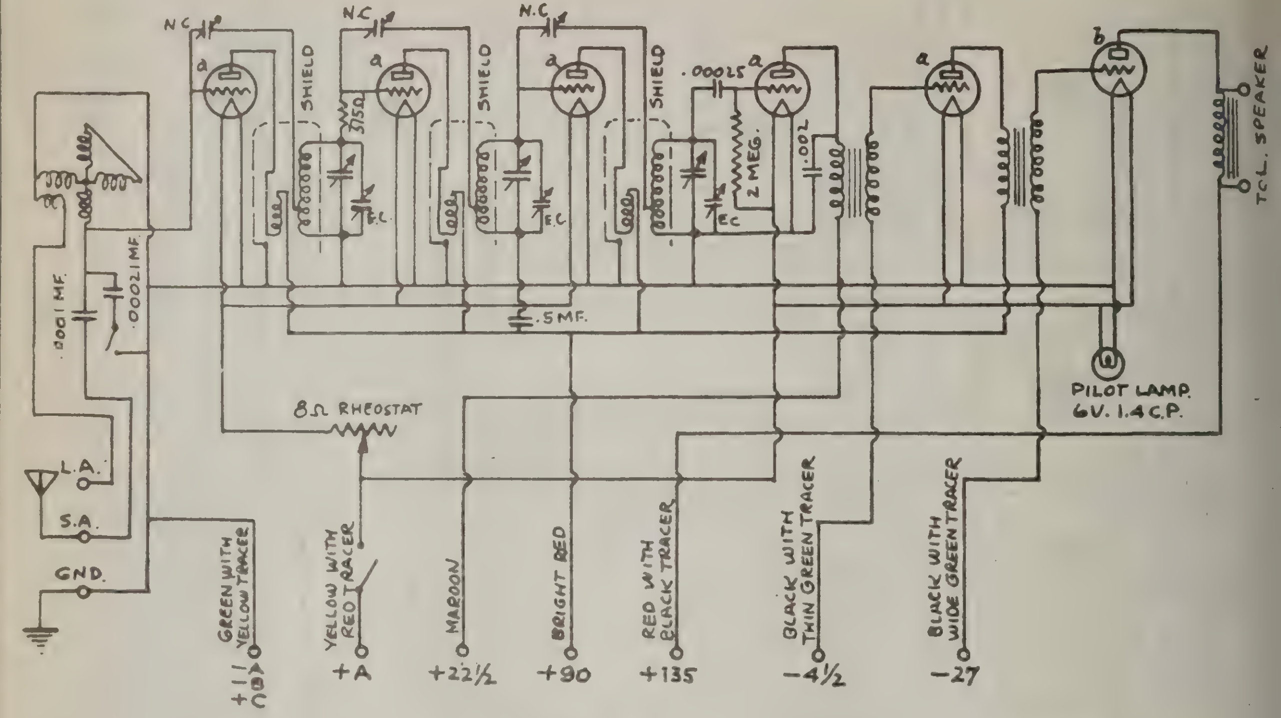
SCHEMATIC WIRING DIAGRAM

NR-85 TYPE

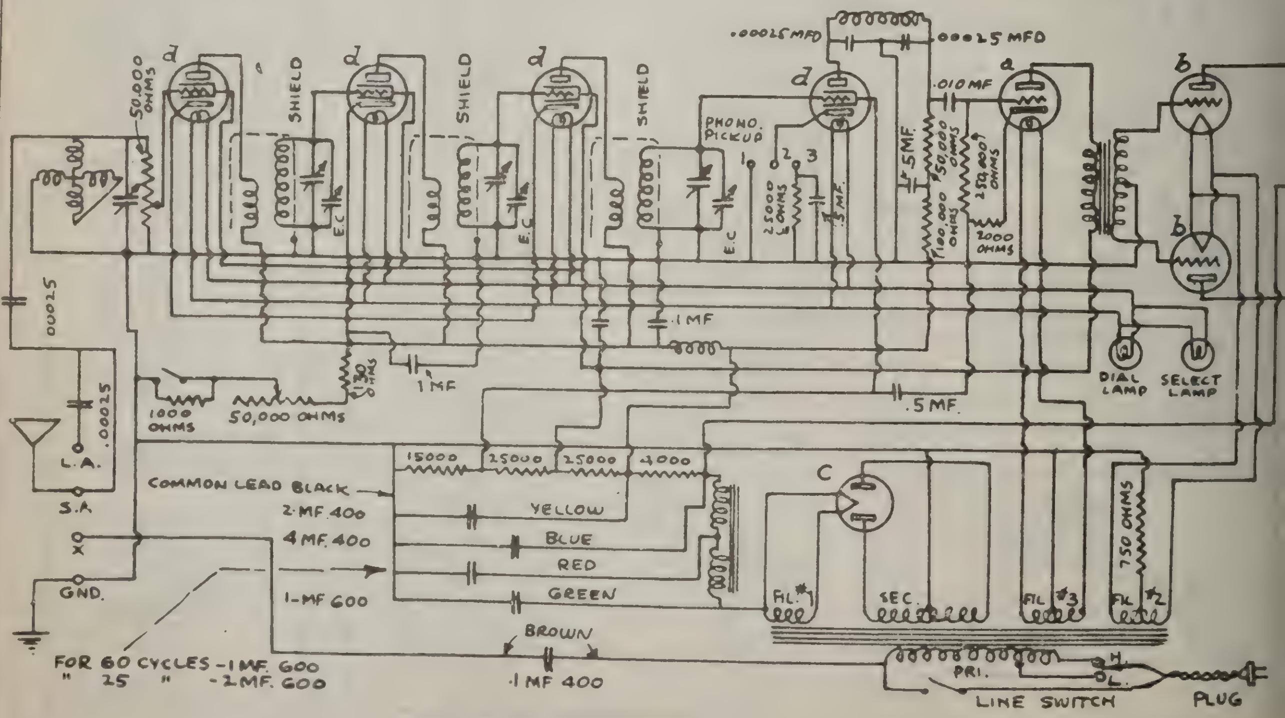
SCALE DATE 6-14-28

MODEL NR-53
MODEL NR-90-S

FREED RADIO AND TELEVISION CORP.


N.C.
a
SHIELD
375Ω
E.C.
.00025
2 MEG.
.002
b
T.C.L. SPEAKER
.0001 MF.
.00021 MF.
.5 MF.
PILOT LAMP
6V. 1.4 C.P.
8Ω RHEOSTAT
L.A.
S.A.
GND.
GREEN WITH YELLOW TRACER
YELLOW WITH RED TRACER
MAROON
BRIGHT RED
RED WITH BLACK TRACER
BLACK WITH THIN GREEN TRACER
BLACK WITH WIDE GREEN TRACER
+C
-B
+A
+22½
+90
+135
-4½
-27

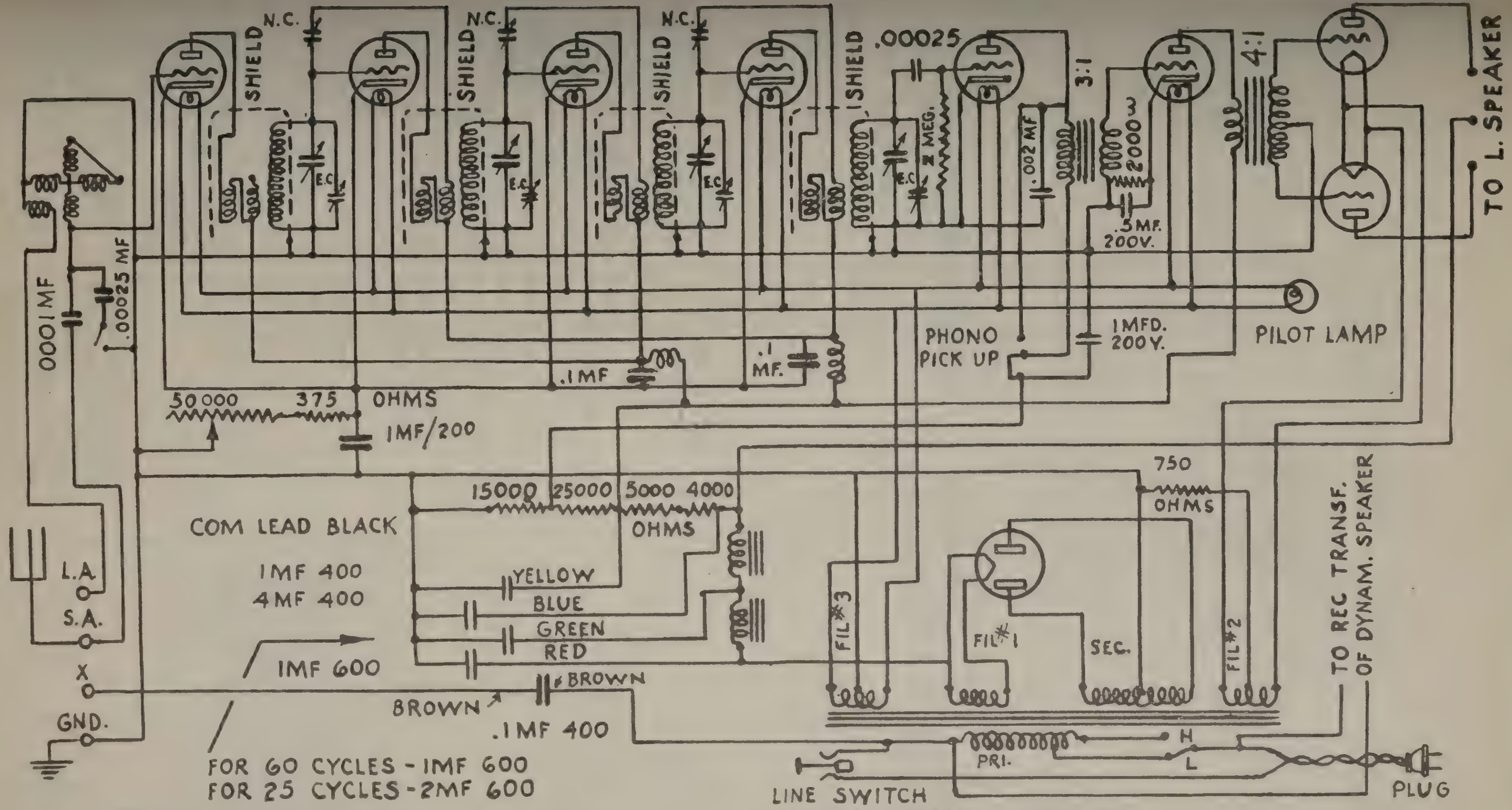
Model NR-53

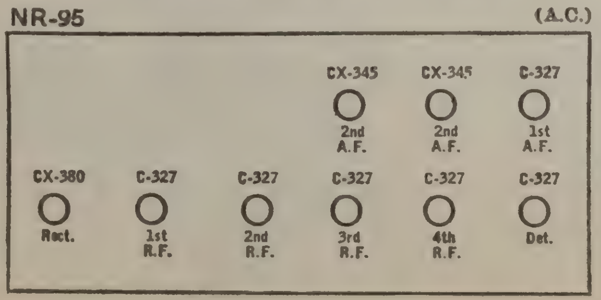

d
50,000 OHMS
SHIELD
E.C.
.00025 MFD
.00025 MFD
PHONO. PICKUP
1
2
3
25000 OHMS
.5 MF.
.010 MF
50,000 OHMS
100,000 OHMS
250,000 OHMS
2000 OHMS
a
b
.00025
.00025
.1 MF
1 MF
1000 OHMS
50,000 OHMS
130 OHMS
DIAL LAMP
SELECT LAMP
.5 MF.
L.A.
S.A.
X
GND.
COMMON LEAD BLACK
2 MF. 400
4 MF. 400
1-MF 600
15000
25000
25000
4000
YELLOW
BLUE
RED
GREEN
BROWN
.1 MF 400
C
FIL.
SEC.
FIL. #3
750 OHMS
FIL. #2
PRI.
H
L
LINE SWITCH
PLUG
FOR 60 CYCLES - 1 MF. 600
" 25 " - 2 MF. 600

Model NR-90-S

FREED RADIO AND TELEVISION CORP.

MODEL NR-95 AC


SHIELD
N.C.
SHIELD
N.C.
SHIELD
N.C.
SHIELD
.00025
E.C.
E.C.
E.C.
E.C.
2 MEG.
.002 MF
3:1
2000 Ω
.5 MF.
200V.
4:1
TO L. SPEAKER
.0001 MF
.00025 MF
.1MF
.1 MF.
PHONO
PICK UP
1MFD.
200V.
PILOT LAMP
50000
375
OHMS
1MF/200
750
OHMS
15000
25000
5000
4000
OHMS
COM LEAD BLACK
1MF 400
4MF 400
YELLOW
BLUE
GREEN
RED
1MF 600
BROWN
BROWN
.1MF 400
L.A.
S.A.
X
GND.
FIL #3
FIL #1
SEC.
FIL #2
TO REC TRANSF.
OF DYNAM. SPEAKER
H
L
PRI.
LINE SWITCH
PLUG
FOR 60 CYCLES - 1MF 600
FOR 25 CYCLES - 2MF 600

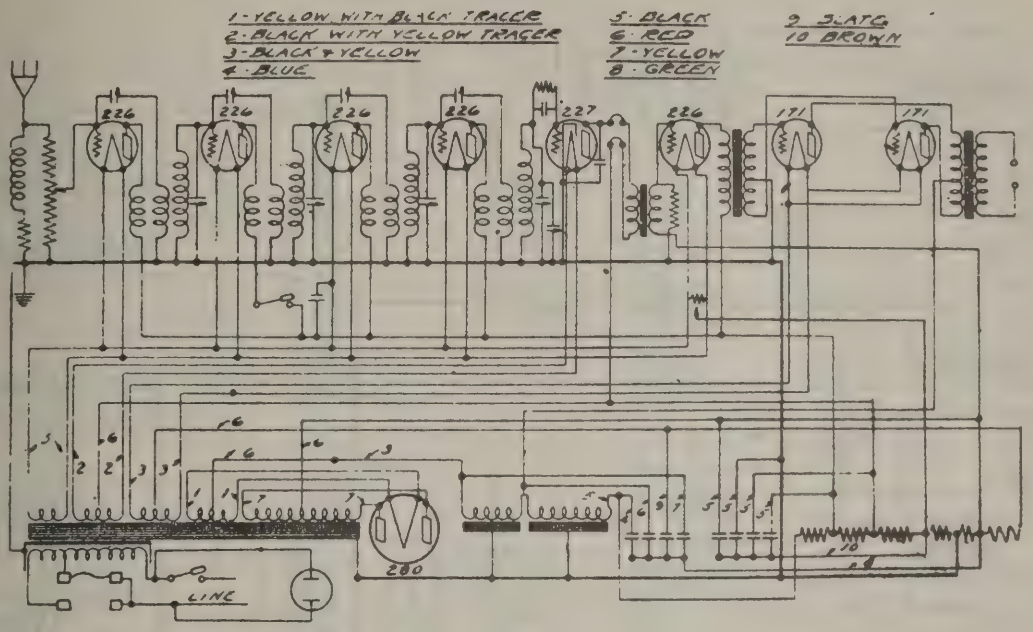

NR-95
(A.C.)
CX-345
2nd A.F.
CX-345
2nd A.F.
C-327
1st A.F.
CX-380
Rect.
C-327
1st R.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
4th R.F.
C-327
Det.

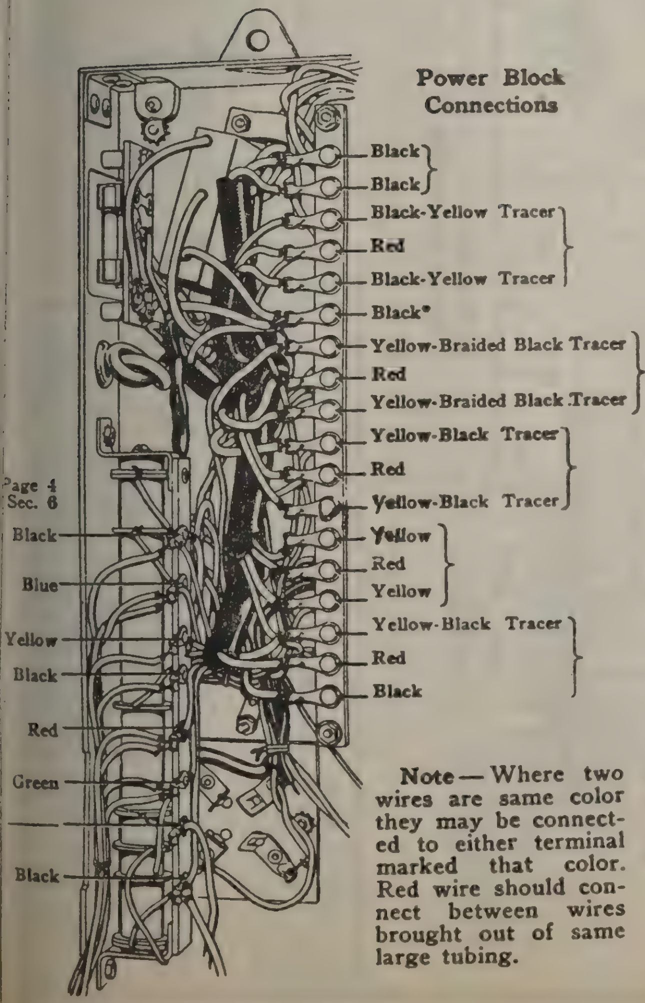
FREED-EISEMANN—Model 95
Line Voltage 116—Set on High Volt Tap—Volume Control Position Full On

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det. Etc. ③	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts Control Grid ⑧	Cathode-Heater Volts ⑨	Normal Plate M A ⑩	Plate M A Grid Test ⑪	Plate Change M A ⑫	Screen Grid Volts ⑬
1	227	1st RF	2.40	76	2.25	71	4	5.	2.8	5.6	2.8	
2	227	2nd RF	2.40	76	2.25	71	4	5	2.8	5.6	2.8	
3	327	3rd RF	2.40	75	2.25	71	4	5	2.8	5.6	2.8	
4	227	4th RF	2.40	75	2.25	71	4	5	2.8	5.6	2.8	
5	227	Det.	2.40	26	2.25	15	1.5	-	1.0	1.7	.7	
6	227	1st A	2.40	82	2.35	67	4	5	2.4	4.8	2.4	
7	245	2nd A	2.57	208	2.37	183	35	-	22	26	4	
8	245	2nd A	2.57	208	2.37	183	35	-	22	26	4	
9	280	Rect.	5.5	-	4.8	-	-	-	64	-	-	
10												

JESSE FRENCH & SONS PIANO CO.

MODEL 8 Tube AC


1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4-BLUE
5-BLACK
6-RED
7-YELLOW
8-GREEN
9 SLATE
10 BROWN
226
226
226
226
227
226
171
171
280
LINE


Black
Black
Black-Yellow Tracer
Red
Black-Yellow Tracer
Black*
Yellow-Braided Black Tracer
Red
Yellow-Braided Black Tracer
Yellow-Black Tracer
Red
Yellow-Black Tracer
Yellow
Red
Yellow
Yellow-Black Tracer
Red
Black
Page 4 Sec. 6
Black
Blue
Yellow
Black
Red
Green
Black

Power Block Connections

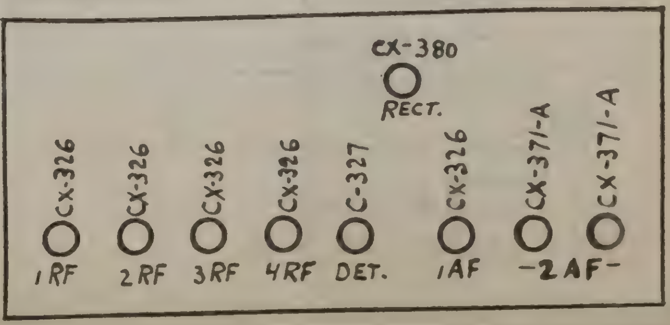
Note — Where two wires are same color they may be connected to either terminal marked that color. Red wire should connect between wires brought out of same large tubing.

JESSE FRENCH

8 - A.C. Power Set.

Line Voltage 116—2nd A. F. Stage—2 Tubes Push Pull

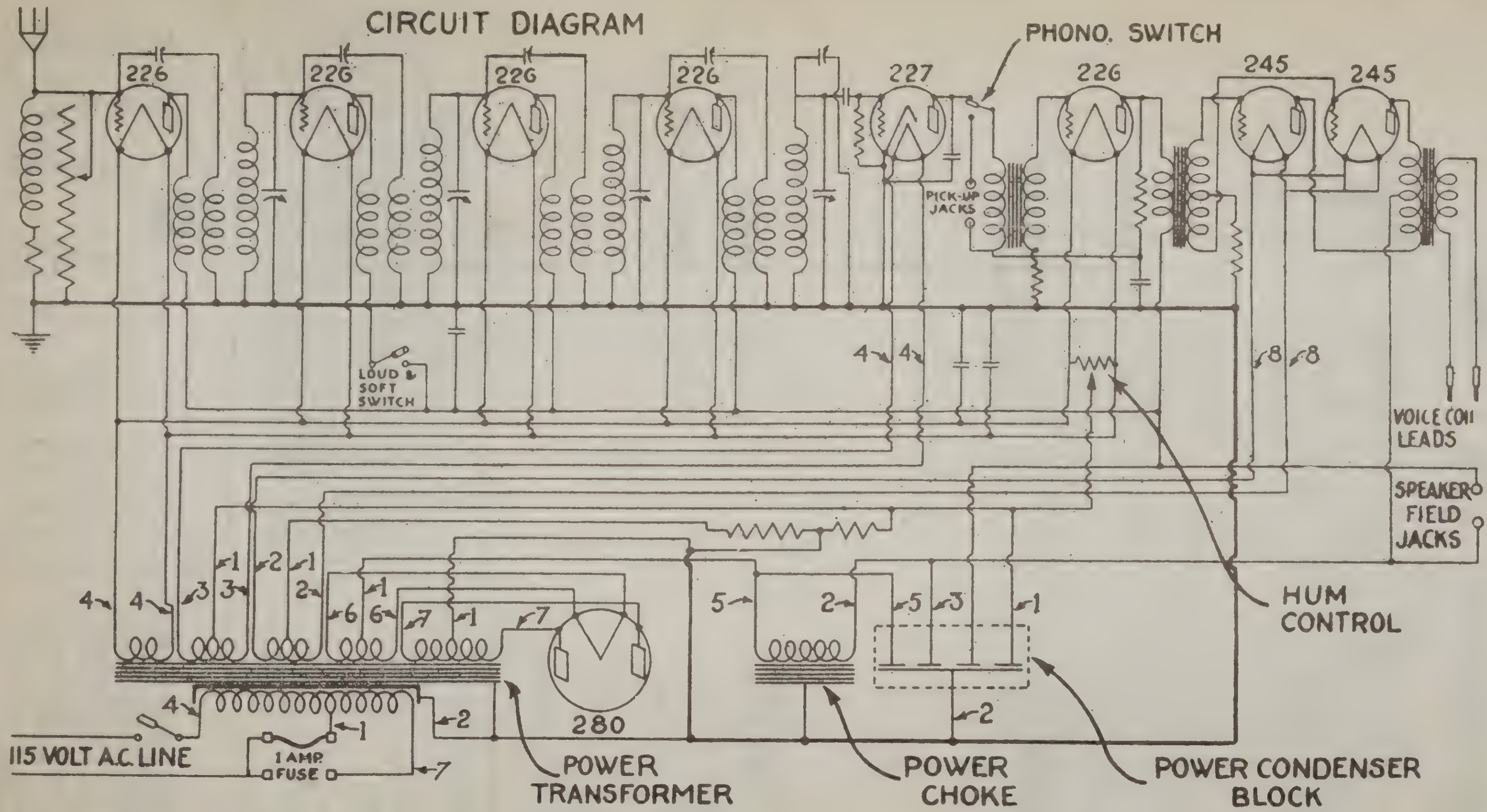
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
2	226	2nd.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
3	226	3rd.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
4	226	4th.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
5	227	Detector	2.40	125	2.2	25	45	-	1.4	1.4	0.0
6	226	1st.A.F.	1.55	107	1.5	100	7.8	-	3.5	7.0	3.5
7	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0
8	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0


CX-380
RECT.
CX-326
1RF
CX-326
2RF
CX-326
3RF
CX-326
4RF
C-327
DET.
CX-326
1AF
CX-371-A
CX-371-A
-2AF-

MODEL 5-093

JESSE FRENCH & SONS PIANO CO.

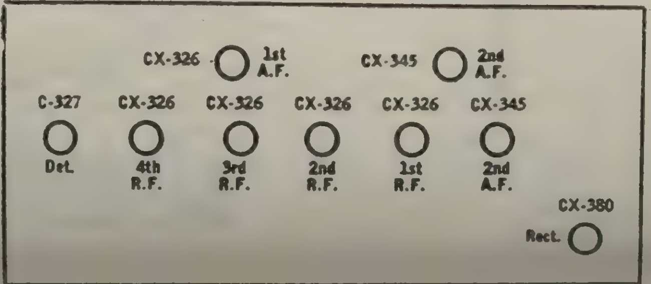
CIRCUIT DIAGRAM


226
226
226
226
227
PHONO. SWITCH
226
245
245
PICK-UP JACKS
LOUD & SOFT SWITCH
4
4
8
8
VOICE COIL LEADS
SPEAKER FIELD JACKS
HUM CONTROL
4
4
3
3
1
2
1
2
6
6
7
1
7
5
2
5
3
1
280
4
1
2
115 VOLT A.C. LINE
1 AMP. FUSE
7
2
POWER TRANSFORMER
POWER CHOKE
POWER CONDENSER BLOCK

Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max

Note: "C" Bias Voltage Reading on Audio tubes is low due to the current draw of the set tester and high resistances in the set.

① TUBE NO IN ORDER	② TYPE OF TUBE	③ POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE MA	⑪ PLATE MA GRID TEST	⑫ PLATE CHANGE MA	⑬ SCREEN GRID VOLTS
1	226	1st RF	1.5	140	1.4	132	10	-	5	9	4	-
2	226	2nd RF	1.5	140	1.4	132	10	-	6	9	4	-
3	226	3rd RF	1.5	140	1.4	132	10	-	5	9	4	-
4	226	4th RF	1.5	140	1.4	132	10	-	6	9	4	-
5	227	Det.	2.6	112	2.3	30	0	10	2	2	0	-
6	226	1st AF	1.5	127	1.4	117	6.5	-	4.5	6.5	3	-
7	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
8	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
9	280	Rect.	5.8		4.9				90			

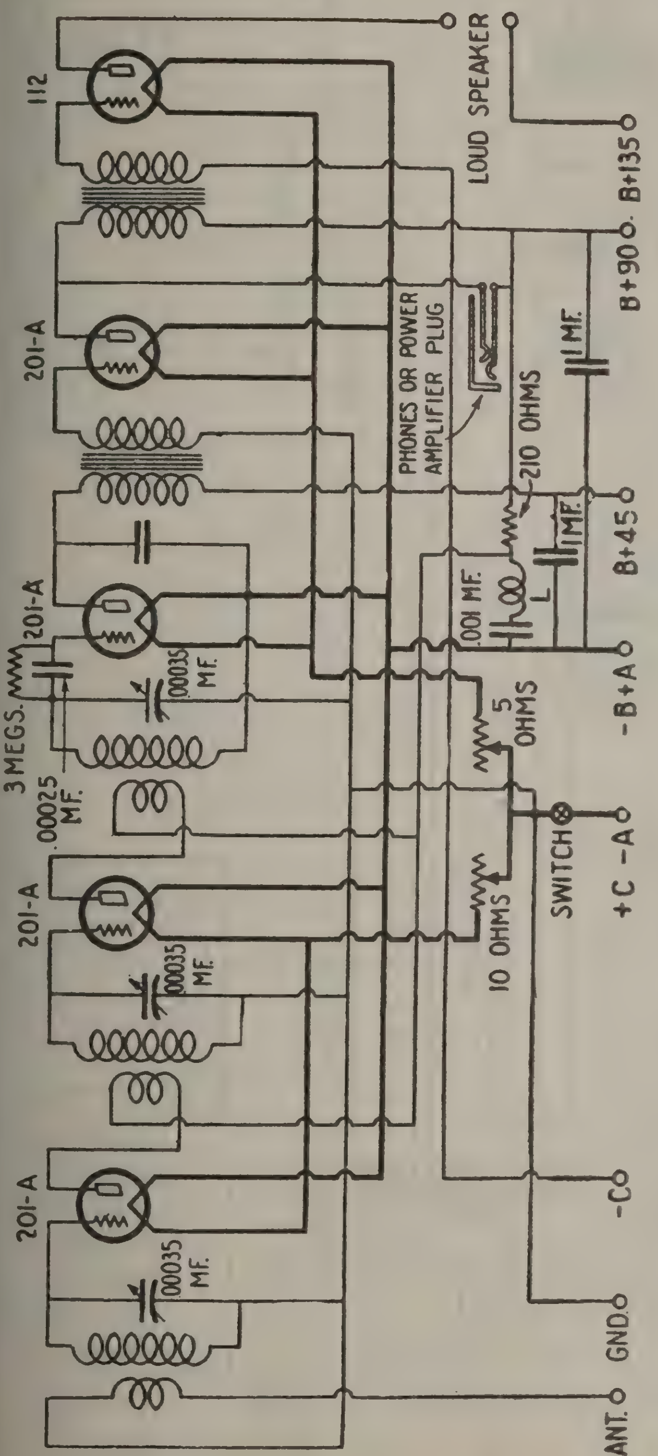

CX-326
1st A.F.
CX-345
2nd A.F.
C-327
Det.
CX-326
4th R.F.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.
CX-345
2nd A.F.
CX-380
Rect.

JESSE FRENCH

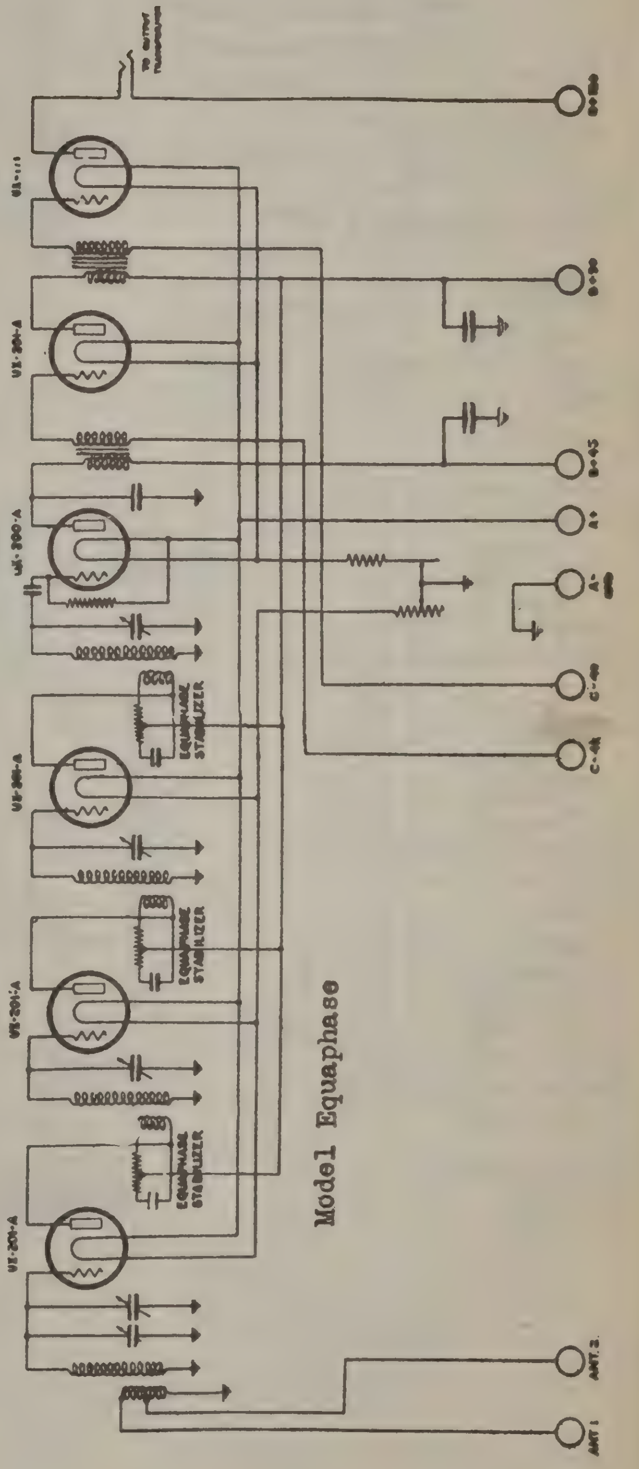
Model 5-093

CHARLES FRESHMAN CO., INC.

MODEL Masterpiece
MODEL Equaphase


112
201-A
201-A
201-A
201-A
LOUD SPEAKER
B+135
B+90
PHONES OR POWER AMPLIFIER PLUG
210 OHMS
1 MF.
1 MF.
B+45
.001 MF.
L
-B+A
5 OHMS
SWITCH
+C -A
10 OHMS
3 MEGS.
.00025 MF.
.00035 MF.
.00035 MF.
.00035 MF.
-C
GND.
ANT.

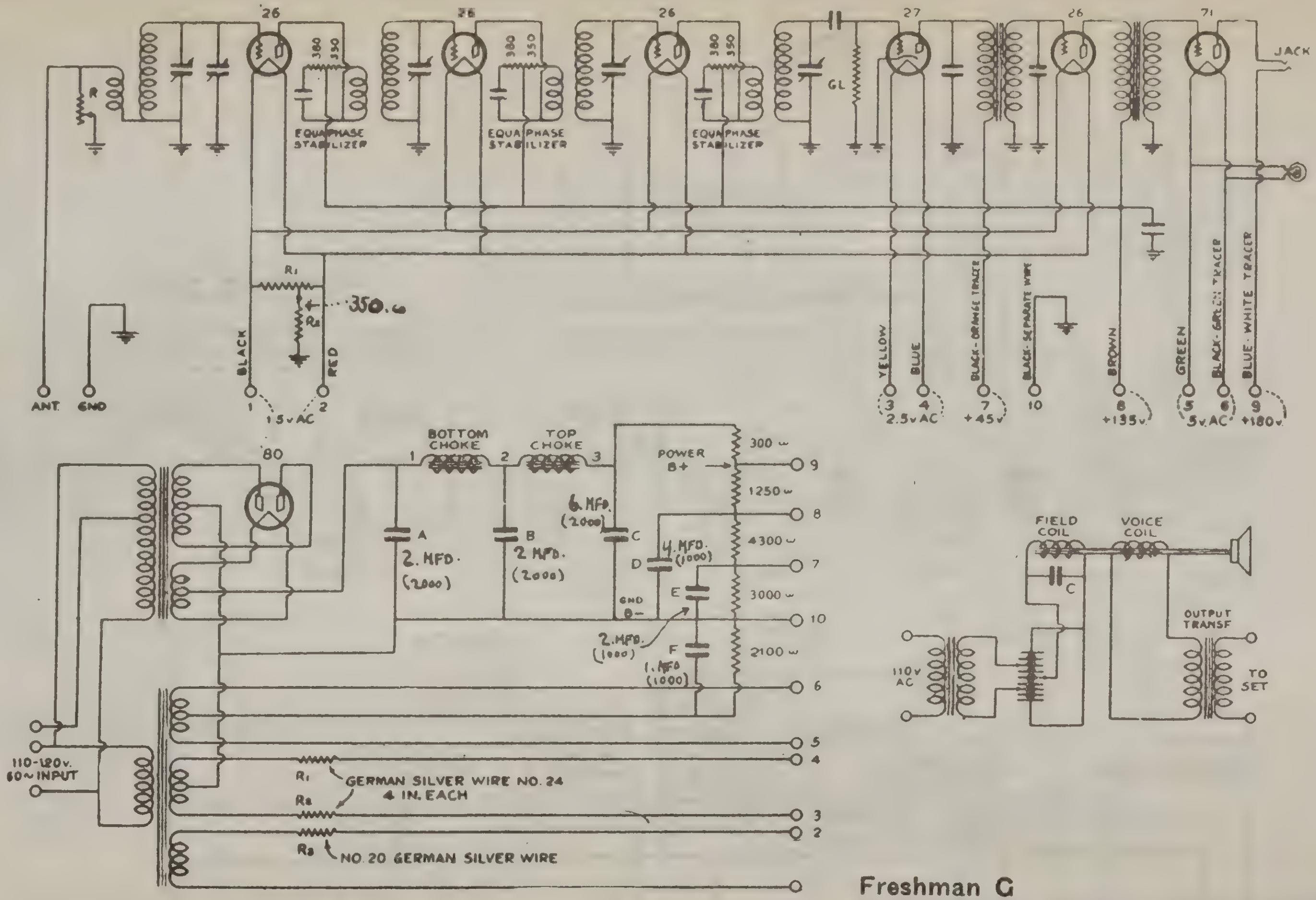
Model Masterpiece


UX-201-A
UX-200-A
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
ANT.1
ANT.2

Model Equaphase

MODEL G

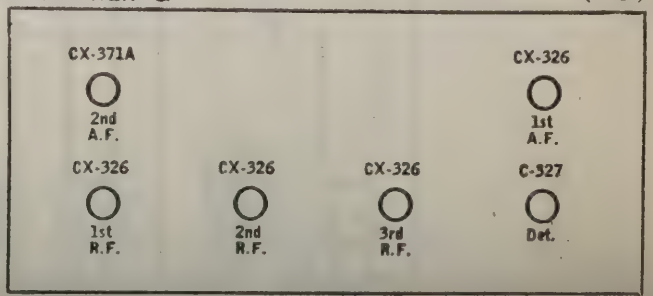
CHARLES FRESHMAN CO., INC.


'26
'26
'26
'27
'26
'71
JACK
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
380
350
GL
R
R1
R2
350.ω
ANT.
GND
BLACK
RED
1
2
1.5 v AC
YELLOW
BLUE
3
4
2.5 v AC
BLACK-ORANGE TRACER
7
+45 v
BLACK-SEPARATE WIRE
10
BROWN
8
+135 v
GREEN
BLACK-GREEN TRACER
BLUE-WHITE TRACER
5
6
5 v AC
9
+180 v
'80
BOTTOM CHOKE
TOP CHOKE
1
2
3
A
2. MFD. (2000)
B
2 MFD. (2000)
6. MFD. (2000)
C
D
4. MFD. (1000)
E
2. MFD. (1000)
F
1. MFD. (1000)
GND B−
POWER B+
300 ω
1250 ω
4300 ω
3000 ω
2100 ω
9
8
7
10
6
5
4
3
2
110-120 v. 60~ INPUT
R1
R2
R3
GERMAN SILVER WIRE NO. 24 4 IN. EACH
NO 20 GERMAN SILVER WIRE
FIELD COIL
VOICE COIL
C
OUTPUT TRANSF
TO SET
110 v AC

FRESHMAN—Model "G"
Line Voltage 120—120 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	226	1st. R.F.	1.45	140	1.35	135	9	-	5	9	4
2	226	2nd. R.F.	1.45	140	1.35	135	9	-	6	9	4
3	226	3rd. R.F.	1.45	140	1.35	135	9	-	5	9	6
4	227	Detector	2.3	140	2.00	50	0	-	3	3.1	.1
5	226	1st. A.F.	1.45	140	1.35	135	9	-	5	9	4
6	171A	2nd. A.F.	5.5	200	5.10	175	37	-	16.0	18.0	2.0
7	280	Rectifier	-	-	5.10	-	-	-	20	-	-

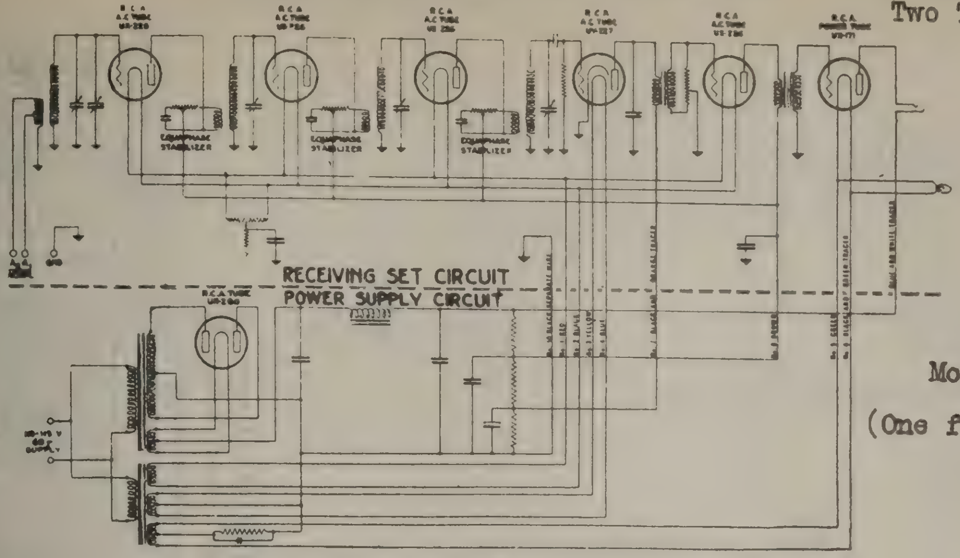
Freshman G (A.C.)


CX-371A
2nd A.F.
CX-326
1st A.F.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.

A. C. operated. To be used with model 9-60-5 Power Supply Unit using a CX-380.

MODEL G, with
G-60-S Power Unit
Two Types.

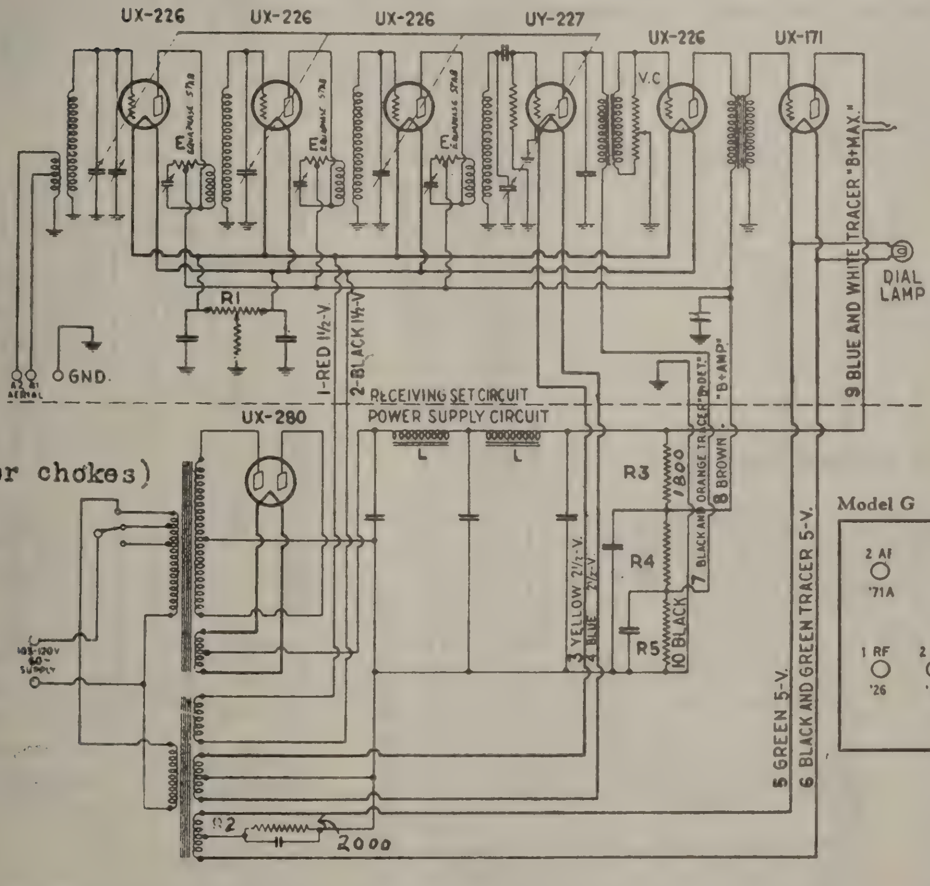
CHARLES FRESHMAN CO., INC.

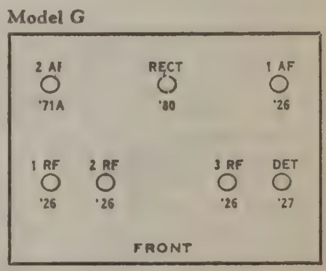

R.C.A. A.C. TUBE UX-226
R.C.A. POWER TUBE UX-171
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
RECEIVING SET CIRCUIT
POWER SUPPLY CIRCUIT
R.C.A. TUBE UX-280

Model G.
(One filter choke)

Schematic diagram of Model "G" Chassis and Model G-60-S Power Supply.
Note the one choke coil in Power Supply Circuit.

Model G.
(Two filter chokes)


UX-226
UX-226
UX-226
UY-227
UX-226
UX-171
V.C
E
EQUAPHASE STAB
"B+MAX."
9 BLUE AND WHITE TRACER
DIAL LAMP
R1
1-RED 1½-V
2-BLACK 1½-V
A2 A1 AERIAL
GND.
"DET."
"B+AMP"
RECEIVING SET CIRCUIT
POWER SUPPLY CIRCUIT
UX-280
L
L
R3
1800
R4
R5
8 BROWN
7 BLACK AND ORANGE TRACER
10 BLACK
3 YELLOW 2½-V
4 BLUE 2½-V
5 GREEN 5-V
6 BLACK AND GREEN TRACER 5-V
105-120V 60~ SUPPLY
R2
2000


Model G
2 AF
'71A
RECT
'80
1 AF
'26
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
FRONT

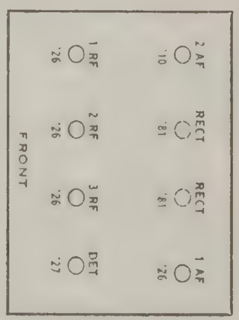
Circuits of the Freshman "Model G" Equaphase and the "Model G—60-S" Power Supply Unit.

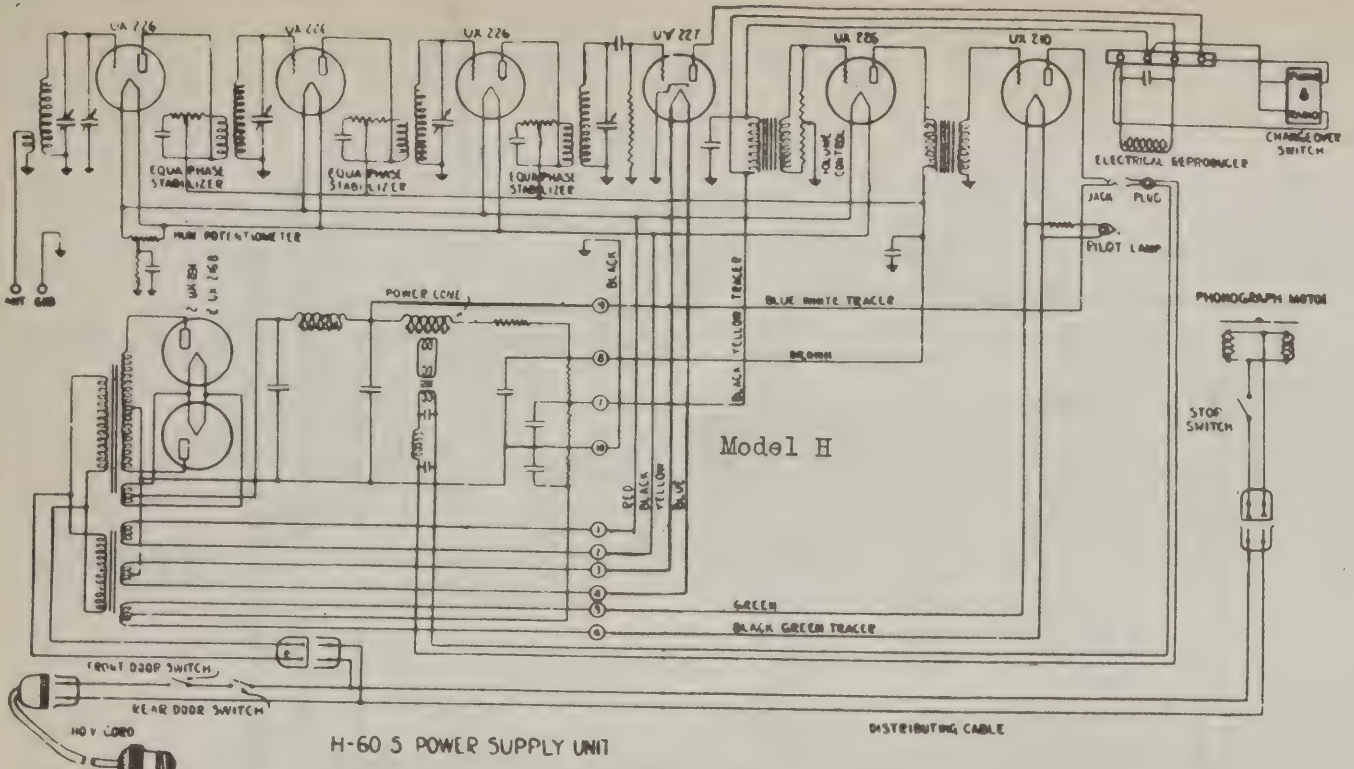
Tube	Fil. Voltage.	Plate Voltage.	Grid Voltage
RF1	1.5	130	7.
RF2	1.5	130	7.
RF3	1.5	130	7.
Det.	2.5	50	0.
AF1	1.5	130	7.
AF2	5.0	180	40.

MODEL H
MODEL ABC Power Unit

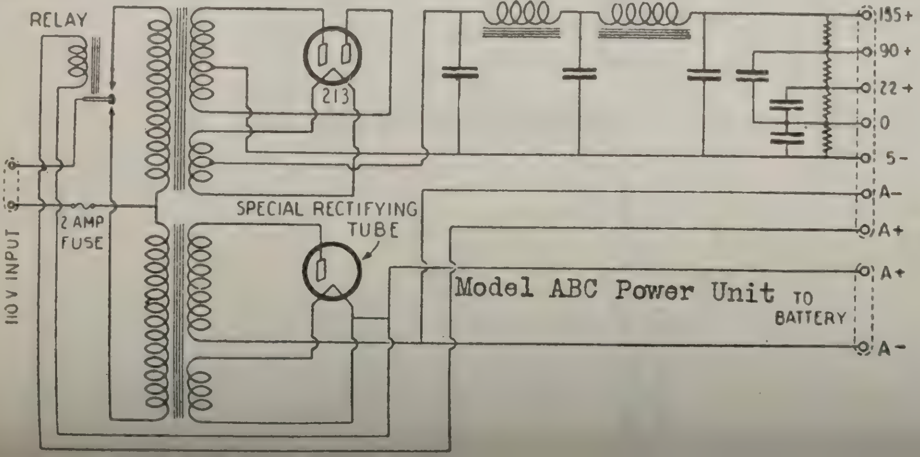
CHARLES FRESHMAN CO., INC.

Model H


2 AF
'10
RECT
'81
RECT
'81
1 AF
'26
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
FRONT


UX 226
UX 226
UX 226
UY 227
UX 285
UX 210
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
VOLUME CONTROL
HUM POTENTIOMETER
ELECTRICAL REPRODUCER
CHANGE OVER SWITCH
JACK
PLUG
PILOT LAMP
PHONOGRAPH MOTOR
STOP SWITCH
ANT
GND
2 UX 281
2 UX 268
POWER CONE
BLACK
BLUE WHITE TRACER
BROWN
BLACK YELLOW TRACER
RED
BLACK
YELLOW
BLUE
GREEN
BLACK GREEN TRACER
Model H
FRONT DOOR SWITCH
REAR DOOR SWITCH
110 V CORD
DISTRIBUTING CABLE

H-60 S POWER SUPPLY UNIT

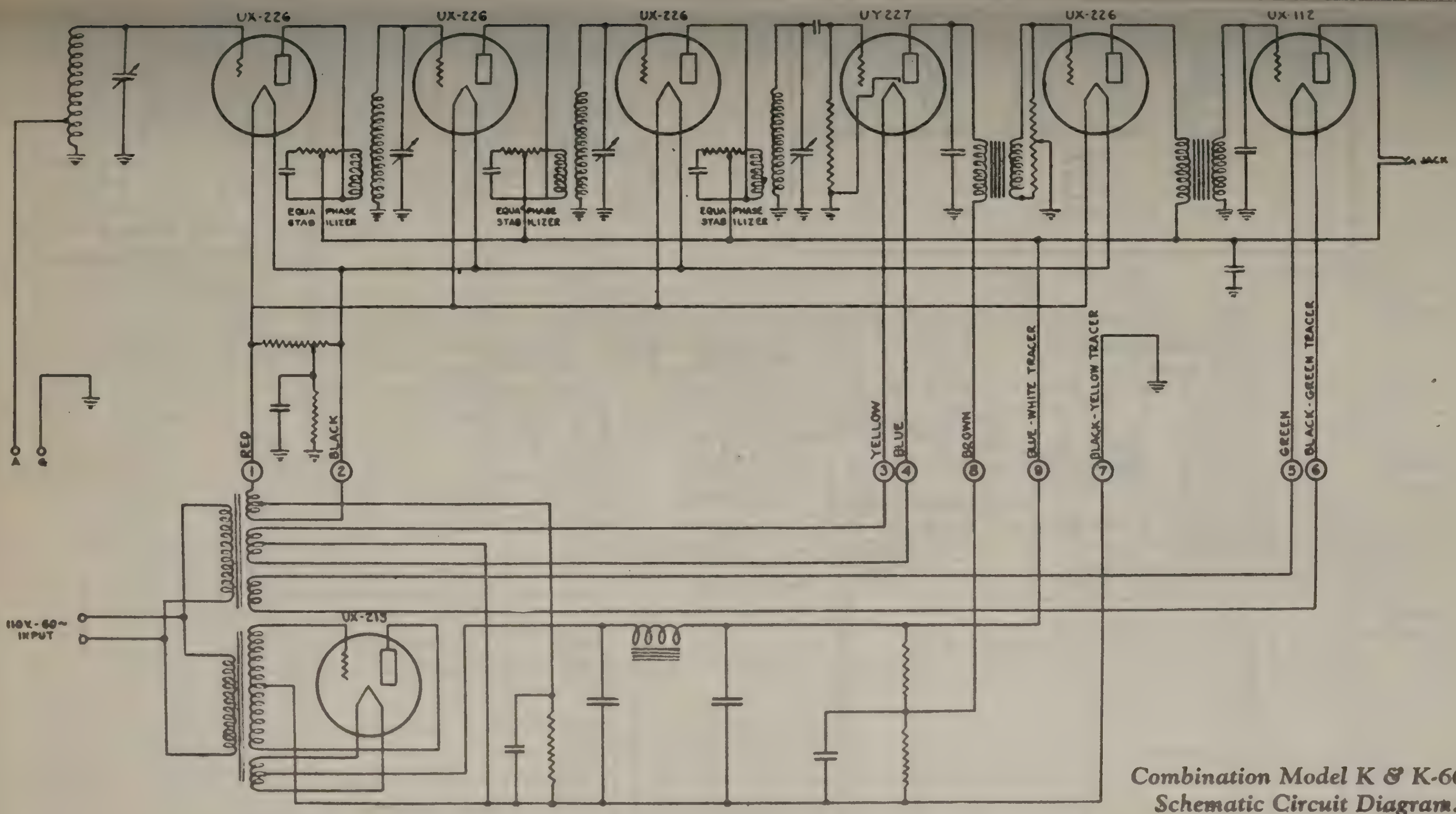

RELAY
2 AMP FUSE
110 V INPUT
213
SPECIAL RECTIFYING TUBE
135+
90+
22+
0
5-
A-
A+
A+
A-
TO BATTERY

Model ABC Power Unit

FRESHMAN—Model "H"
Line Voltage 120—120 Volt Tap

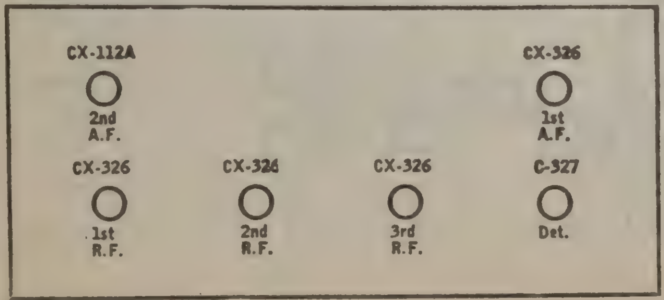
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st. R.F.	1.45	148	1.35	140	10	-	5.3	9.6	4.3
2	226	2nd. R.F.	1.45	148	1.35	140	10	-	5.3	9.6	4.3
3	226	3rd. R.F.	1.45	148	1.35	140	10	-	5.3	9.6	4.3
4	227	DETECTOR	2.35	140	2.00	50	0	-	2.75	2.75	0.0
5	226	1st. A.F.	1.46	148	1.35	140	10	-	5.3	9.6	4.3
6	210	2nd. A.F.	7.5	480	7.3	410	33	-	21.0	24.0	3.0
7	281	RECTIFIER	-	-	7.3	-	-	-	48.0	-	-
8											
9											
10											

CHARLES FRESHMAN CO., INC.


UX-226
UX-226
UX-226
UY227
UX-226
UX-112
JACK
EQUA PHASE STAB ILIZER
EQUA PHASE STAB ILIZER
EQUA PHASE STAB ILIZER
A
G
① RED
② BLACK
③ YELLOW
④ BLUE
⑧ BROWN
⑨ BLUE-WHITE TRACER
⑦ BLACK-YELLOW TRACER
⑤ GREEN
⑥ BLACK-GREEN TRACER
110V-60~ INPUT
UX-213

Combination Model K & K-60-S
Schematic Circuit Diagram.

Freshman K (A.C.)

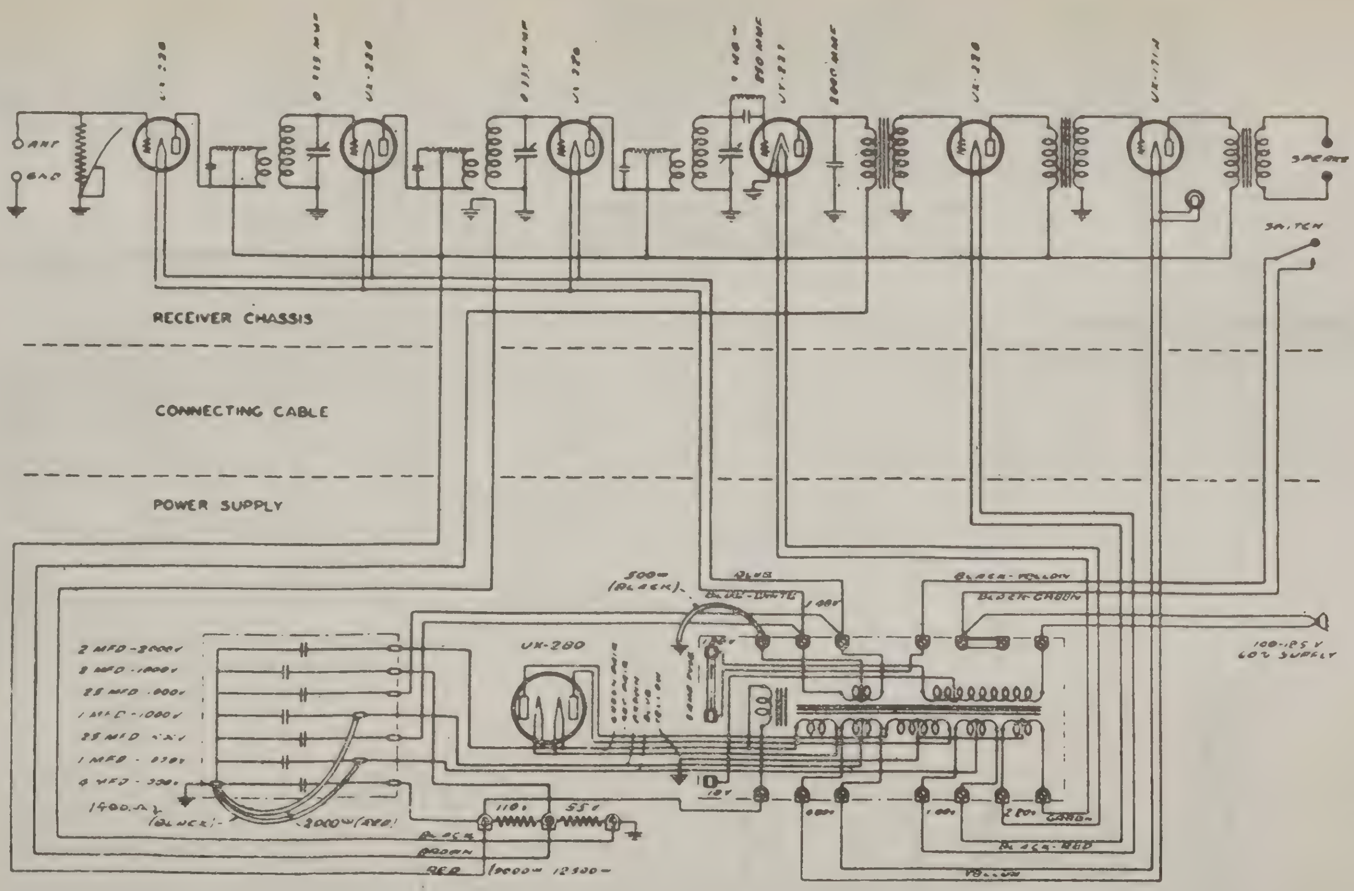

CX-112A
2nd A.F.
CX-326
1st A.F.
CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.

FRESHMAN—Model "K"
Line Voltage 120—120 Volt Tap

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET..ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE M A CHANGE
1	226	1st. R.F.	1.45	148	1.35	140	9	-	5.2	9.4	4.2
2	226	2nd. R.F.	1.45	148	1.35	140	9	-	5.2	9.4	4.2
3	226	3rd. R.F.	1.45	148	1.35	140	9	-	5.2	9.4	4.2
4	227	Detector	2.35	140	2.00	45	0	-	2.6	2.6	0.0
5	226	1st. A.F.	1.45	148	1.35	140	9	-	5.2	9.4	4.2
6	112A	2nd. A.F.	5.0	140	4.7	135	12	-	10.0	14.0	4.0
7	280	Rectifier	-	-	4.7	-	-	-	20.0	-	-

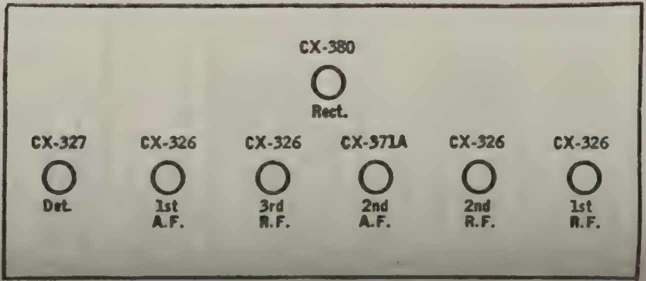
MODEL M

CHARLES FRESHMAN CO., INC.


ANT
GND
UX-226
UX-226
UX-226
UX-227
UX-226
UX-171A
SPEAKER
SWITCH
RECEIVER CHASSIS
CONNECTING CABLE
POWER SUPPLY
UX-280
500~ (BLACK)
BLUE
BLUE-WHITE
BLACK-YELLOW
BLACK-GREEN
100-125 V 60~ SUPPLY
2 MFD-2000V
2 MFD-1000V
1 MFD-1000V
1 MFD
4 MFD
1400~ (BLACK)
2000~ (RED)
110V
55V
BLACK
BROWN
RED
12500~
BLACK-RED
YELLOW

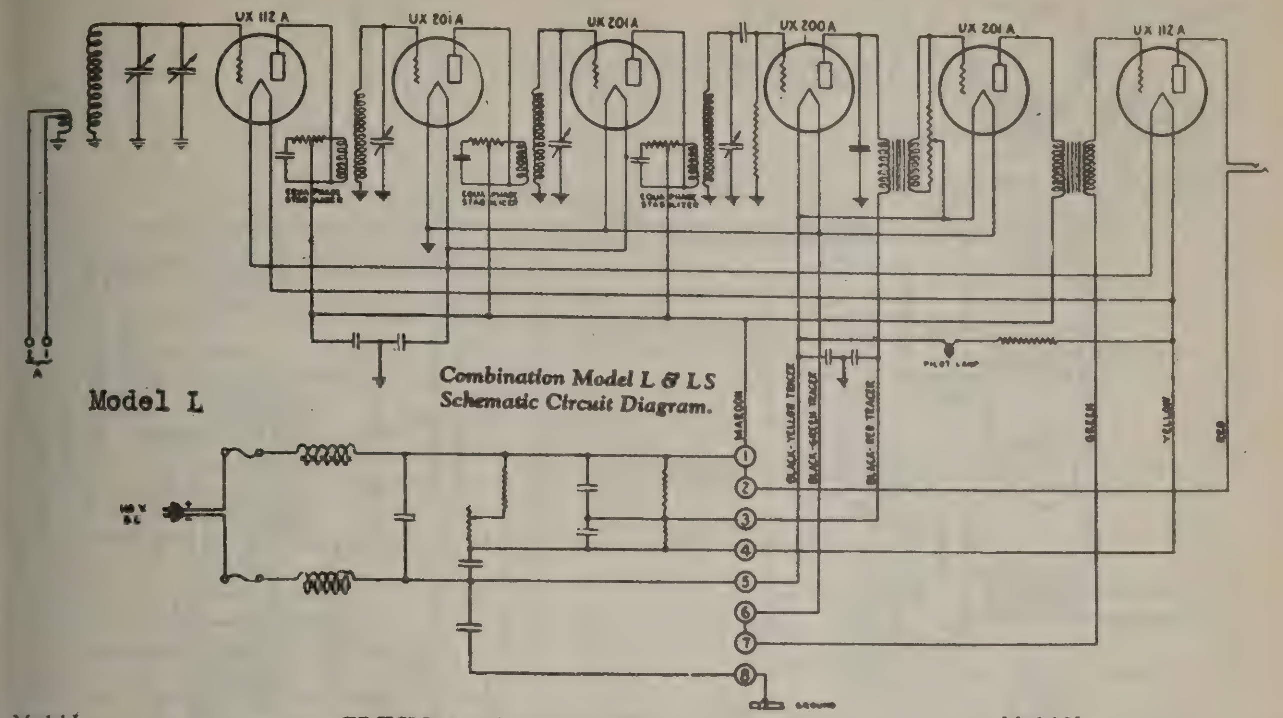
FRESHMAN—Model "M"
Line Voltage 120—120 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F., DET., ETC	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	226	1st. R.F.	1.45	158	1.35	150	12	-	5.5	9.7	4.2
2	226	2nd. R.F.	1.45	158	1.35	150	12	-	5.5	9.7	4.2
3	226	3rd. R.F.	1.45	158	1.35	150	12	-	5.5	9.7	4.2
4	227	Detector	2.35	150	2.00	50	0	-	2.75	2.75	0.0
5	226	1st. A.F.	1.45	158	1.35	150	10	-	5.5	9.7	4.2
6	171A	2nd. A.F.	4.90	150	4.80	135	25	-	17.0	19.0	2.0
7	280	Rectifier	-	-	4.80	-	-	-	22.0	-	-
8											
9											


CX-380
Rect.
CX-327
Det.
CX-326
1st A.F.
CX-326
3rd R.F.
CX-371A
2nd A.F.
CX-326
2nd R.F.
CX-326
1st R.F.

MODEL L
MODEL N

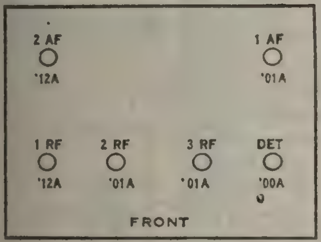
CHARLES FRESHMAN CO., INC.


UX 112 A
UX 201 A
UX 201 A
UX 200 A
UX 201 A
UX 112 A
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
EQUAPHASE STABILIZER
A
PILOT LAMP
MAROON
BLACK-YELLOW TRACER
BLACK-GREEN TRACER
BLACK-RED TRACER
GREEN
YELLOW
RED
110 V D.C.
1
2
3
4
5
6
7
8
GROUND

Model L

Combination Model L & LS Schematic Circuit Diagram.

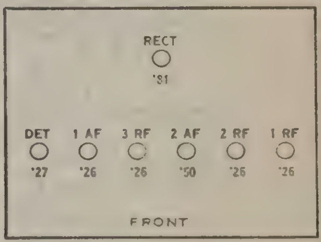
Model L

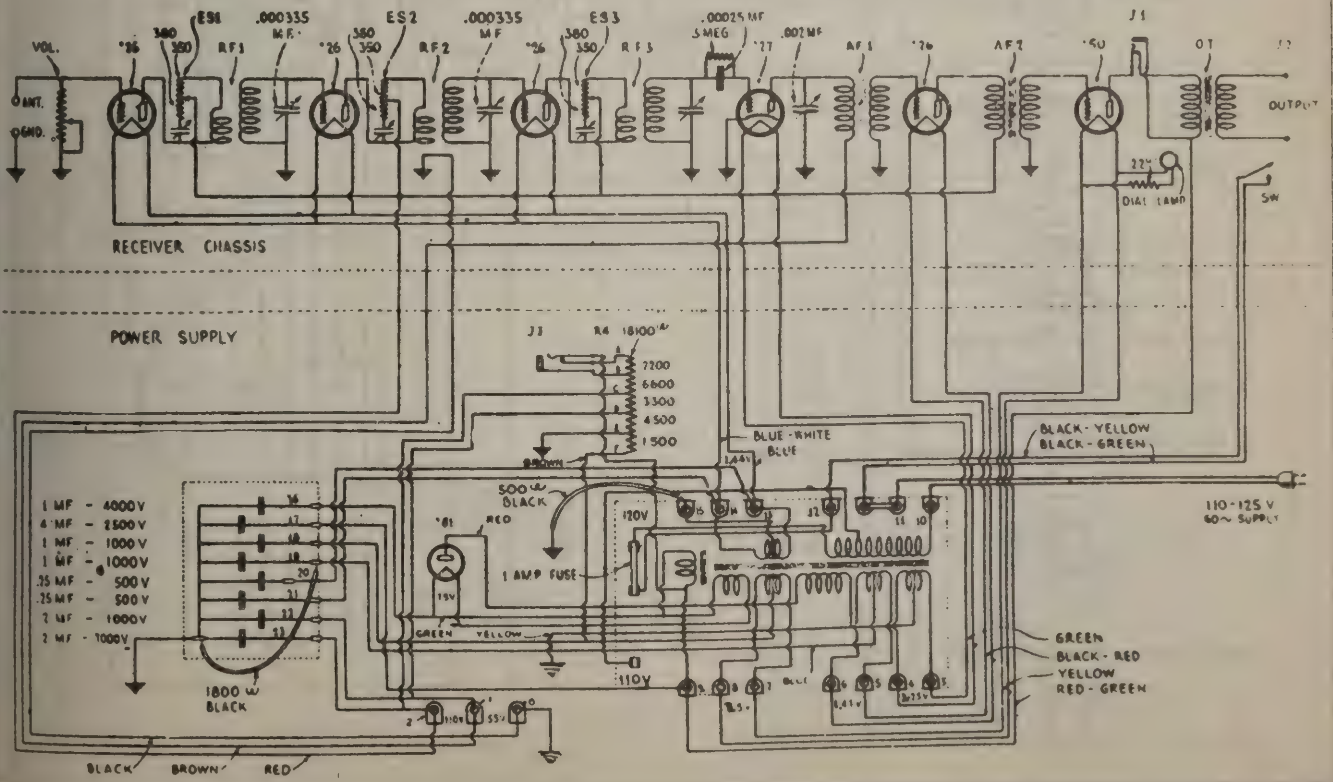

2 AF
'12A
1 AF
'01A
1 RF
'12A
2 RF
'01A
3 RF
'01A
DET
'00A
FRONT

FRESHMAN—Model "N"
Line Voltage 119—120 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.45	100	1.35	90	6	-	3.2	7.4	4.2
2	226	2nd. R.F.	1.45	100	1.35	90	6	-	3.2	7.4	4.2
3	226	3rd. R.F.	1.45	100	1.35	90	6	-	3.2	7.6	4.2
4	227	Detector	2.40	100	2.25	50	0	-	2.2	2.2	0.0
5	226	1st. A.F.	1.45	100	1.35	90	6	-	3.2	7.4	4.2
6	250	2nd. A.F.	7.4	350	7.2	300	50	-	36.0	43.5	7.5
7	281	Rectifier	-		7.2	-	-	-	46.0	-	-

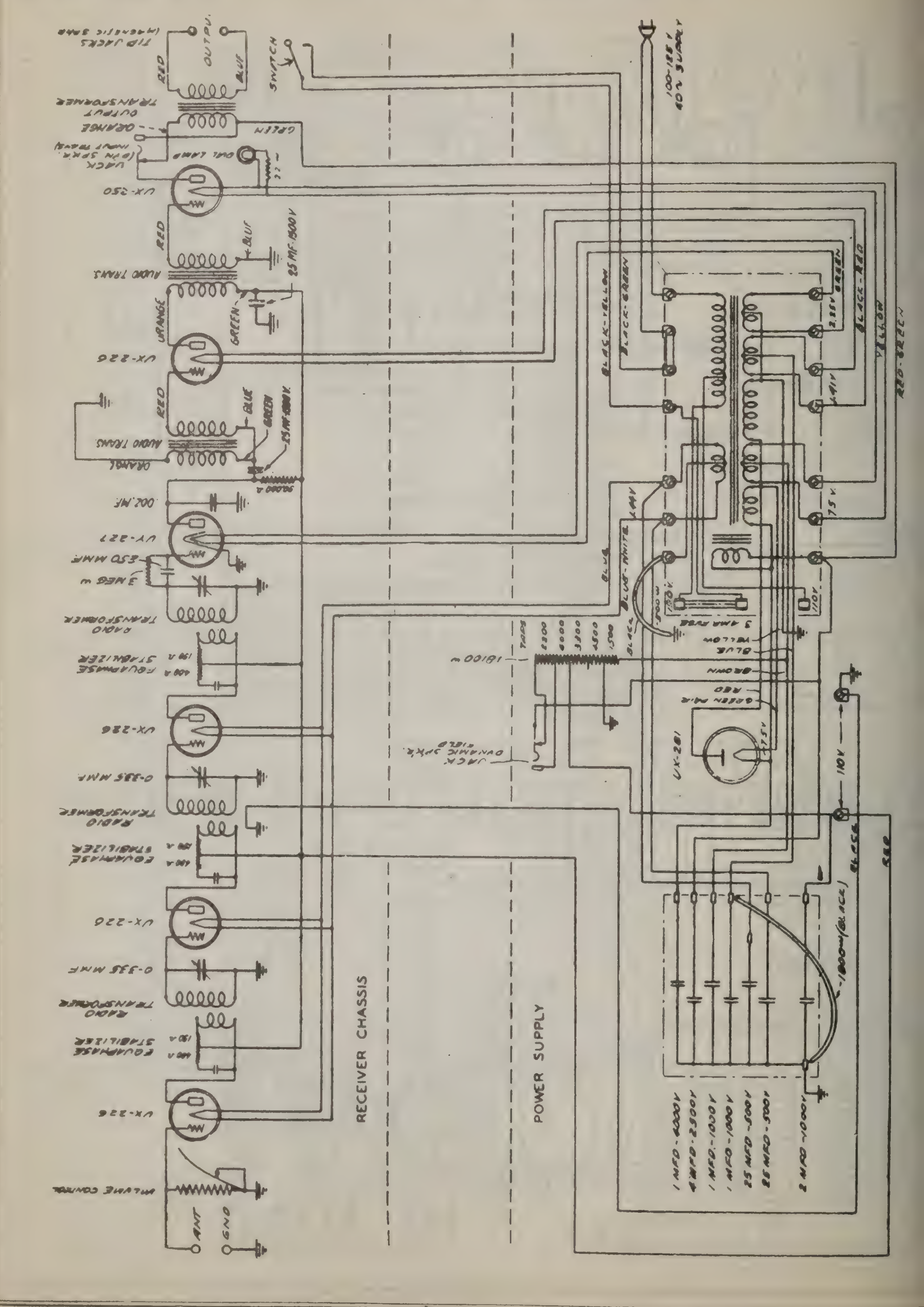
Model N


RECT
'81
DET
'27
1 AF
'26
3 RF
'26
2 AF
'50
2 RF
'26
1 RF
'26
FRONT


VOL.
ANT.
GND.
'26
380
350
ES1
RF1
.000335 MF
'26
380
350
ES2
RF2
.000335 MF
'26
380
350
ES3
RF3
.00025 MF
5 MEG
'27
.002 MF
AF1
'26
AF2
'50
J1
OT
J2
OUTPUT
22Ω
DIAL LAMP
SW
RECEIVER CHASSIS
POWER SUPPLY
J3
R4 18100Ω
7200
6600
3300
4500
1500
BROWN
BLUE-WHITE
BLUE
1.44V
500Ω BLACK
'81
RED
1 AMP FUSE
120V
110V
J2
BLACK-YELLOW
BLACK-GREEN
110-125 V 60~ SUPPLY
1 MF - 4000V
4 MF - 2500V
1 MF - 1000V
1 MF - 1000V
.25 MF - 500V
.25 MF - 500V
2 MF - 1000V
2 MF - 1000V
16
17
18
19
20
21
22
23
GREEN
YELLOW
1800Ω BLACK
110V
55V
2.5V
2.41V
1.75V
GREEN
BLACK-RED
YELLOW
RED-GREEN
BLACK
BROWN
RED

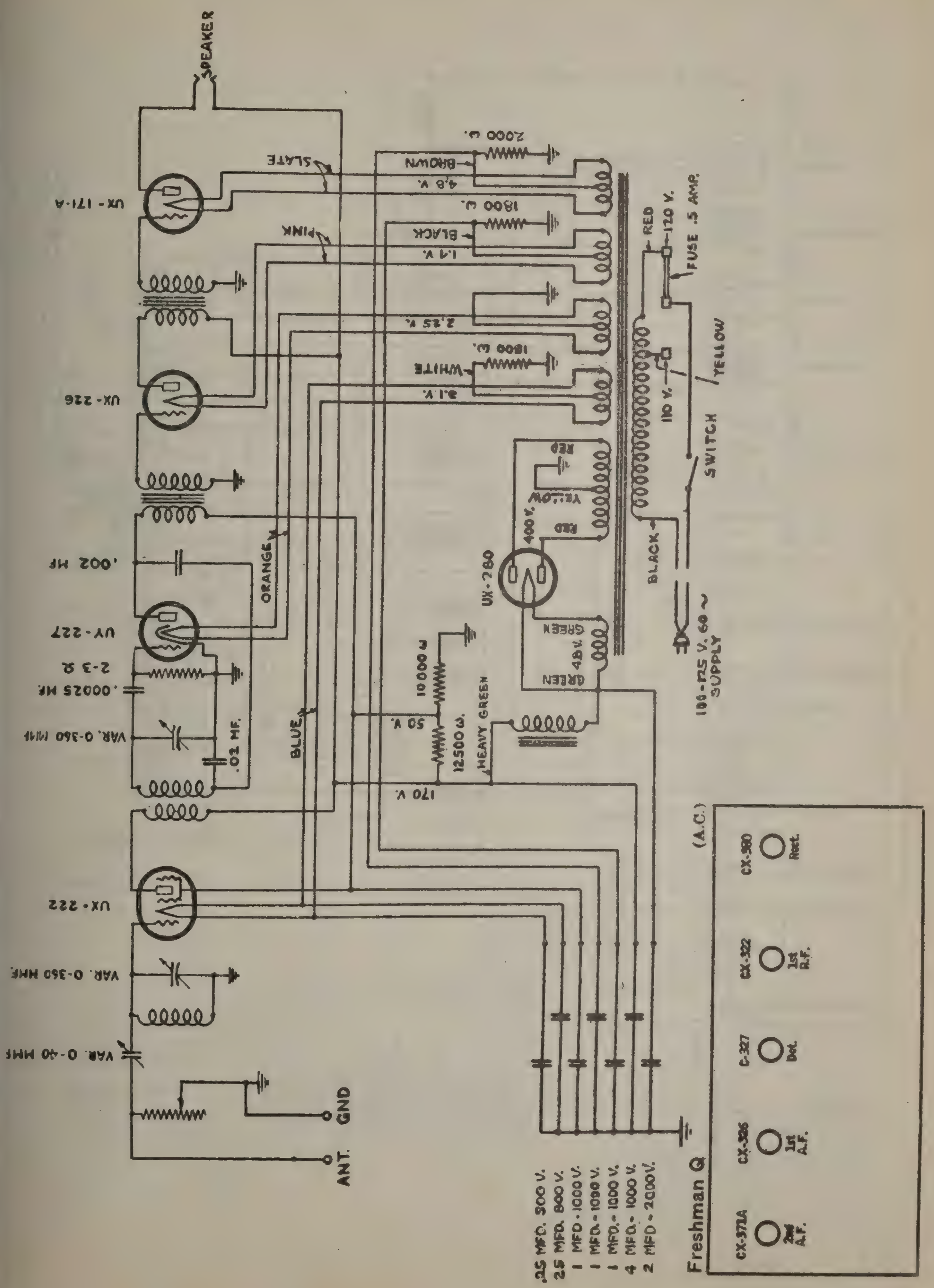
MODEL 2N with
2N-60-S Power Unit

CHARLES FRESHMAN CO., INC.


TIP JACKS (MAGNETIC SPKR)
OUTPUT
RED
BLUE
OUTPUT TRANSFORMER
ORANGE
GREEN
SWITCH
JACK (DYN SPKR. INPUT TRANS)
DIAL LAMP
UX-250
25 MF-1500 V
AUDIO TRANS
UX-226
.25 MF-600 V
50000 Ω
.002 MF
UY-227
.250 MMF
3 MEG Ω
RADIO TRANSFORMER
EQUAPHASE STABILIZER
150 Ω
400 Ω
0-.335 MMF
VOLUME CONTROL
ANT
GND
RECEIVER CHASSIS
POWER SUPPLY
100-125 V 60 ~ SUPPLY
BLACK-YELLOW
BLACK-GREEN
2.25 V
BLACK-RED
YELLOW
220-GREEN
7.5 V
110 V
BLUE-WHITE
BLACK
3 AMP FUSE
BROWN
GREEN M.R.
18100 Ω
2200
6000
3300
4500
1500
JACK DYNAMIC SPKR. FIELD
UX-281
1800 Ω (BLACK)
1 MFD-1000 V
4 MFD-2500 V
1 MFD-1000 V
1 MFD-1000 V
.25 MFD-500 V
.25 MFD-500 V
2 MFD-1000 V

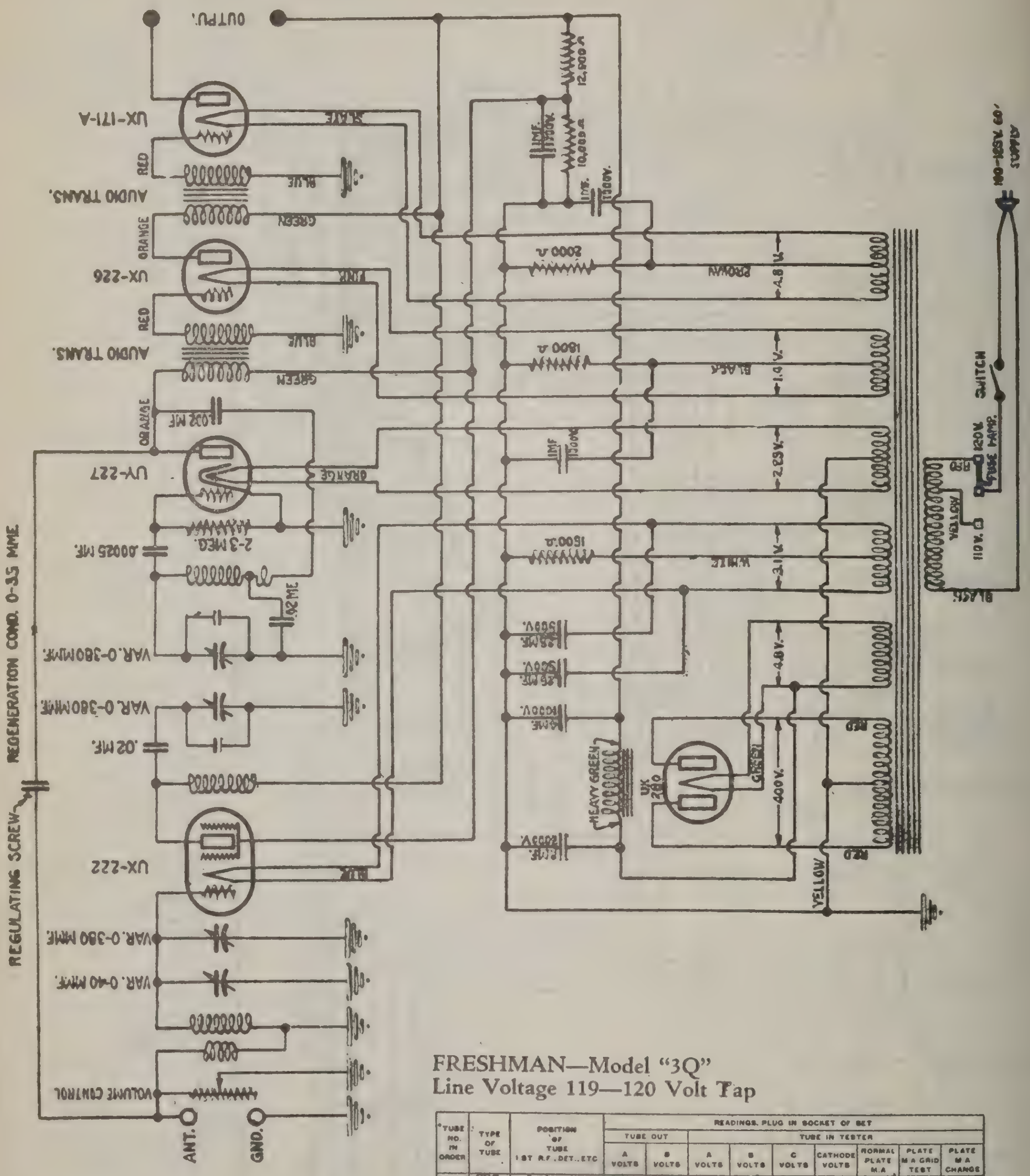
CHARLES FRESHMAN CO., INC.

MODEL Q-15, Q-16


SPEAKER
UX-171-A
SLATE
BROWN
2000 Ω.
4.8 V.
1800 Ω.
BLACK
PINK
1.4 V.
2.25 V.
1800 Ω.
WHITE
3.1 V.
UX-226
RED
120 V.
FUSE .5 AMP.
YELLOW
110 V.
SWITCH
RED
YELLOW
RED
400 V.
BLACK
UX-280
GREEN
4 V.
GREEN
100-125 V. 60 ~ SUPPLY
ORANGE
.002 MF
UY-227
2-3 R
.00025 MF.
VAR. 0-360 MMF
.02 MF.
BLUE
50 V.
10000 Ω
12500 Ω.
HEAVY GREEN
170 V.
UX-222
VAR. 0-360 MMF.
VAR. 0-40 MMF
ANT.
GND
.25 MFD. 300 V.
.25 MFD. 800 V.
1 MFD.-1000 V.
1 MFD.-1000 V.
1 MFD.-1000 V.
4 MFD.-1000 V.
2 MFD.-2000 V.
Freshman Q
(A.C.)
CX-371A
2nd A.F.
CX-326
1st A.F.
C-327
Det.
CX-322
1st R.F.
CX-380
Rect.

MODEL 3-Q-15
3-Q-16

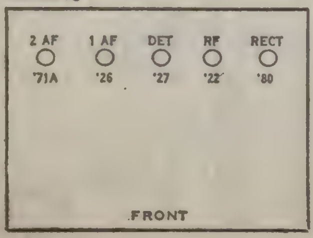
CHARLES FRESHMAN CO.. INC.


OUTPU'.
UX-171-A
RED
AUDIO TRANS.
ORANGE
BLUE
GREEN
PLATE
UX-226
RED
AUDIO TRANS.
BLUE
GREEN
ORANGE
.002 MF
UY-227
ORANGE
.00025 MF.
2-3 MEG.
.02 MF
VAR. 0-380 MMF.
VAR. 0-380 MMF.
.02 MF.
UX-222
BLUE
VAR. 0-380 MMF.
VAR. 0-40 MMF.
VOLUME CONTROL
ANT.
GND.
REGENERATION COND. 0-35 MMF
REGULATING SCREW
12,000 Ω
10,000 Ω
1 MF. 1300V.
1 MF. 1300V.
2000 Ω
1800 Ω
1 MF. 1300V.
1500 Ω
BROWN
BLACK
WHITE
4.8 V.
1.4 V.
2.25 V.
3.1 V.
4.8 V.
400 V.
2.25 MF. 550V.
2.25 MF. 550V.
1 MF. 1000V.
1 MF. 1000V.
HEAVY GREEN
UX 280
GREEN
RED
RED
YELLOW
BLACK
YELLOW
RED
110 V.
120 V.
FUSE 2 AMP.
SWITCH
100-125 V. 60~ SUPPLY

FRESHMAN—Model "3Q"
Line Voltage 119—120 Volt Tap

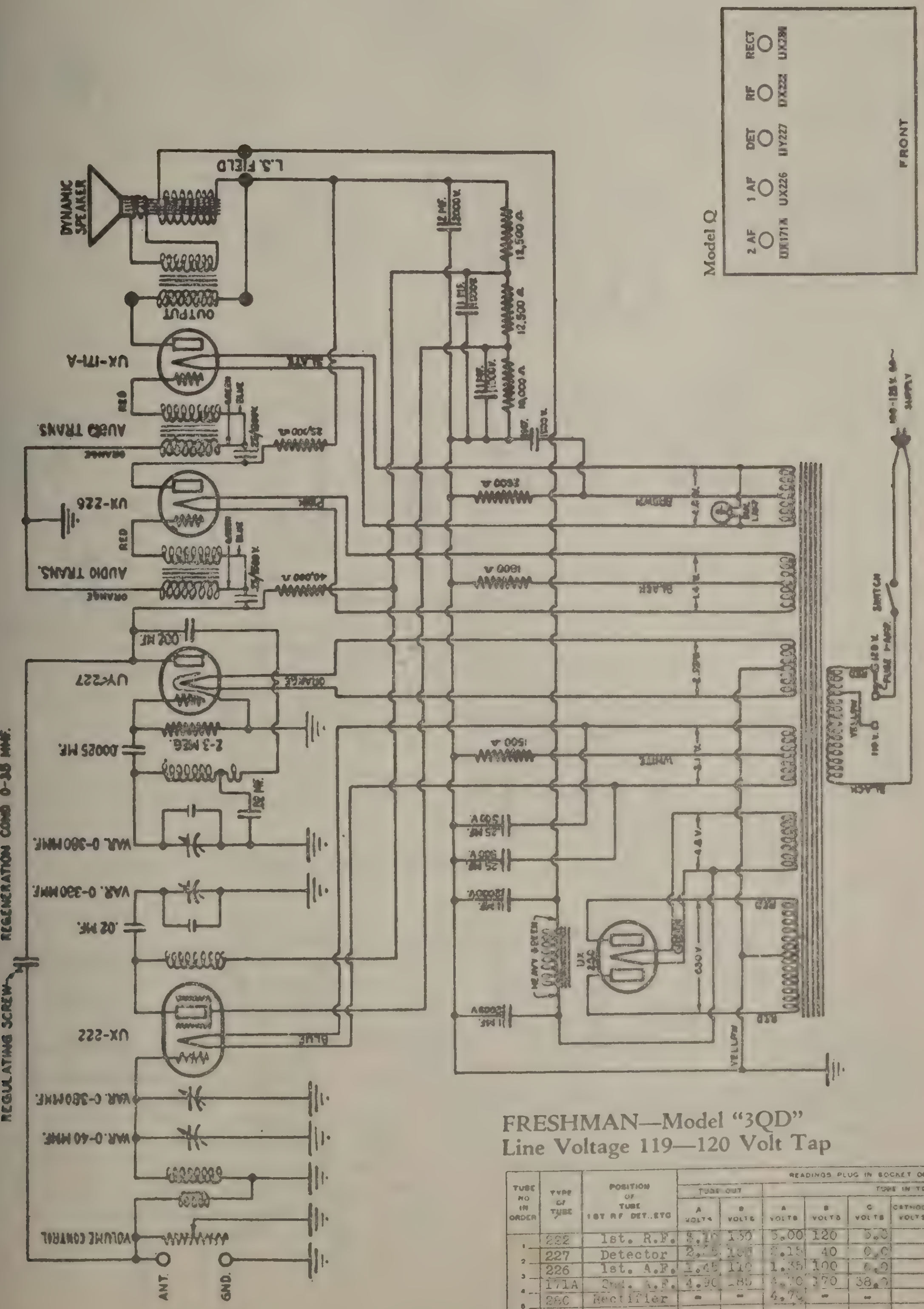
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F., DET., ETC	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	222	1st. R.F.	3.10	162	3.00	150	3.0				
2	227	Detector	2.35	150	2.10	50	0.0		2.75	2.75	0.0
3	226	1st. A.F.	1.45	150	1.35	140	10		4.2	8.6	4.4
4	171A	2nd. A.F.	4.90	140	4.60	125	25		16.5	18.0	1.5
5	280	Rectifier	-	-	4.60	-	-		22.0	-	-
6											

Model Q


2 AF
1 AF
DET
RF
RECT
'71A
'26
'27
'22
'80
FRONT

CHARLES FRESHMAN CO., INC.

MODEL QD-16-S

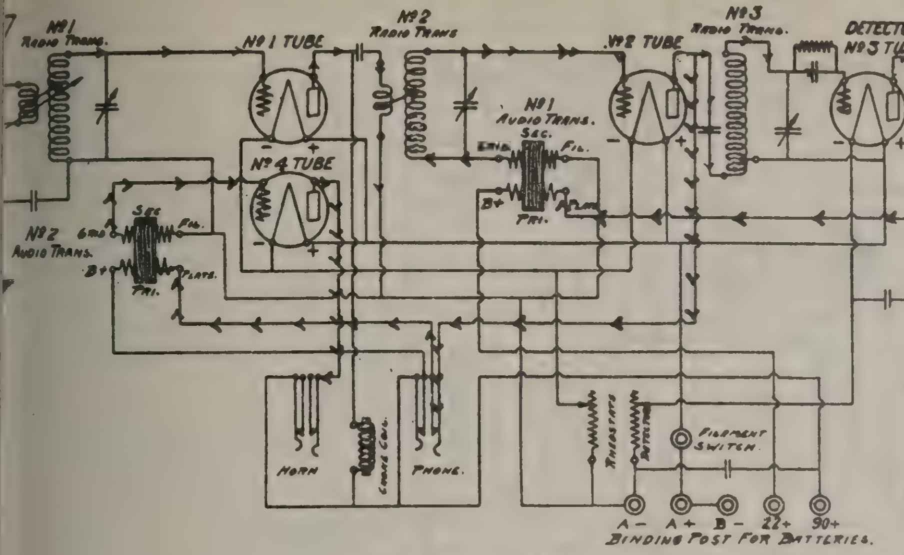

Model Q
2 AF UX171A
1 AF UX226
DET UY227
RF UX222
RECT UX280
FRONT
DYNAMIC SPEAKER
L.S. FIELD
OUTPUT
UX-171-A
AUDIO TRANS.
UX-226
AUDIO TRANS.
UY-227
.002 MF.
.00025 MF.
2-3 MEG.
VAR. 0-380 MMF.
VAR. 0-380 MMF.
.02 MF.
UX-222
VAR. 0-380 MMF.
VAR. 0-40 MMF.
VOLUME CONTROL
ANT.
GND.
REGULATING SCREW
REGENERATION COND 0-35 MMF.
12,500 Ω
14,500 Ω
10,000 Ω
2500 Ω
1800 Ω
1500 Ω
25,000 Ω
40,000 Ω
UX 280
110-125 V. 60~ SUPPLY
SWITCH

FRESHMAN—Model "3QD"
Line Voltage 119—120 Volt Tap

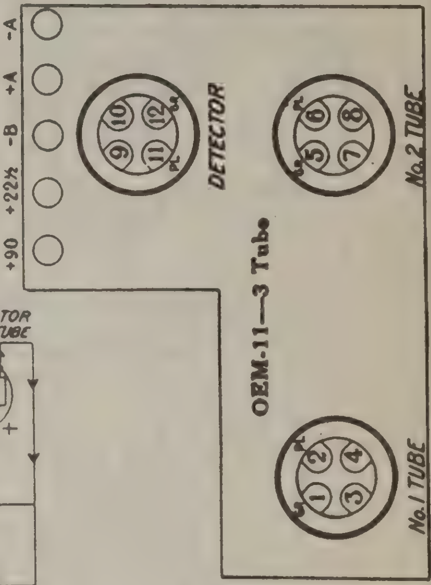
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET..ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE M A CHANGE
1	222	1st. R.F.	3.10	130	3.00	120	5.0				
2	227	Detector	2.75	100	2.15	40	0.0		[illegible]	2.73	[illegible]
3	226	1st. A.F.	1.45	110	1.35	100	6.0		4.0	[illegible]	9.0
4	171A	2nd. A.F.	4.90	185	4.70	170	38.0		[illegible]	[illegible]	[illegible]
5	280	Rectifier	-	-	4.75	-	-		22.0	-	-
6											
7											
8											
9											
10											

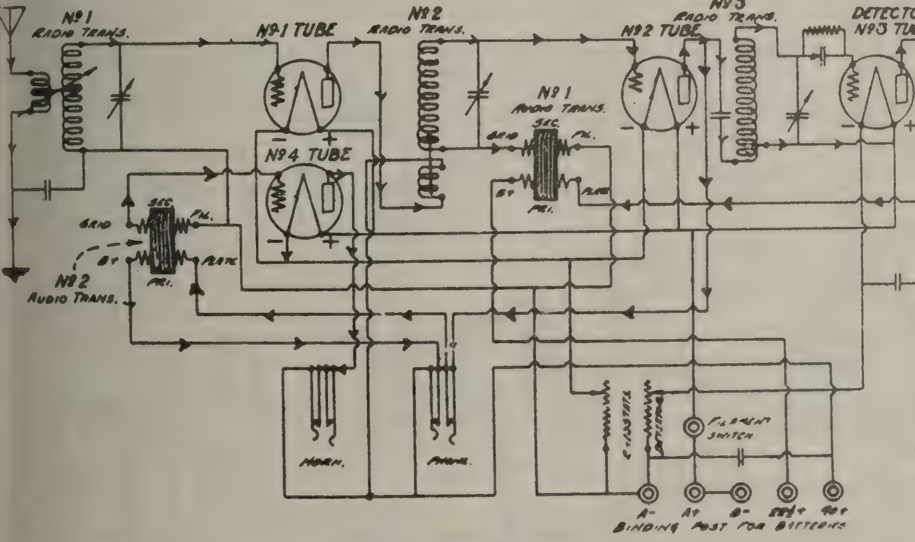
GENERAL MOTORS RADIO CORP.

MODEL OEM-7 4 Tube
MODEL OEM-7 Super-Sel.
MODEL OEM-11 3 Tube

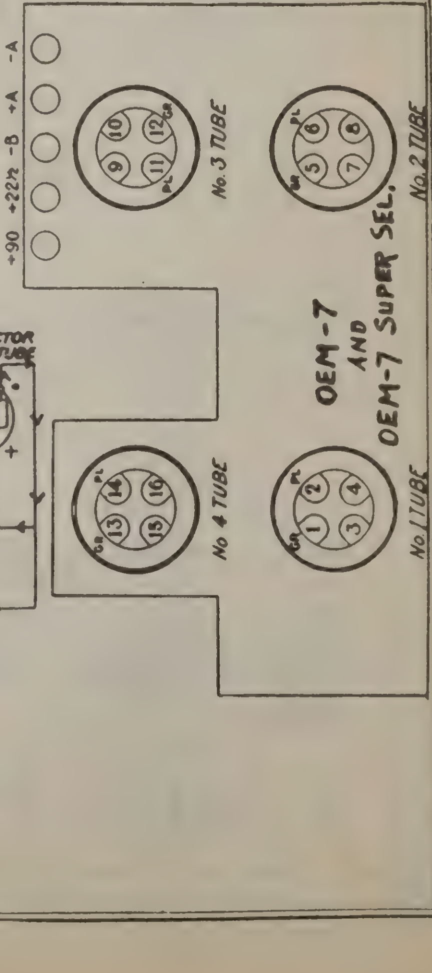

No 1 Radio Trans.
No 1 Tube
No 2 Radio Trans
No 2 Tube
No 3 Radio Trans.
Detector No 3 Tube
No 1 Audio Trans. Sec.
Grid
Fil.
B+
Pri.
Plate
No 4 Tube
No 2 Audio Trans.
Grid
Sec
Fil.
B+
Pri.
Plate
Horn
Choke Coil
Phone
Rheostats
Detector
Filament Switch
A− A+ B− 22+ 90+
Binding Post for Batteries.

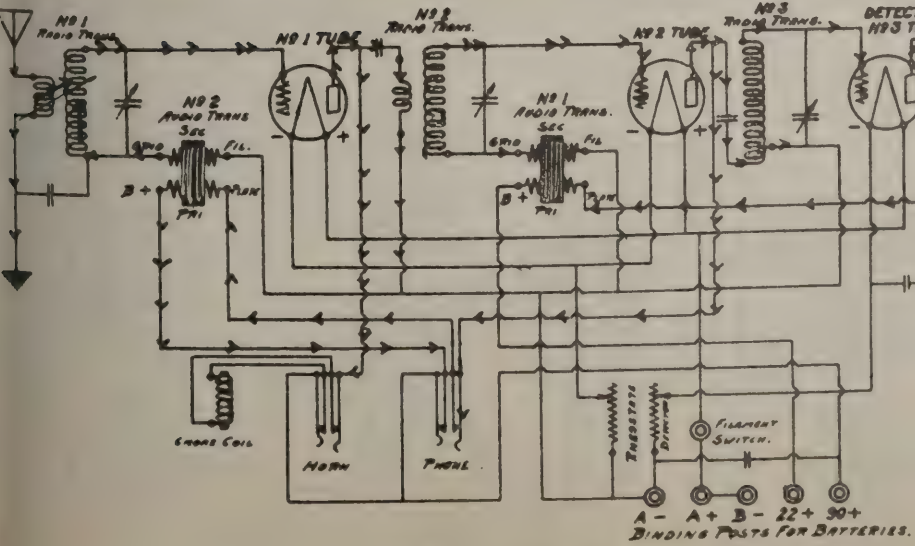
OEM-7 — 4-Tube


-A
+A
-B
+22½
+90
Detector
10
12
9
11
No.2 Tube
6
8
5
7
No.1 Tube
2
4
1
3
OEM-11—3 Tube


No 1 Radio Trans.
No 1 Tube
No 2 Radio Trans.
No 2 Tube
No 3 Radio Trans.
Detector No 3 Tube
No 1 Audio Trans.
Sec.
Grid
Fil.
B+
Pri.
Plate
No 4 Tube
Sec.
Grid
Fil.
B+
Pri.
Plate
No 2 Audio Trans.
Horn
Phone
Rheostats
Detector
Filament Switch
A− A+ B− 22½+ 90+
Binding Post for Batteries

OEM-7 — Super-Selective

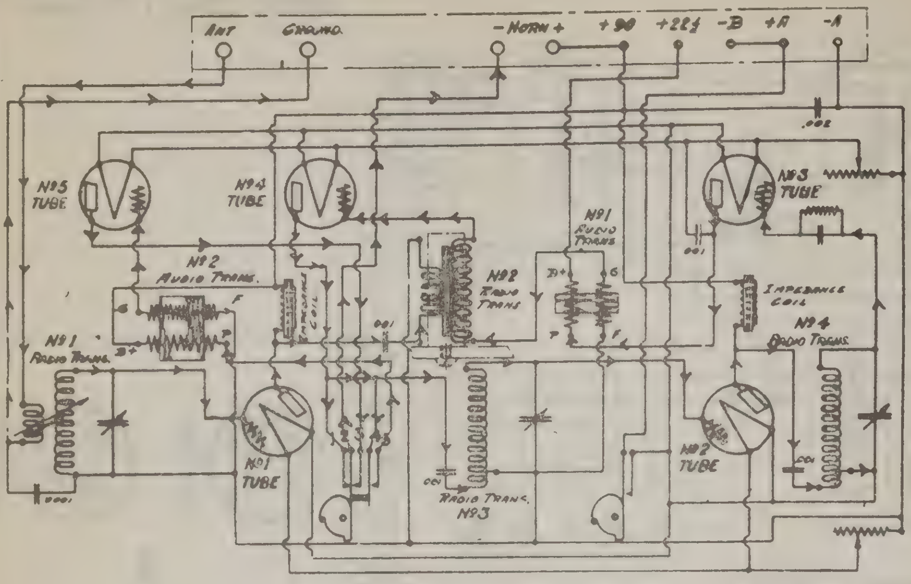

-A
+A
-B
+22½
+90
No. 3 Tube
10
12
9
11
No. 2 Tube
6
8
5
7
OEM-7 AND OEM-7 SUPER SEL.
No 4 Tube
14
16
13
15
No. 1 Tube
2
4
1
3


No 1 Radio Trans.
No 1 Tube
No 2 Radio Trans.
No 2 Audio Trans Sec
Grid
Fil.
B+
Pri
Plate
No 2 Tube
No 1 Audio Trans.
Sec
Grid
Fil
B+
Pri
Plate
No 3 Radio Trans.
Detector No 3 Tube
Choke Coil
Horn
Phone
Rheostats
Detector
Filament Switch.
A− A+ B− 22+ 90+
Binding Posts for Batteries.

OEM-11 — 3-Tube

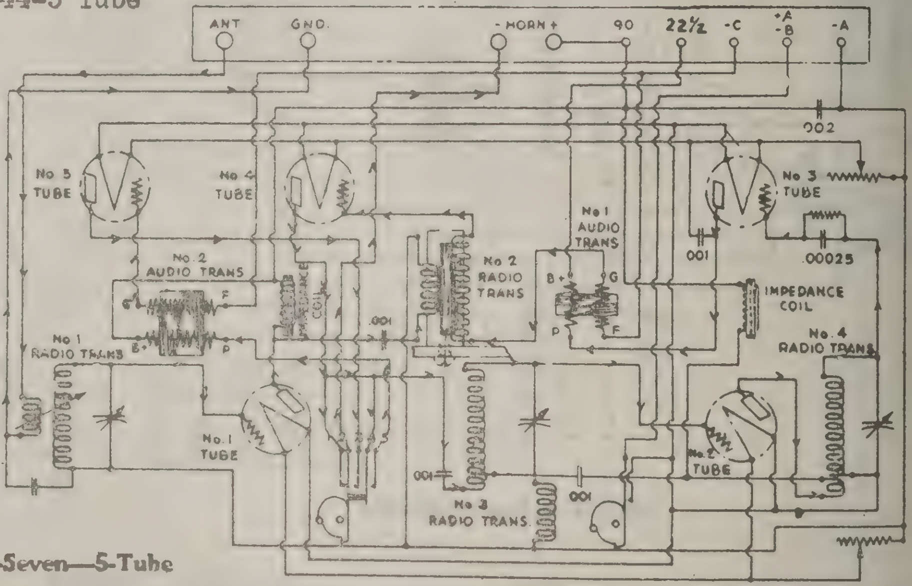
MODEL 5044-5 Tube
MODEL 527-5 Tube

GENERAL MOTORS RADIO CORP.

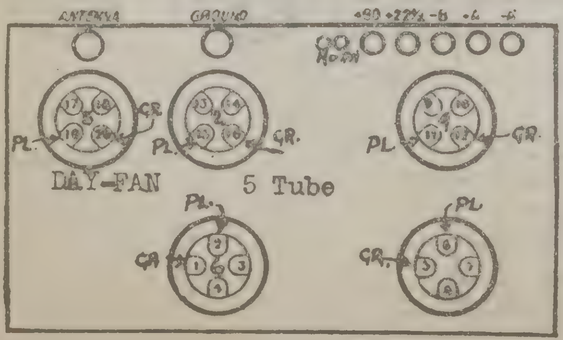

ANT
GROUND
-HORN+
+90
+22½
-B
+A
-A
.002
No5 TUBE
No4 TUBE
No3 TUBE
No1 AUDIO TRANS
No2 AUDIO TRANS
IMPEDANCE COIL
No2 RADIO TRANS
IMPEDANCE COIL
No4 RADIO TRANS
No1 RADIO TRANS
No1 TUBE
No2 TUBE
RADIO TRANS. No3
.001
B+
G
P
F

DAY-FAN FIVE

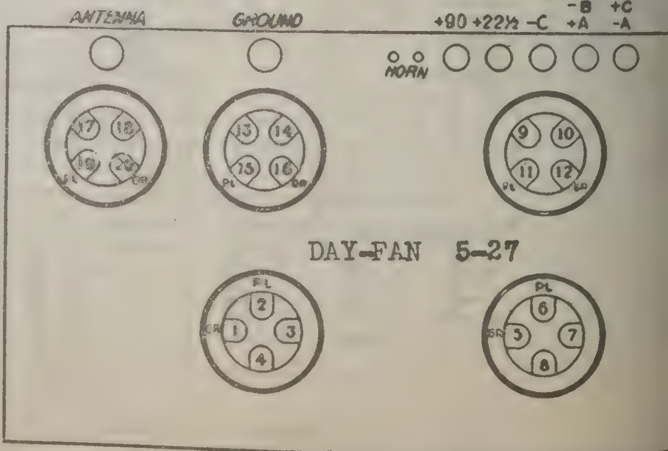
Model 5044-5 Tube


ANT
GND.
-HORN+
90
22½
-C
+A
-B
-A
.002
No 5 TUBE
No 4 TUBE
No 3 TUBE
No 1 AUDIO TRANS
No. 2 AUDIO TRANS
IMPEDANCE COIL
No 2 RADIO TRANS
001
.00025
IMPEDANCE COIL
No. 4 RADIO TRANS
No 1 RADIO TRANS
No. 1 TUBE
No 2 TUBE
.001
001
No 3 RADIO TRANS.
001
B+
G
P
F

Day-Fan Five Twenty-Seven—5-Tube


ANTENNA
GROUND
+90 +22½ -B +A -A
HORN
17 18 19 20
13 14 15 16
9 10 11 12
GR.
PL
PL.
GR
1 2 3 4
5 6 7 8

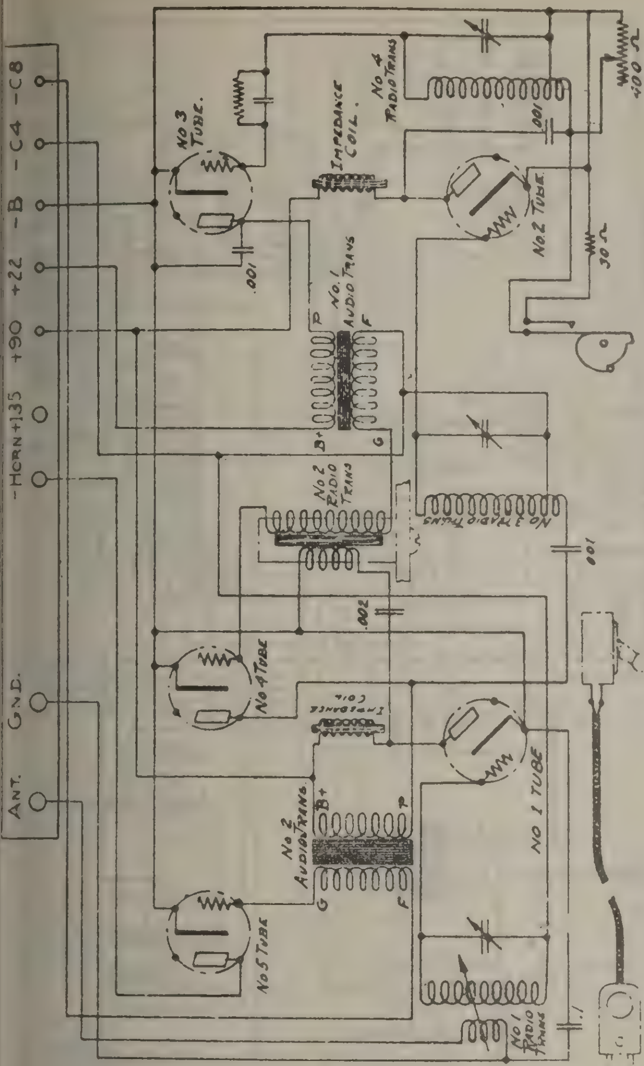
DAY-FAN 5 Tube


ANTENNA
GROUND
+90 +22½ -C -B +A +C -A
HORN
17 18 19 20
13 14 15 16
9 10 11 12
PL
GR
1 2 3 4
5 6 7 8

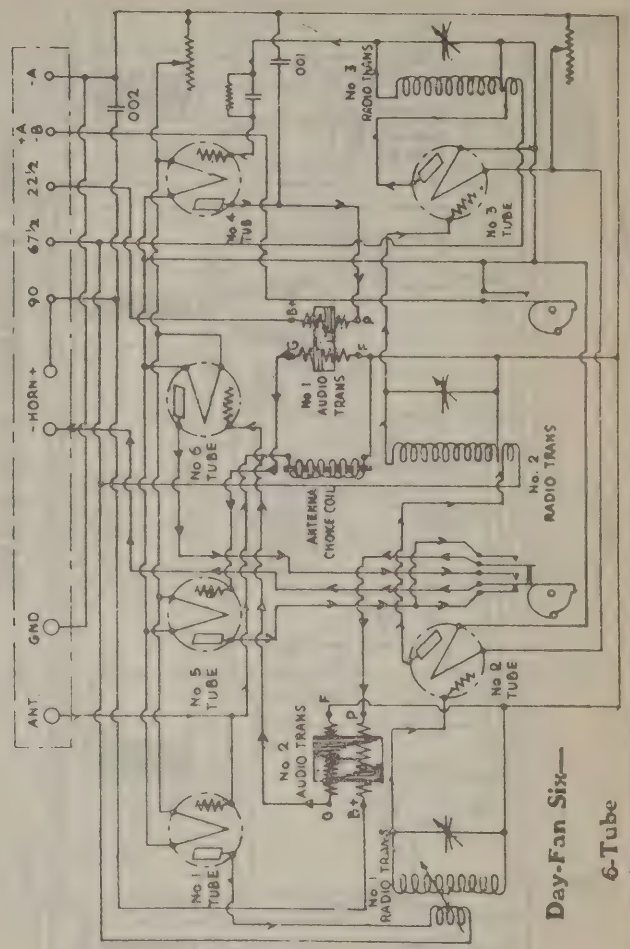
DAY-FAN 5-27

GENERAL MOTORS RADIO CORP.

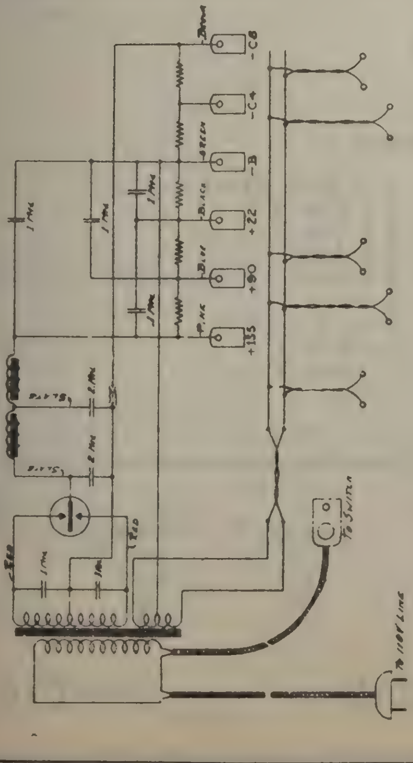
MODEL Day-Fan 5-AC
MODEL Day-Fan 5
MODEL Day-Fan 5-AC SPU


-C8
-C4
-B
+22
+90
+135
-HORN
+HORN
GND.
ANT.
NO 3 TUBE
IMPEDANCE COIL
NO 4 RADIO TRANS
400 Ω
.001
NO 2 TUBE
30 Ω
NO 1 AUDIO TRANS
NO 2 RADIO TRANS
NO 3 RADIO TRANS
.002
NO 4 TUBE
IMPEDANCE COIL
NO 1 TUBE
NO 2 AUDIO TRANS
NO 5 TUBE
NO 1 RADIO TRANS

DAY-FAN 5 A. C.—5 TUBE


-A
+A
-B
22½
67½
90
-HORN+
GND
ANT.
.002
.001
No 3 RADIO TRANS
No 4 TUBE
No 3 TUBE
No 1 AUDIO TRANS
No 6 TUBE
ANTENNA CHOKE COIL
No 2 RADIO TRANS
No 5 TUBE
No 2 TUBE
No 2 AUDIO TRANS
No 1 TUBE
No 1 RADIO TRANS

Day-Fan Six—6-Tube

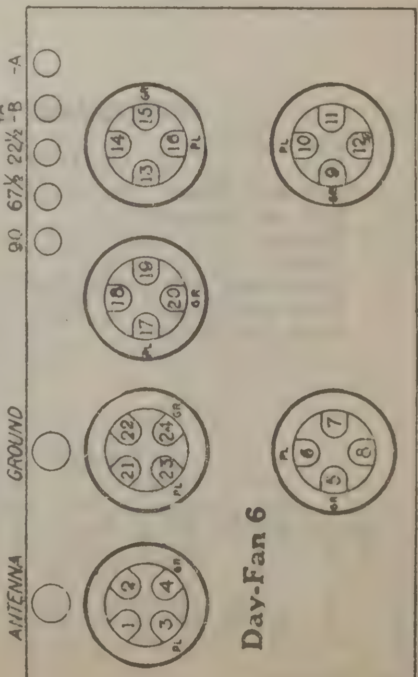

-C8
-C4
-B
+22
+90
+135
To Switch
To 110 V Line

POWER SUPPLY FOR 5 TUBE A. C. SET

SUB-PANEL OF DAY-FAN 5 TUBE A. C.

CABLE COLOR CODE

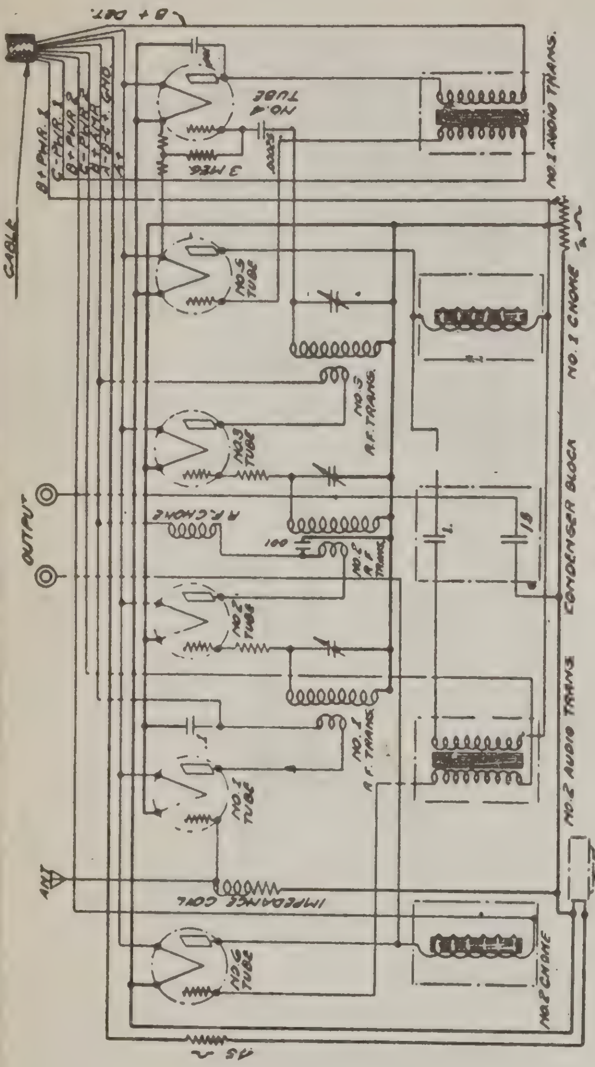
Terminal	Wire Color	Power
Horn +	Red	135
No. 1	Maroon	90
No. 2	Red and Black	22
No. 3	Black	B + C
No. 4	Yellow and Black	C4
No. 5	Yellow Solid	C8


ANTENNA
GROUND
90
67½
22½
+A -B
-A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
PL
GR

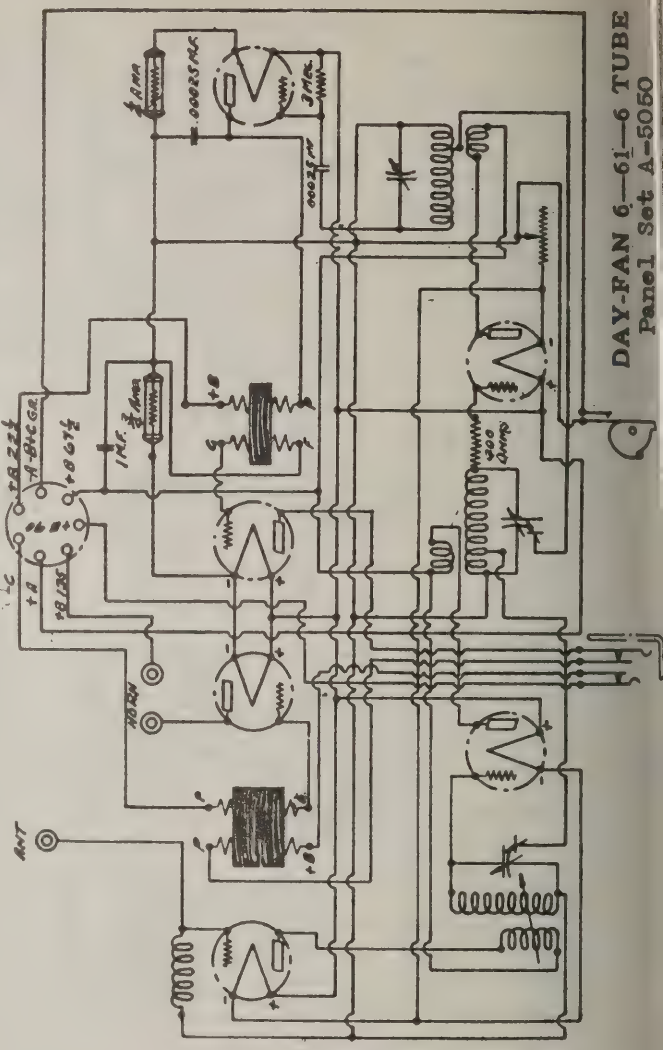
Day-Fan 6

MODEL Day-Fan 6 Jr.
MODEL Day-Fan 6-61
(5050)

GENERAL MOTORS RADIO CORP.


B + DET.
CABLE
B+PWR.1
C-PWR.1
B+PWR.2
C-PWR.2
B+AMP
B+DET
A+
A- B- C+ GND
NO.4 TUBE
3 MEG
.00025
NO.2 AUDIO TRANS.
NO.5 TUBE
NO.1 CHOKE
NO.3 R.F. TRANS.
NO.3 TUBE
R.F. CHOKE
100
NO.2 R.F. TRANS
NO.2 TUBE
CONDENSER BLOCK
1
1/2
OUTPUT
NO.1 R.F. TRANS
NO.1 TUBE
NO.2 AUDIO TRANS
ANT
IMPEDANCE COIL
NO.6 TUBE
NO.2 CHOKE
15 ~

DAY-FAN 6 JUNIOR—6 TUBE


1/4 AMP
.00025 MF
3 MEG
.00025 MF
+B
1/2 AMP
1 MF
+B 22 1/2
A-B-C GR.
+B 67 1/2
-C
+A
+B 135
HORN
ANT
400 OHMS

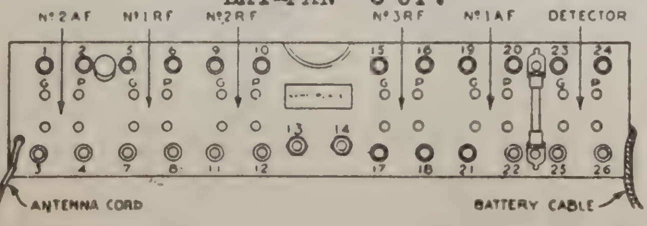
DAY-FAN 6—61—6 TUBE
Panel Set A-5050

STANDARD, BATTERY CABLE CONNECTIONS

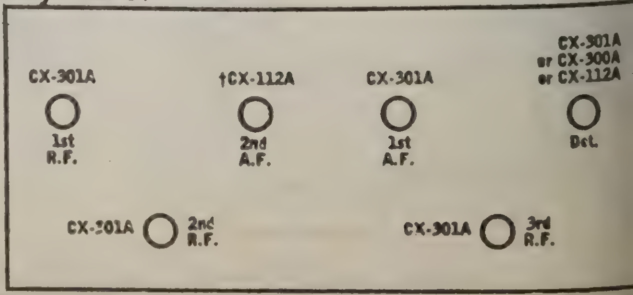
(DAY-FAN 6 Jr.)

Color of Wire	N. E. M. A. Rating
Red	B + Pwr. 2.
Red and White	B + Pwr. 1.
Red and Maroon	B + Amp.
Maroon	B + Det.
Yellow	A +
Green with Red and Yellow tracers	B —, A —, C +.
Black and Green	C — Pwr. 1.
Black and White	C — Pwr. 2.

DAY-FAN 6 Jr.

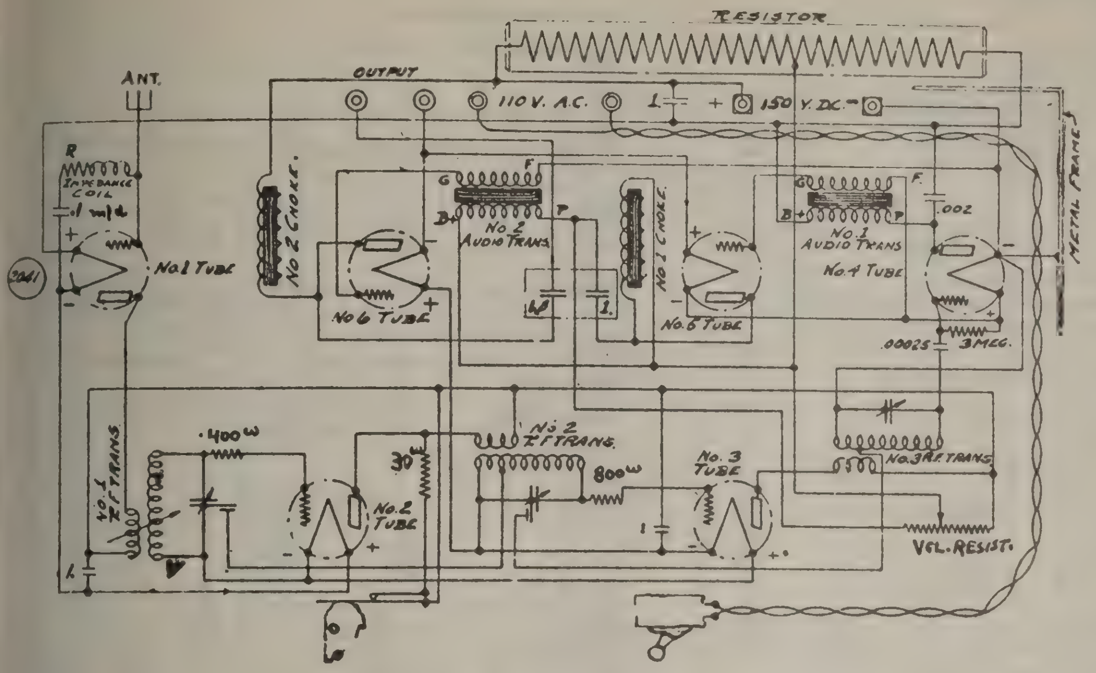

NO.2 AF
NO.1 RF
NO.2 RF
NO.3 RF
NO.1 AF
DETECTOR
1
2
5
6
9
10
15
16
19
20
23
24
3
4
7
8
11
12
13
14
17
18
21
22
25
26
ANTENNA CORD
BATTERY CABLE

Day-Fan 61 (Batt.

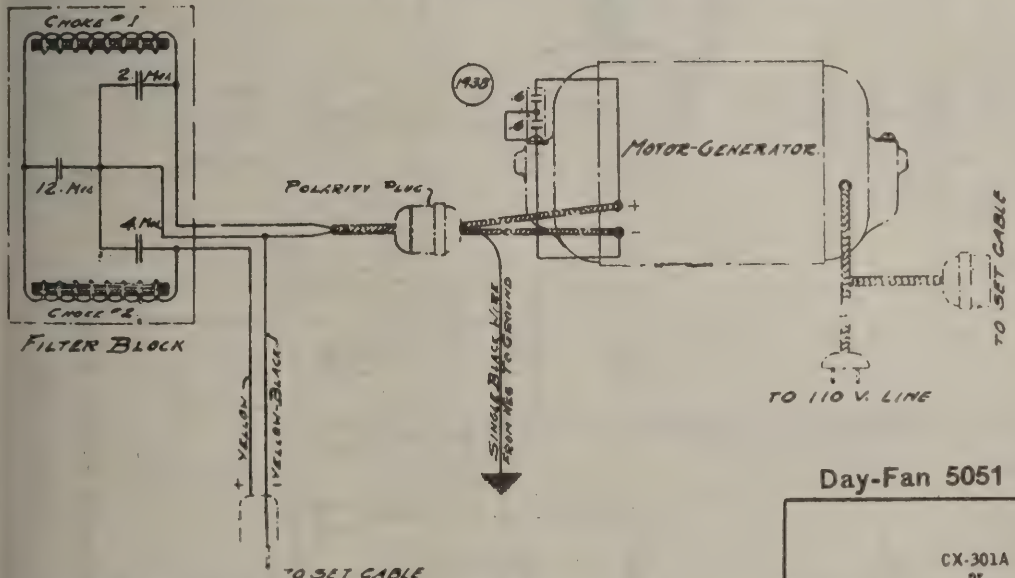

CX-301A
1st R.F.
†CX-112A
2nd A.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
2nd R.F.
CX-301A
3rd R.F.

GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5051
(MG Set)
Motor-Generator

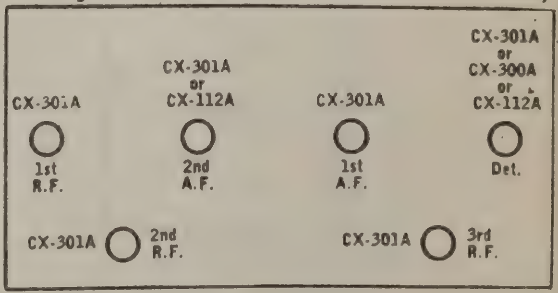

RESISTOR
ANT.
OUTPUT
110 V. A.C.
150 V. DC.
METAL FRAME
R
IMPEDANCE COIL
.1 mfd
2041
No.1 Tube
No.2 Choke
G
F
B
P
No.2 Audio Trans
No.6 Tube
.5
1.
No.1 Choke
No.5 Tube
.002
No.1 Audio Trans
No.4 Tube
.00025
3 MEG.
No.1 RF Trans
.400ω
30ω
No.2 RF Trans
800ω
No.2 Tube
No.3 Tube
No.3 RF Trans
Vol. Resist.

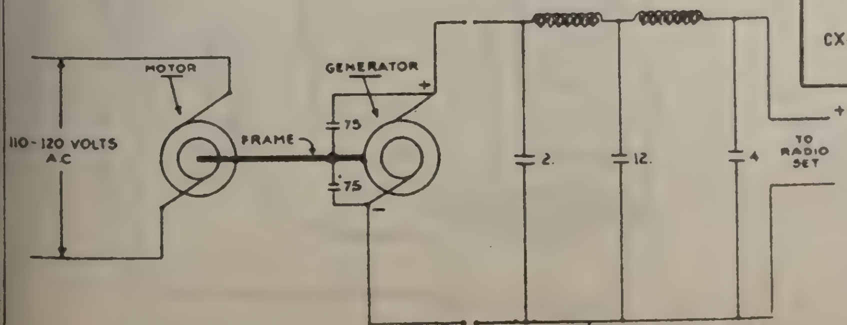
MOTOR GENERATOR SET—6 TUBE


Choke #1
2 Mfd
12 Mfd
4 Mfd
Choke #2
Filter Block
1938
Motor-Generator
Polarity Plug
+
-
Single Black Wire from Neg to Ground
To Set Cable
To 110 V. Line
+ Yellow
- Yellow-Black
To Set Cable

MOTOR GENERATOR AND FILTER

Day-Fan 5051 (Motor Generator Set)

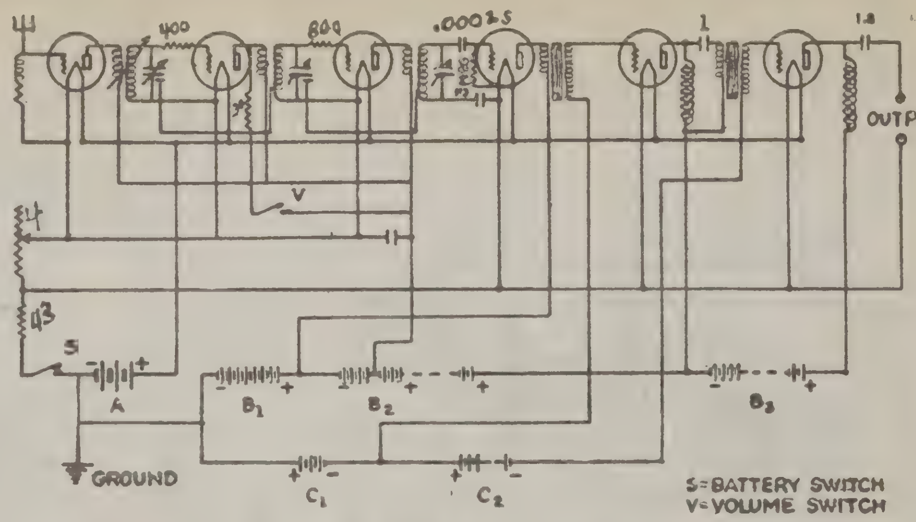

CX-301A
1st R.F.
CX-301A or CX-112A
2nd A.F.
CX-301A
1st A.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
2nd R.F.
CX-301A
3rd R.F.


MOTOR
GENERATOR
110-120 VOLTS A.C
FRAME
+
.75
.75
-
2.
12.
4
+
TO RADIO SET
GROUND

MOTOR GENERATOR AND FILTER

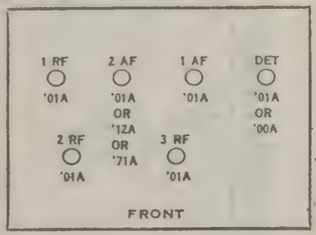
MODEL Day-Fan 5053.
MODEL Day-Fan 5057
MODEL Day-Fan 5057SPU

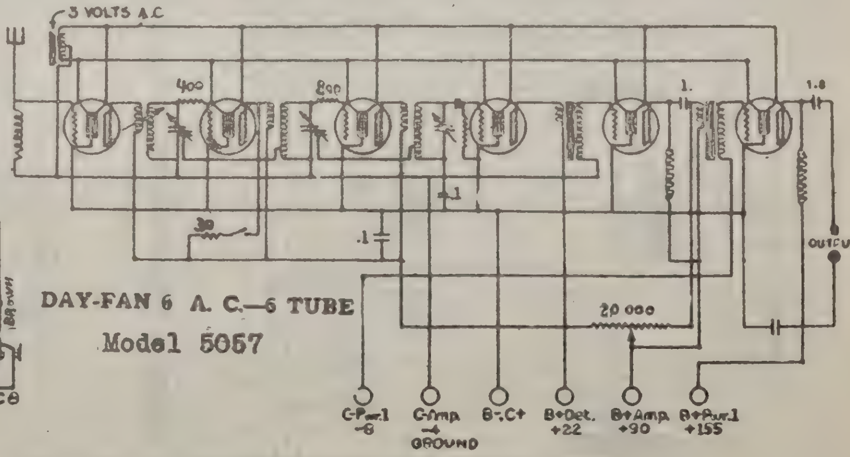
GENERAL MOTORS RADIO CORP.


400
800
.00025
1
1.8
OUTPUT
V
4
43
S
A
B1
B2
B3
GROUND
C1
C2
S=BATTERY SWITCH
V=VOLUME SWITCH

DAY-FAN 6 B—6 TUBE Model 5053

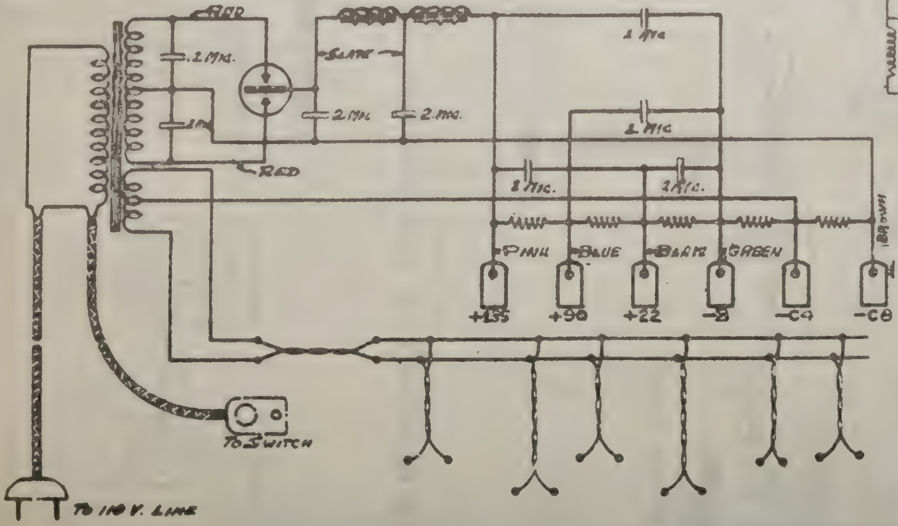
Model Battery 5053


1 RF
'01A
2 AF
'01A
OR
'12A
OR
'71A
1 AF
'01A
DET
'01A
OR
'00A
2 RF
'01A
3 RF
'01A
FRONT


3 VOLTS A.C.
400
800
1.
1.8
.1
.1
30
20 000
OUTPUT
C-Pwr.1
-6
C-Amp
-4
GROUND
B-C+
B+Det.
+22
B+Amp
+90
B+Pwr.1
+155

DAY-FAN 6 A. C.—6 TUBE

Model 5057


RED
.2 MF.
1 MF
RED
SLATE
.2 MF.
.2 MF.
1 MF
1 MF
2 MF.
2 MF.
PINK
BLUE
BLACK
GREEN
BROWN
+135
+90
+22
-B
-C4
-C8
TO SWITCH
TO 110 V. LINE

POWER SUPPLY FOR 6 TUBE A. C. SET

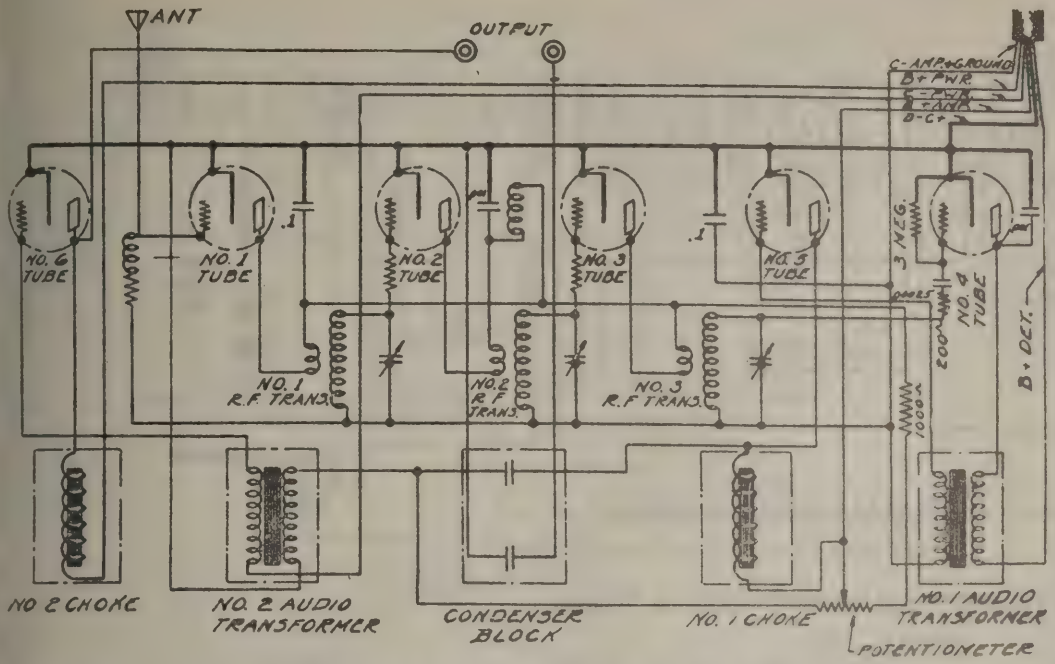
Model 5057

POWER CABLE COLOR CODE

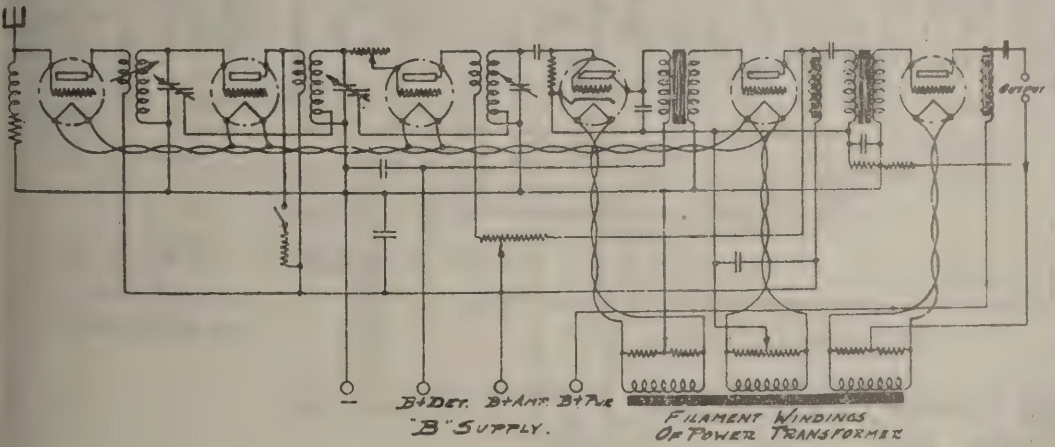
Color of Wire	N. E. M. A. Rating
Red and White	B + Pwr. 1.
Red and Maroon	B + Amp.
Maroon	B + Det.
Green with Red and Yellow	B —, C +.
Black and Green	C — Amp. and Ground
Black and White	C — Pwr. 1

GENERAL MOTORS RADIO CORP.

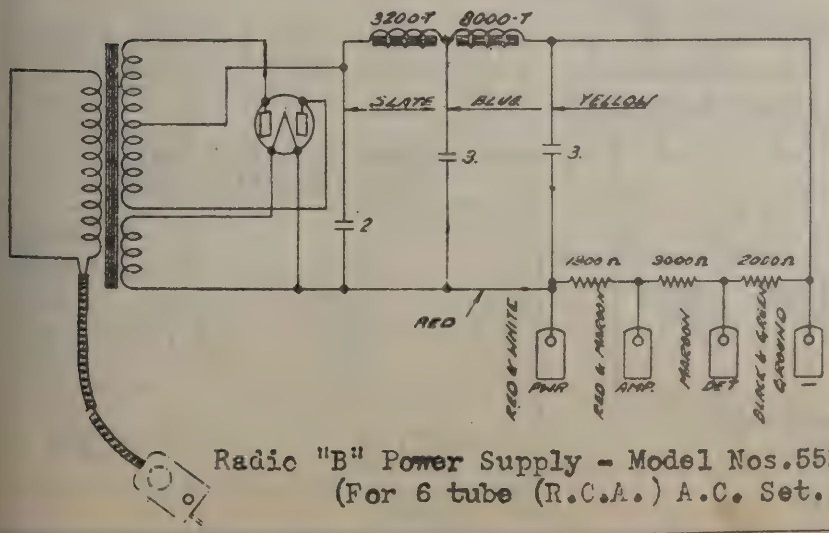
MODEL Day-Fan 5066
MODEL Day-Fan 5065
MODEL 5524, 5525,
SPU For 5065

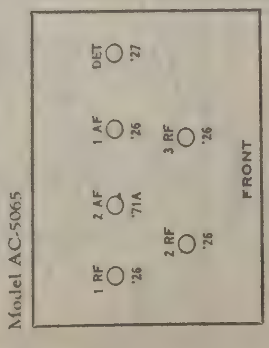

ANT
OUTPUT
C-AMP.+GROUND
B+PWR.
C-PWR.
B+AMP.
B-C+
NO. 6 TUBE
NO. 1 TUBE
NO. 2 TUBE
NO. 3 TUBE
NO. 5 TUBE
NO. 4 TUBE
.1
.1
3 NEG.
.00025
200
1000Ω
B+DET.
NO. 1 R.F. TRANS.
NO. 2 R.F. TRANS.
NO. 3 R.F. TRANS.
NO 2 CHOKE
NO. 2 AUDIO TRANSFORMER
CONDENSER BLOCK
NO. 1 CHOKE
NO. 1 AUDIO TRANSFORMER
POTENTIOMETER

DAY-FAN 6 JUNIOR A C POWER SET
Model 5066


OUTPUT
-
B+DET.
B+AMP.
B+PWR.
"B" SUPPLY.
FILAMENT WINDINGS OF POWER TRANSFORMER

DAY-FAN 6 A. C. (R. C. A. TUBE) POWER SET - Model 5065


3200-T
8000-T
SLATE
BLUE
YELLOW
3.
3.
2
1900 Ω
3000 Ω
2000 Ω
RED
RED & WHITE
PWR.
RED & MAROON
AMP.
MAROON
DET
BLACK & GREEN GROUND


Model AC-5065
DET '27
1 AF '26
3 RF '26
2 AF '71A
2 RF '26
1 RF '26
FRONT

Radio "B" Power Supply - Model Nos.5524 and 5525.
(For 6 tube (R.C.A.) A.C. Set.)

POWER CABLE COLOR CODE:
Model 5066

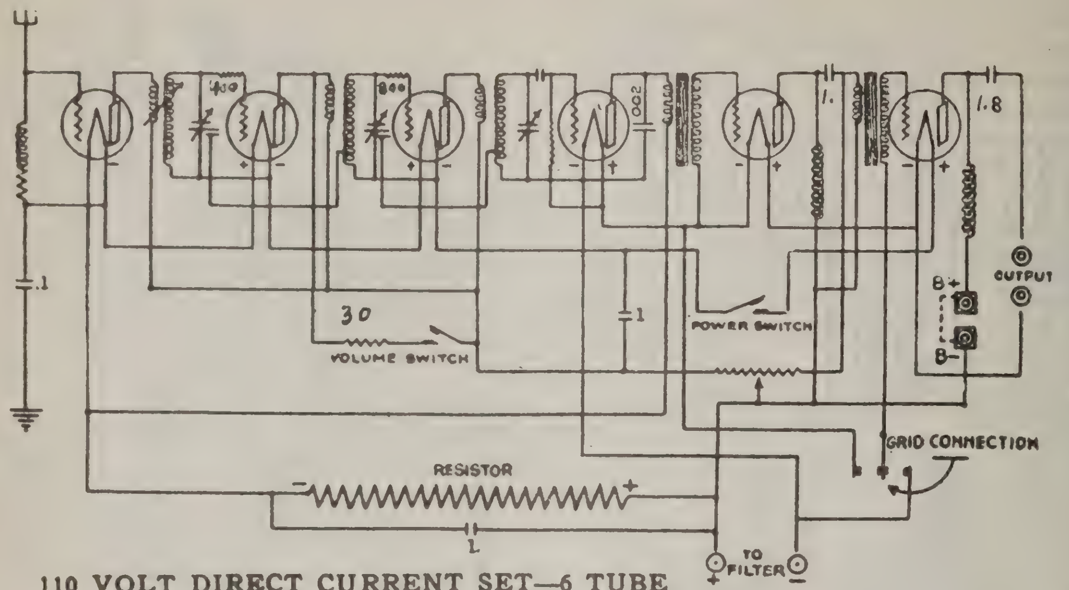
Color of Wire	N. E. M. A. Rating
Red and White	B + Power
Red and Maroon	B ++ Amp.
Maroon	B ++ Det.
Green with Red and Yellow Tracers	B —, C +
Black and Green	C — Amp., and Gr.
Black and White	C — Power

POWER CABLE COLOR CODE:
Model 5065

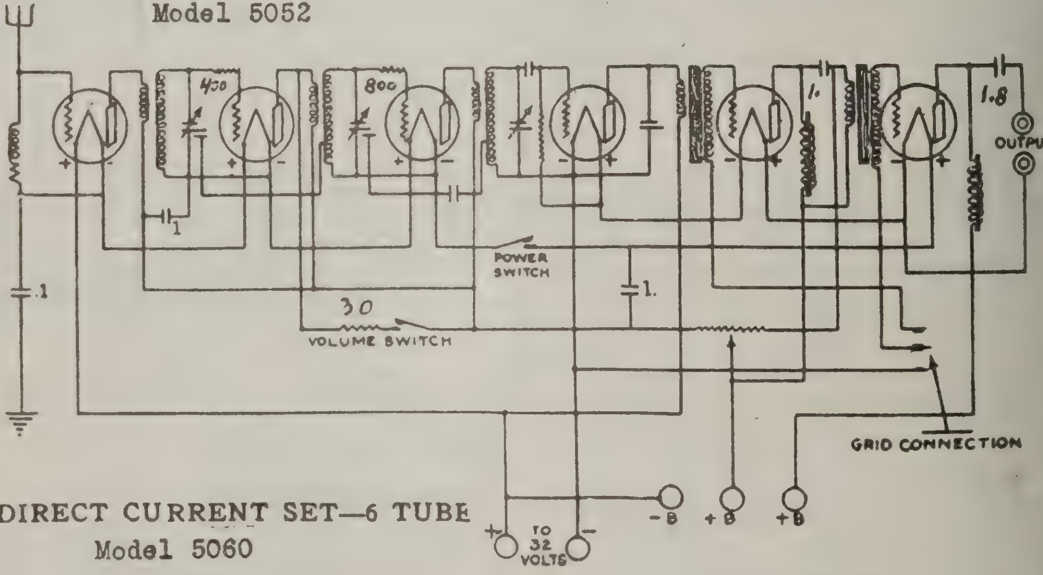
Color of Wire	N. E. M. A. Rating
Red and White	B + Power
Red and Maroon	B + Amp.
Maroon	B + Det.
Black with Green tracer	B — and Ground

MODEL Day-Fan 5052
MODEL Day-Fan 5060

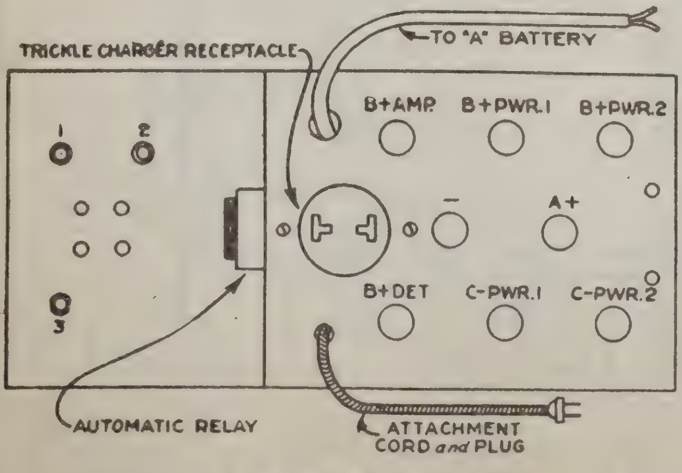
GENERAL MOTORS RADIO CORP.


400
800
.002
1.
1.8
OUTPUT
B+
B-
.1
30
VOLUME SWITCH
1
POWER SWITCH
GRID CONNECTION
RESISTOR
1
TO FILTER

110 VOLT DIRECT CURRENT SET—6 TUBE
Model 5052

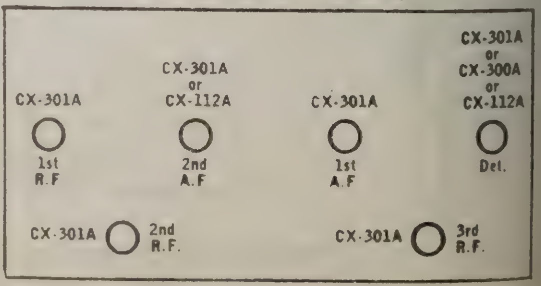

400
800
1.
1.8
OUTPUT
1
.1
POWER SWITCH
1.
30
VOLUME SWITCH
GRID CONNECTION
-B
+B
+B
TO 32 VOLTS

32 VOLT DIRECT CURRENT SET—6 TUBE
Model 5060


TRICKLE CHARGER RECEPTACLE
TO "A" BATTERY
B+AMP.
B+PWR.1
B+PWR.2
1
2
3
−
A+
B+DET
C-PWR.1
C-PWR.2
AUTOMATIC RELAY
ATTACHMENT CORD and PLUG

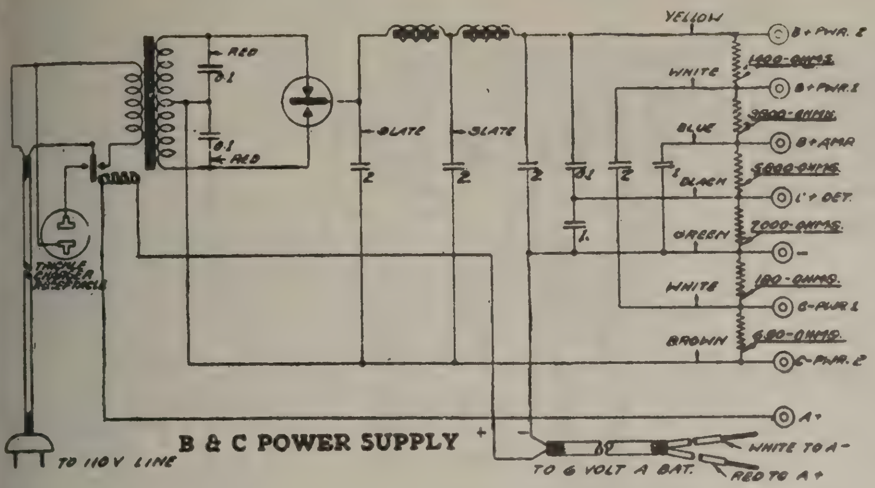
B & C POWER SUPPLY

Day-Fan 5060 (D.C. 32V. Set)
“ “ 5052 (D.C. 110V. Set)

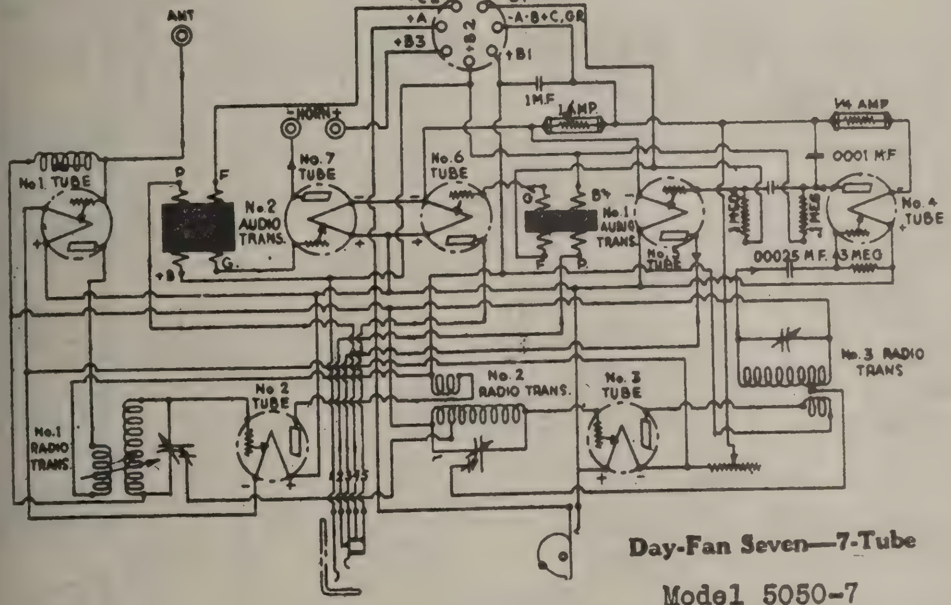

CX-301A
1st R.F
CX-301A or CX-112A
2nd A.F
CX-301A
1st A.F
CX-301A or CX-300A or CX-112A
Det.
CX-301A
2nd R.F.
CX-301A
3rd R.F.

GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5050-7
MODEL "B & C" SPU

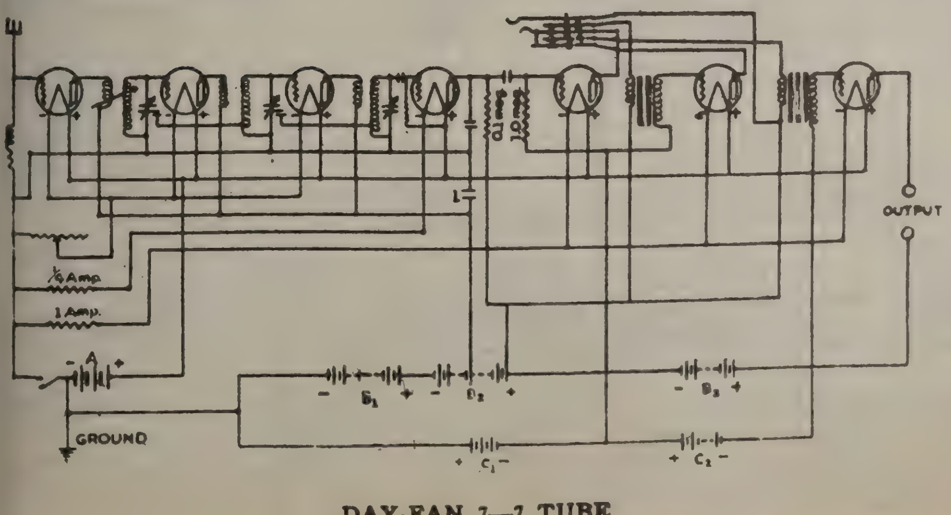

RED
.1
.1
RED
SLATE
SLATE
2
2
2
.1
2
1
1.
YELLOW
B+PWR. 2
1400-OHMS.
WHITE
B+PWR.1
3900-OHMS.
BLUE
B+AMP
5000-OHMS.
BLACK
C+DET.
2000-OHMS.
GREEN
-
180-OHMS.
WHITE
C-PWR.1
680-OHMS.
BROWN
C-PWR. 2
A+
TRICKLE CHARGER RECEPTACLE
TO 110V LINE
+
-
TO 6 VOLT A BAT.
WHITE TO A-
RED TO A+

B & C POWER SUPPLY


-C2
C1
+A
-A-B+C,GR
+B3
+B2
+B1
ANT
HORN
1MF
1 AMP
1/4 AMP
.0001 MF
No.1 TUBE
P
F
No.2 AUDIO TRANS.
+B
G.
No.7 TUBE
No.6 TUBE
G
B+
No.1 AUDIO TRANS.
No.5 TUBE
1MEG
1MEG
.00025 MF.
3 MEG
No.4 TUBE
No.3 RADIO TRANS
No.2 RADIO TRANS.
No.3 TUBE
No.2 TUBE
No.1 RADIO TRANS.

Day-Fan Seven—7-Tube

Model 5050-7


1
OUTPUT
½ Amp
1 Amp.
A
GROUND
B1
B2
B3
C1
C2
+
-

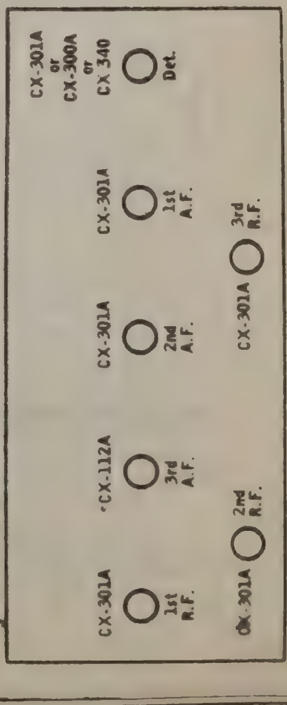
DAY-FAN 7—7 TUBE

Model 5050

STANDARD BATTERY CONNECTIONS TO DAY-FAN 7
(5050)

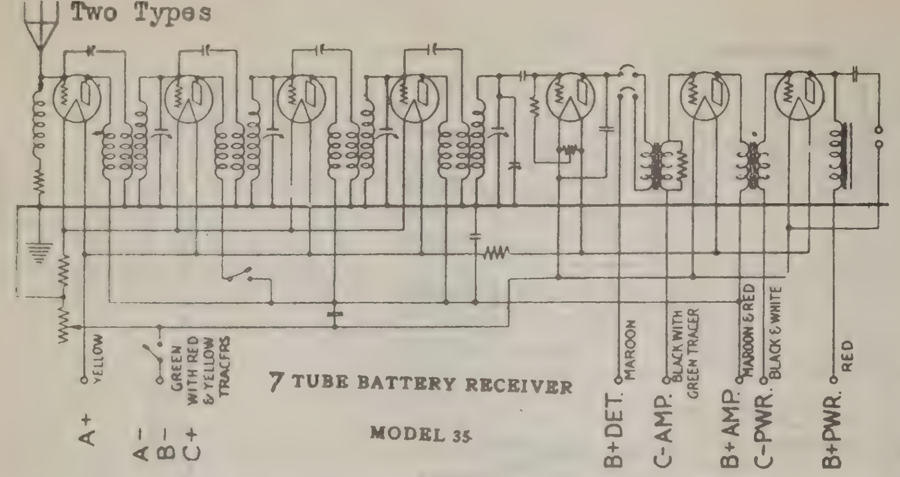
Color of Cable Wire	Voltage
Pink	B + Power
Blue	B + 90
Yellow	B + 67½
Red	A + 6
Green	B —, A —, C +
Black	C — 4
Brown	C — Power

Day-Fan 5050 (Batt.)


CX-301A or CX-300A or CX 340
Det.
CX-301A
1st A.F.
CX-301A
2nd A.F.
CX-112A
3rd A.F.
CX-301A
1st R.F.
CX-301A
3rd R.F.
CX-301A
2nd R.F.

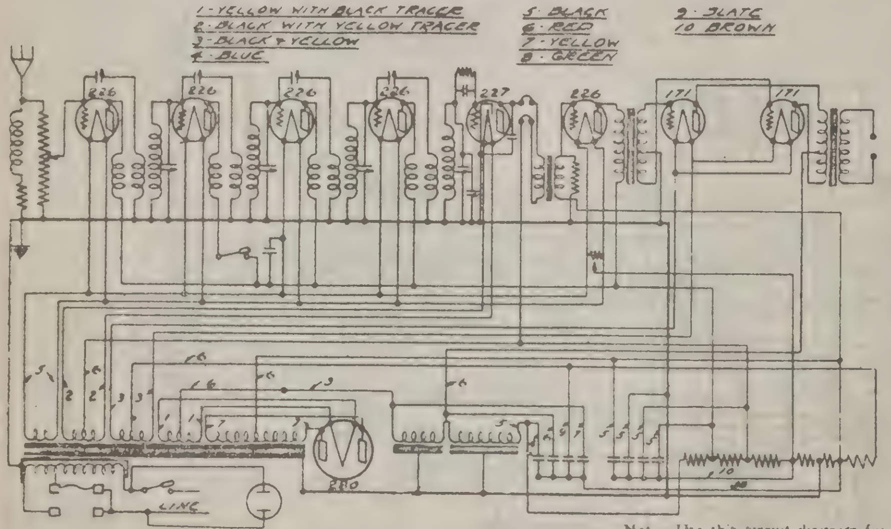
MODEL Day-Fan 35
MODEL Day-Fan 25, 26,
27, 28, 43, 48
Two Types

GENERAL MOTORS RADIO CORP.


A+
YELLOW
A−
B−
C+
GREEN WITH RED & YELLOW TRACERS
B+DET.
MAROON
C-AMP.
BLACK WITH GREEN TRACER
B+AMP.
MAROON & RED
C-PWR.
BLACK & WHITE
B+PWR.
RED

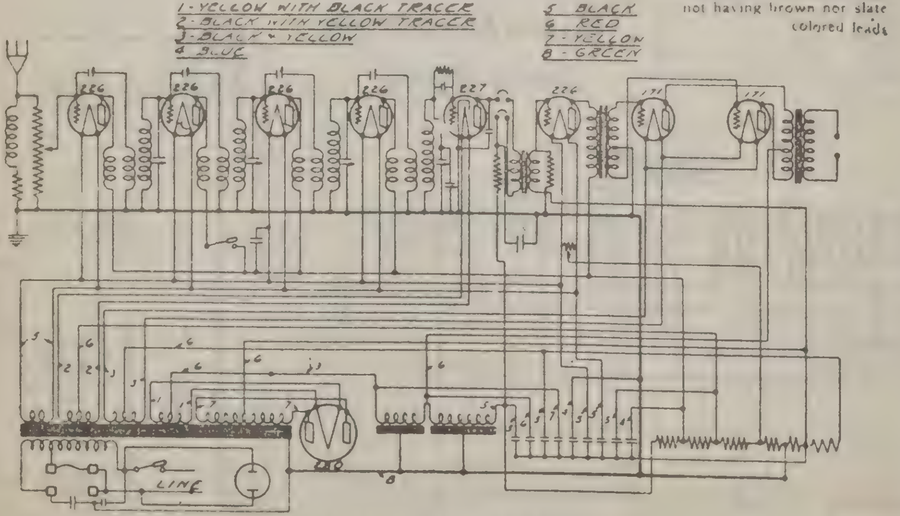
7 TUBE BATTERY RECEIVER

MODEL 35


1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4-BLUE
5-BLACK
6-RED
7-YELLOW
8-GREEN
9-SLATE
10-BROWN
226
226
226
226
227
226
171
171
280
LINE

DAY-FAN 8—A. C. POWER SET.

Note—Use this circuit diagram for receivers equipped with sealed power blocks, or condenser blocks not having brown nor slate colored leads.


1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4 BLUE
5 BLACK
6 RED
7-YELLOW
8-GREEN
226
226
226
226
227
226
171
171
280
LINE

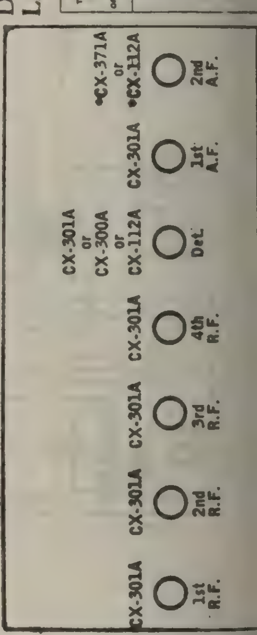
DAY-FAN 8—A. C. POWER SET

Note—Use this circuit diagram for receivers equipped with sealed power blocks, or condenser blocks not having brown nor slate colored leads.

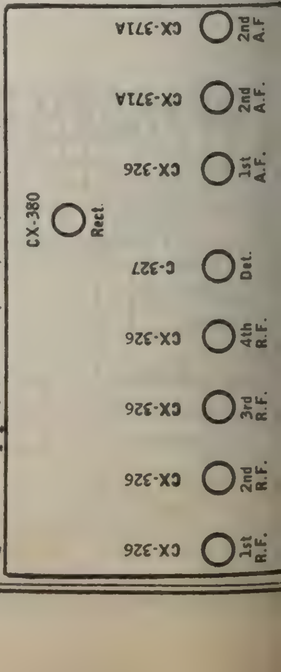
DAY-FAN—Models 25-26
Line Voltage 116—2nd A. F. Stage—2 Tubes Push Pull

Tube No. in Order	Type of Tube	Position of Tube 1st RF Det Etc	Readings Plug in Socket of Set: Tube Out: A Volts	Tube Out: B Volts	Tube in Tester: A Volts	B Volts	C Volts	Cathode Volts	Normal Plate MA	Plate MA Grid Test	Plate MA Change
1	226	1st.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
2	226	2nd.R.F.	1.55	117	1.5	110	5.6	-	6.5	10.5	4.0
3	226	3rd.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
4	226	4th.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
5	227	Detector	2.40	125	2.2	25	45	-	1.4	1.4	0.0
6	226	1st.A.F.	1.55	107	1.5	100	7.5	-	3.5	7.0	3.5
7	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0
8	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0

MODEL 35

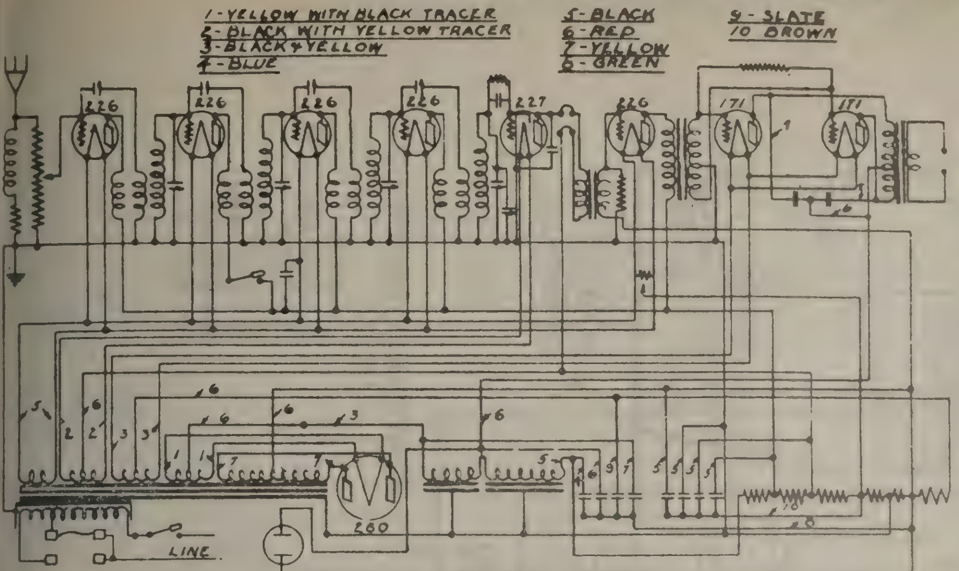

CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A
3rd R.F.
CX-301A
4th R.F.
CX-301A or CX-300A or CX-112A
Det
CX-301A
1st A.F.
*CX-371A or *CX-112A
2nd A.F.

8-AC. MODELS-25, 26, 27, 28, 43, 48

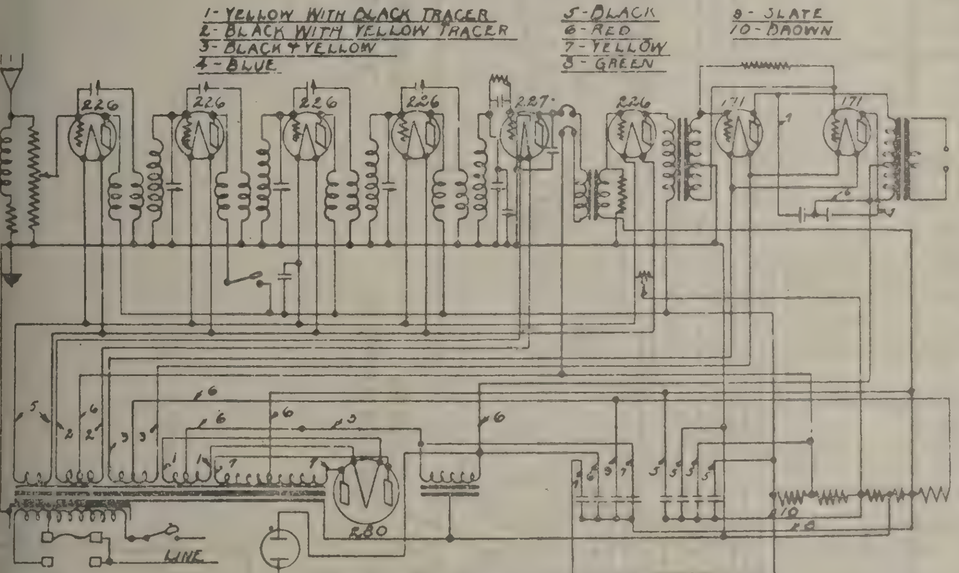

CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
CX-326
4th R.F.
C-327
Det.
CX-380
Rect.
CX-326
1st A.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F.

GENERAL MOTORS RADIO CORP.

MODEL Day-Fan 5077
MODEL Day-Fan 5080


1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4-BLUE
5-BLACK
6-RED
7-YELLOW
8-GREEN
9-SLATE
10 BROWN
226
226
226
226
227
226
171
171
280
LINE

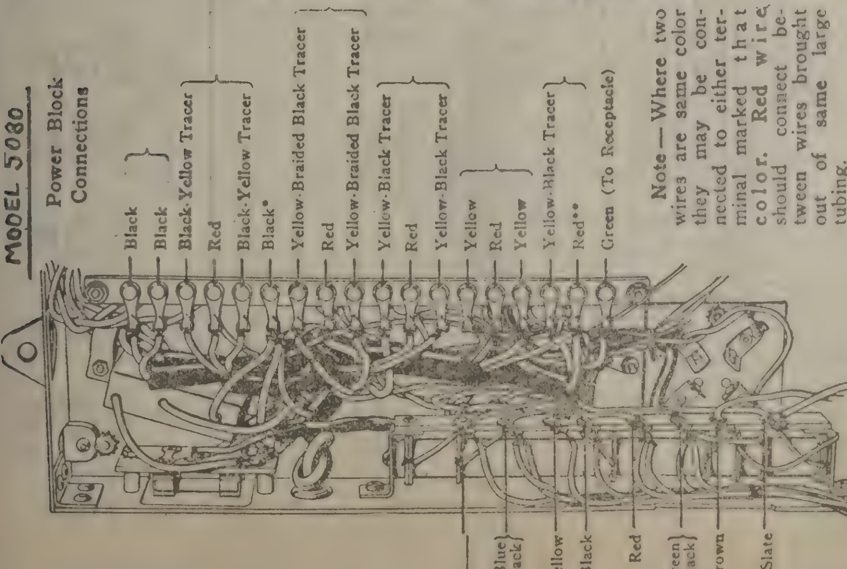
DAY-FAN 8-TUBE — MODEL 5077
(For Use with 200-Volt D. C. Dynamic Speaker)


1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4-BLUE
5-BLACK
6-RED
7-YELLOW
8-GREEN
9-SLATE
10-BROWN
226
226
226
226
227
226
171
171
280
LINE

DAY-FAN 8-TUBE — MODEL 5080
(For Use with 110-Volt D. C. Dynamic Speaker)

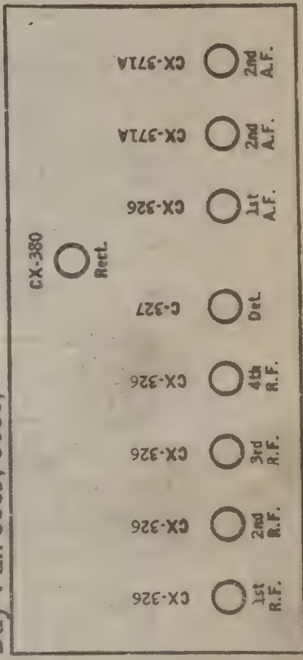
MODEL 5080

Power Block Connections


Black
Black
Black-Yellow Tracer
Red
Black-Yellow Tracer
Black*
Yellow-Braided Black Tracer
Red
Yellow-Braided Black Tracer
Yellow-Black Tracer
Red
Yellow-Black Tracer
Yellow
Red
Yellow
Yellow-Black Tracer
Red**
Green (To Receptacle)
Blue
Black
Yellow
Black
Red
Green
Black
Brown
Slate

Note — Where two wires are same color they may be connected to either terminal marked that color. Red wire should connect between wires brought out of same large tubing.

Day-Fan 5069, 5080, (A.C.)


CX-326
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
CX-326
4th R.F.
C-327
Det.
CX-380
Rect.
CX-326
1st A.F.
CX-371A
2nd A.F.
CX-371A
2nd A.F.

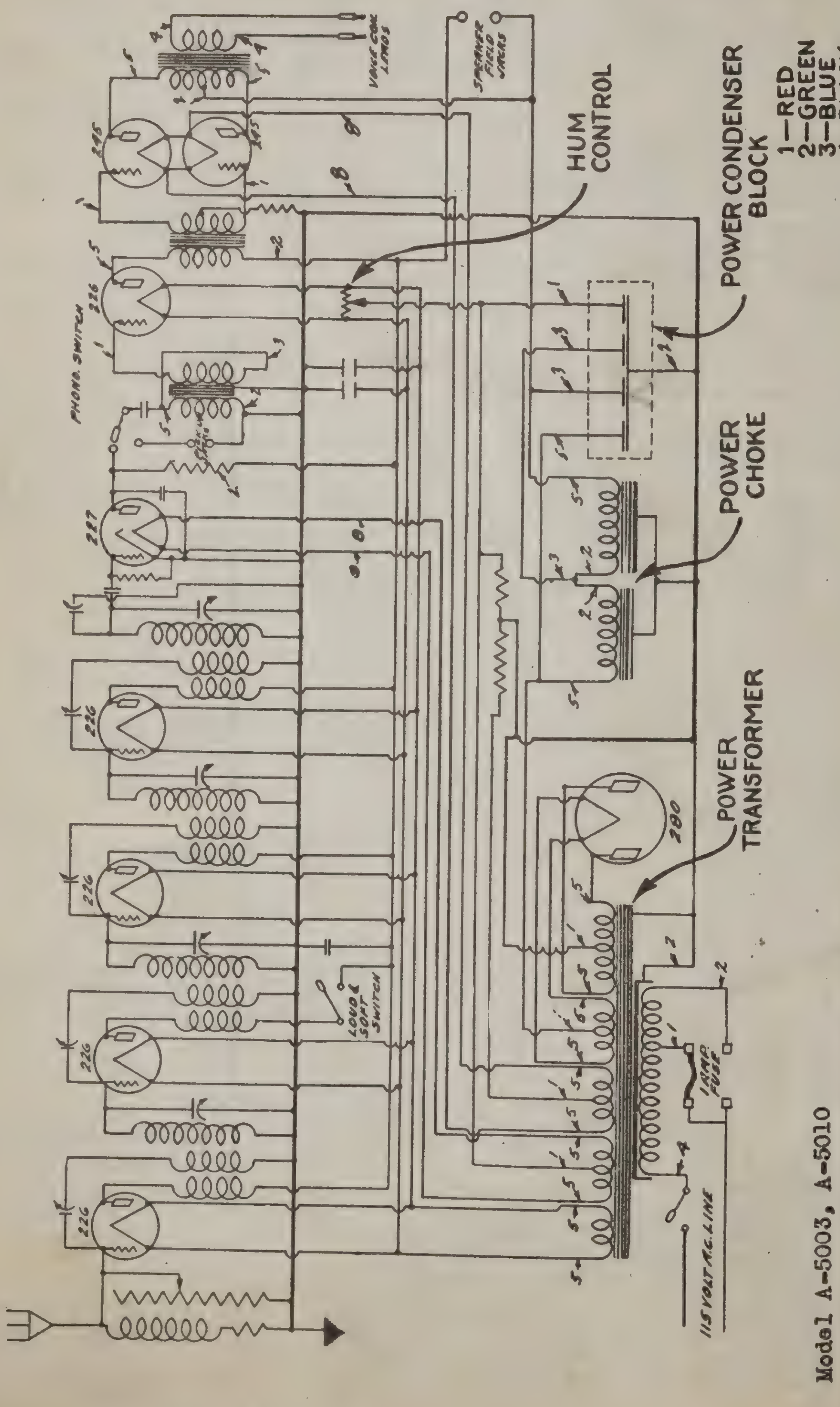
Tube	Fil. Vol.	Plate Vol.	Grid Vol.	Plate Current
RF1	1.3	150	9	4.5
RF2	1.3	150	9	4.5
RF3	1.3	150	9	4.5
RF4	1.3	150	9	4.5
Det	2.2	30	**	1.7
AF1	1.3	130	5	4.5
PP1	2.25	235	7 see note	27.5
PP2	2.25	255	7 see note	27.5

Low output tube bias due to resistance in grid circuit.

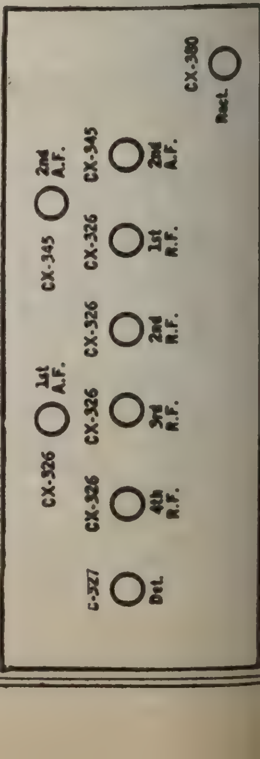
5077 - 5069

GENERAL MOTORS RADIO CORP.

MODEL Day-Fan A-5003
A-5010


226
226
226
226
227
226
245
245
280
VOICE COIL LEADS
SPEAKER FIELD JACKS
PHONO. SWITCH
PICK UP JACKS
LOUD & SOFT SWITCH
LAMP FUSE
115 VOLT A.C. LINE
HUM CONTROL
POWER CONDENSER BLOCK
POWER CHOKE
POWER TRANSFORMER

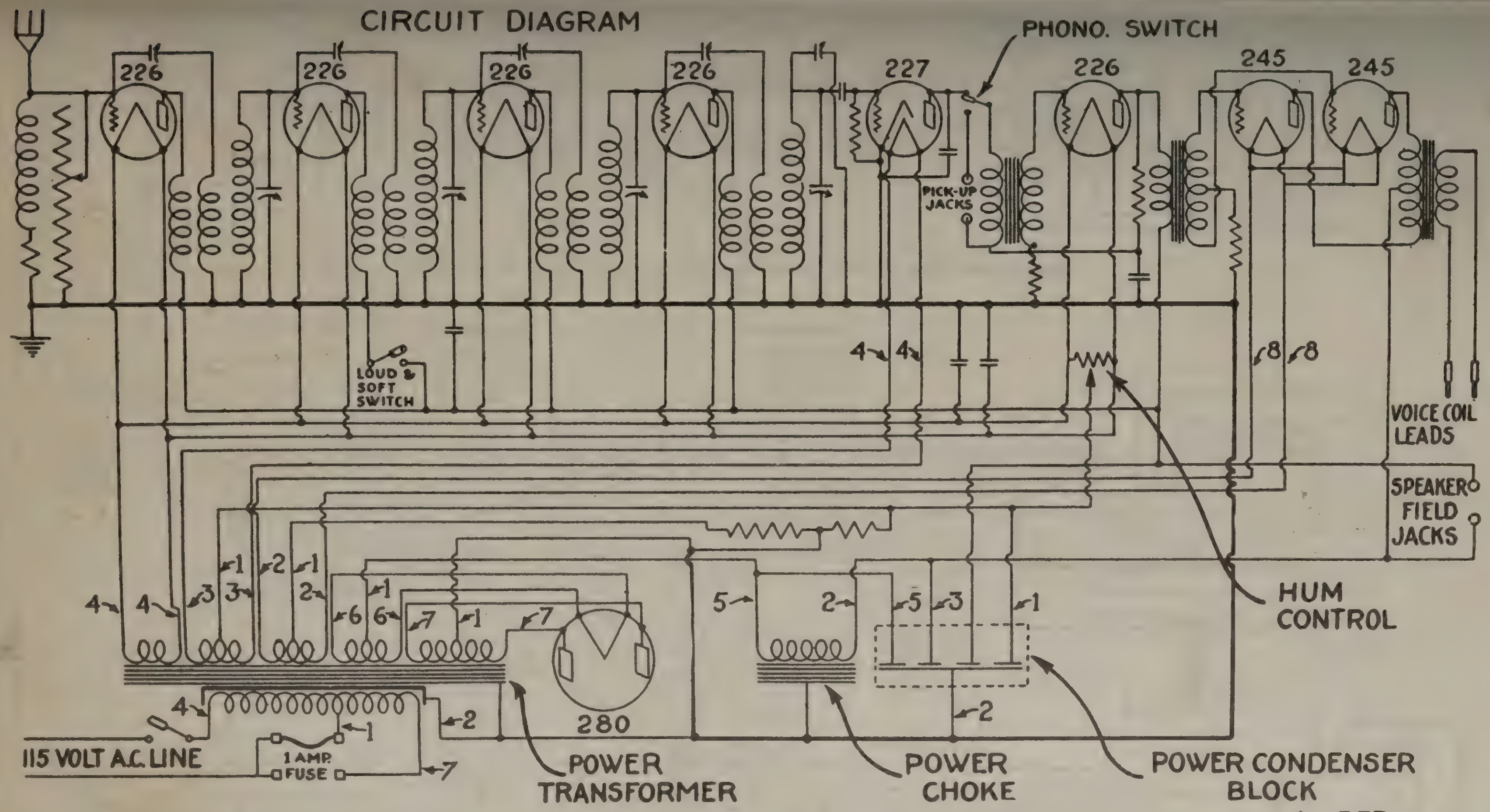
1—RED
2—GREEN
3—BLUE
4—BLACK
5—YELLOW
6—BROWN
7—WHITE


Model A-5003, A-5010
CX-326 1st A.F.
CX-345 2nd A.F.
C-327 Det.
CX-326 4th R.F.
CX-326 3rd R.F.
CX-326 2nd R.F.
CX-326 1st R.F.
CX-345 2nd A.F.
CX-380 Rect.

GENERAL MOTORS RADIO CORP.

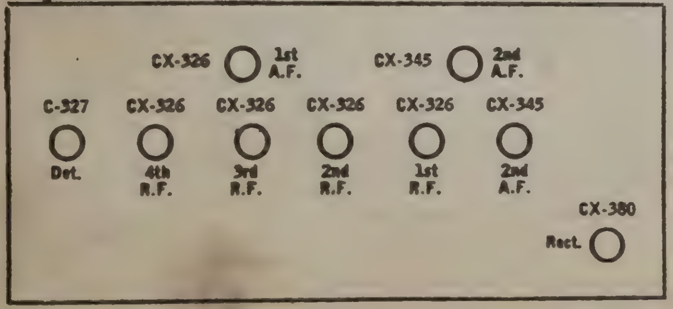
MODEL Day-Fan 5091

CIRCUIT DIAGRAM


226
226
226
226
227
PHONO. SWITCH
226
245
245
PICK-UP JACKS
LOUD & SOFT SWITCH
4
4
8
8
VOICE COIL LEADS
SPEAKER FIELD JACKS
HUM CONTROL
1
2
3
4
5
6
7
280
115 VOLT A.C. LINE
1 AMP. FUSE
POWER TRANSFORMER
POWER CHOKE
POWER CONDENSER BLOCK

1—RED
2—GREEN
3—BLUE
4—BLACK
5—YELLOW
6—BROWN
7—WHITE

Day-Fan 5091 (A.C.)


CX-326 1st A.F.
CX-345 2nd A.F.
C-327 Det.
CX-326 4th R.F.
CX-326 3rd R.F.
CX-326 2nd R.F.
CX-326 1st R.F.
CX-345 2nd A.F.
CX-380 Rect.

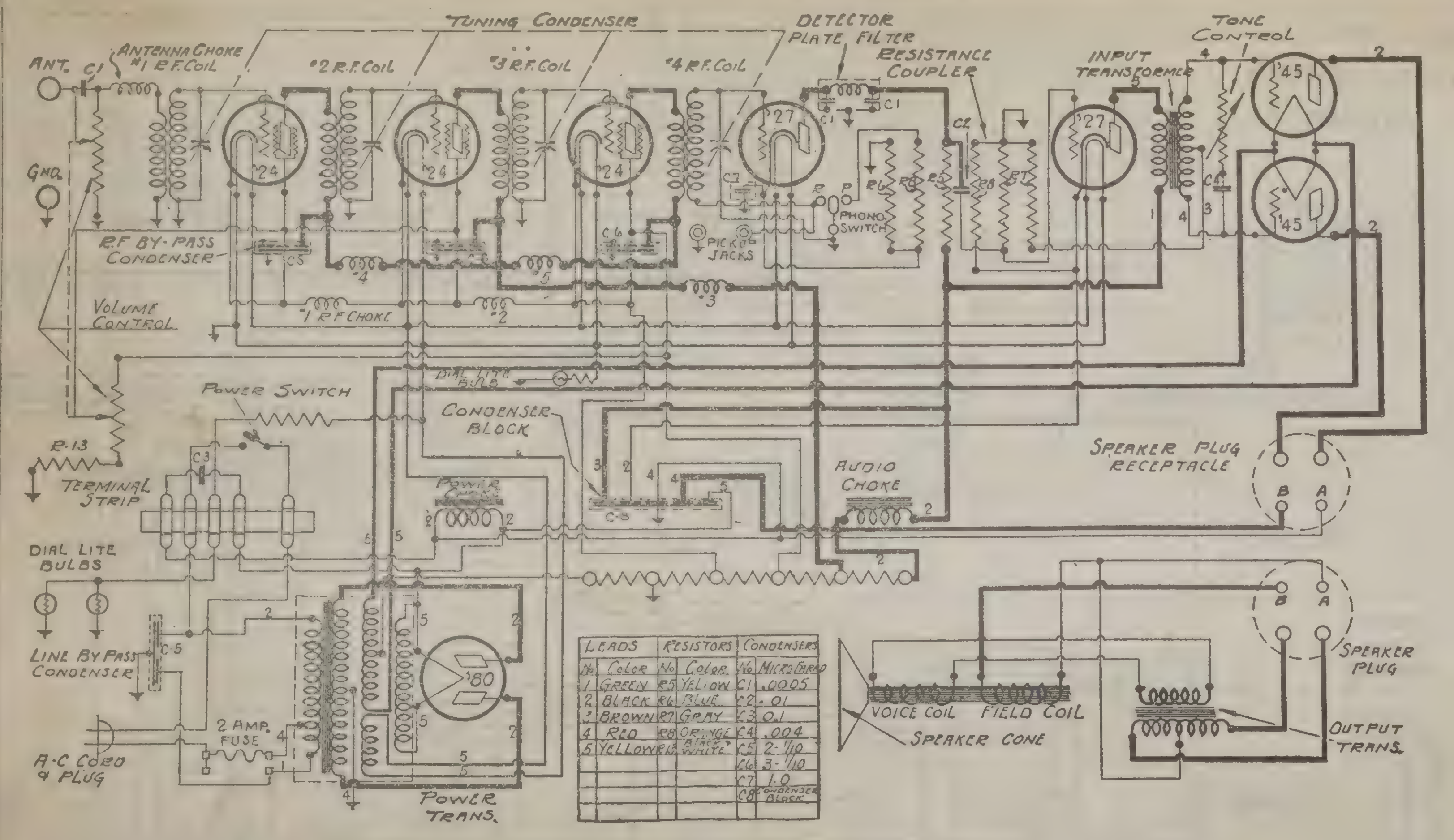
DAY-FAN—Model 5091
Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max
Note: "C" Bias Voltage Reading on Audio tubes is low due to the current draw of the set tester and high resistances in the set.

Tube No. in Order	Type of Tube	Position of Tube 1st RF Det Etc	Readings. Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts	B Volts	A Volts	B Volts	C Volts (Control Grid)	Cathode-Heater Volts	Normal Plate M A	Plate M A Grid Test	Plate Change M.A	Screen Grid Volts
1	226	1st RF	1.5	140	1.4	132	10	-	5	9	4	-
2	226	2nd RF	1.5	140	1.4	132	10	-	5	9	4	-
3	226	3rd RF	1.5	140	1.4	132	10	-	5	9	4	-
4	226	4th RF	1.5	140	1.4	132	10	-	5	9	4	-
5	227	Det.	2.6	112	2.3	30	0	10	2	2	0	-
6	226	1st AF	1.5	127	1.4	117	6.5	-	4.5	6.5	3	-
7	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
8	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
9	280	Rect.	5.8		4.9				90			

DAY-FAN
CHASSIS MODEL 5091
1929 – 1930

MODEL 120,130,140
Below Serial
29100A-1700B

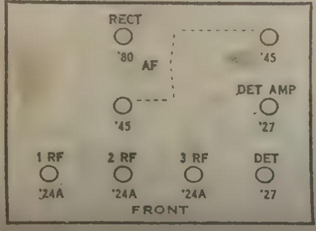
GENERAL MOTORS RADIO CORP


TUNING CONDENSER
DETECTOR PLATE FILTER
RESISTANCE COUPLER
TONE CONTROL
ANT.
C1
ANTENNA CHOKE
#1 R.F. COIL
#2 R.F. COIL
#3 R.F. COIL
#4 R.F. COIL
INPUT TRANSFORMER
GND.
'24
'24
'24
'27
'27
'45
'45
'80
R.F. BY-PASS CONDENSER
C5
C6
C1
C2
C4
R5
R6
R7
R8
R
P
PHONO SWITCH
PICKUP JACKS
#1 R.F. CHOKE
#2
#3
#4
#5
VOLUME CONTROL
DIAL LITE BULB
POWER SWITCH
CONDENSER BLOCK
C-8
R-13
TERMINAL STRIP
C3
POWER CHOKE
AUDIO CHOKE
SPEAKER PLUG RECEPTACLE
B
A
DIAL LITE BULBS
LINE BY PASS CONDENSER
C-5
2 AMP. FUSE
A-C CORD & PLUG
POWER TRANS.
VOICE COIL
FIELD COIL
SPEAKER CONE
SPEAKER PLUG
OUTPUT TRANS.
1
2
3
4
5

LEADS		RESISTORS		CONDENSERS	
No	Color	No	Color	No	Micro Farad
1	GREEN	R5	YELLOW	C1	.0005
2	BLACK	R6	BLUE	C2	.01
3	BROWN	R7	GRAY	C3	0.1
4	RED	R8	ORANGE	C4	.004
5	YELLOW	R13	BLACK WHITE	C5	2-1/10
				C6	3-1/10
				C7	1.0
				C8	CONDENSER BLOCK

Circuit Diagram of Chassis with Serial Numbers Below 29100A and 1700B.

Chassis Model A


RECT
'80
AF
'45
DET AMP
'27
'45
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
FRONT

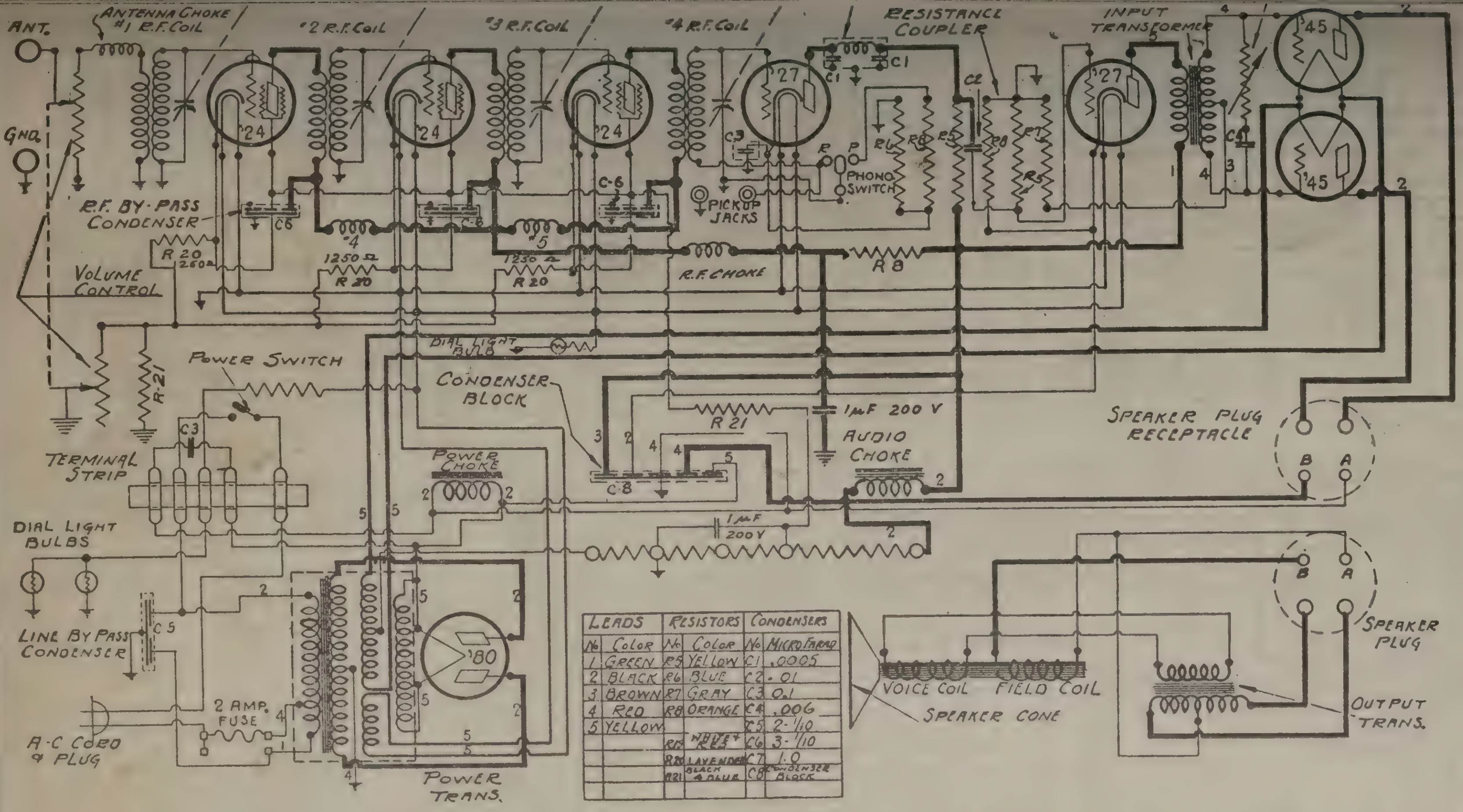
Models 120, 130 & 140

(Chassis Models "A" and "B")

TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID — SPACE GD +	⑦ NORMAL GRID — SCREEN GD +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L. H. '80 PLATE	⑩ PLATE R. H. '80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	24	1 R.F.	2.2	140	-2	60	+2	-	1.5	2.5	1
2	24	2 R.F.	2.2	140	-2	-60	+2	-	1.5	2.5	1
3	24	3 R.F.	2.2	140	-2	60	+2	-	1.5	2.5	1
4	27	Det.	2.2	100	-	-15	+15	-	.5	2.5	2
5	27	1 A.F.	2.2	135	-	-2	+8	-	4.5	5.8	1.3
6	45	2 A.F.	2.3	235	-	-25	-	-	25	29	4
7	45	2 A.F.	2.3	235	-	-25	-	-	25	29	4
8	80	Rect.	4.5	-	-	-	-	45	45	-	-

MODEL 120,130,140
Between Serial
29100A-62100A
1700B-1946B

GENERAL MOTORS RADIO CORP.


ANT.
GND.
ANTENNA CHOKE
#1 R.F. COIL
#2 R.F. COIL
#3 R.F. COIL
#4 R.F. COIL
'24
'24
'24
'27
'27
'45
'45
'80
RESISTANCE COUPLER
INPUT TRANSFORMER
C1
C1
C2
C3
C4
C-6
C6
C5
C3
C8
R4
R5
R6
R7
R8
R8
R20
R21
R-21
PHONO SWITCH
P
P
PICKUP JACKS
R.F. BY-PASS CONDENSER
R 20 250Ω
1250 Ω R 20
1250 Ω R 20
#4
#5
VOLUME CONTROL
R.F. CHOKE
DIAL LIGHT BULB
POWER SWITCH
CONDENSER BLOCK
1μF 200 V
AUDIO CHOKE
POWER CHOKE
TERMINAL STRIP
1μF 200V
DIAL LIGHT BULBS
LINE BY PASS CONDENSER
2 AMP. FUSE
A-C CORD & PLUG
POWER TRANS.
SPEAKER PLUG RECEPTACLE
SPEAKER PLUG
B
A
B
A
VOICE COIL
FIELD COIL
SPEAKER CONE
OUTPUT TRANS.
1
2
3
4
5

LEADS		RESISTORS		CONDENSERS	
No	COLOR	No	COLOR	No	MICROFARAD
1	GREEN	R5	YELLOW	C1	.0005
2	BLACK	R6	BLUE	C2	.01
3	BROWN	R7	GRAY	C3	0.1
4	RED	R8	ORANGE	C4	.006
5	YELLOW			C5	2-1/10
		R4	WHITE + RED	C6	3-1/10
		R20	LAVENDER	C7	1.0
		R21	BLACK & BLUE	C8	CONDENSER BLOCK

Models 120, 130 & 140

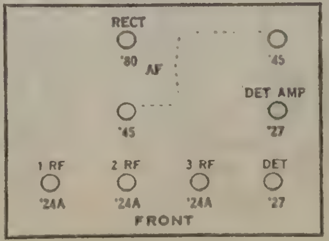
(Chassis Models "A" and "B")

Circuit Diagram of Chassis with Serial Numbers Between 29100A and 62100A; and 1700B and 1946B.

Tube	Fil. V.	Pl. V.	C.G.Volts	S.G.Volts	Cath.Volts	Pl. Cur. (MA)
RF-1	2.3	150	- 3	55	3	2.
RF-2	2.3	150	- 3	55	3	2.
RF-3	2.3	150	- 3	55	3	2.
Det.	2.3	100	- 8	..	10	.2
AF-1	2.3	140	- 3	..	10	4.
AF-2	2.3	220	-12	..	..	30.
AF-2	2.3	220	-12	..	..	30.
Rect	4.5	...	...	..	..	100.

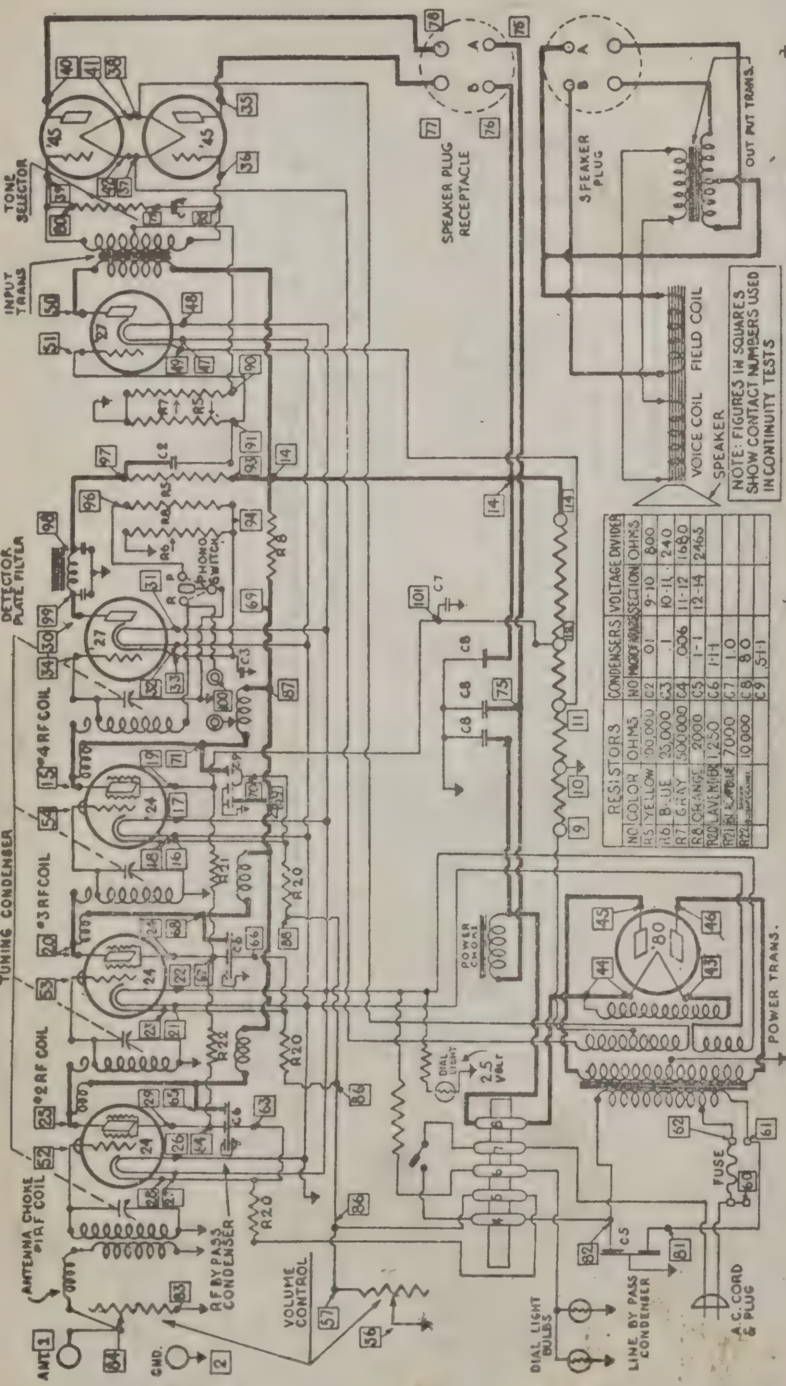
Line Voltage - 110 Volume Control on Full

Chassis Model A


RECT
'80
AF
'45
'45
DET AMP
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
FRONT

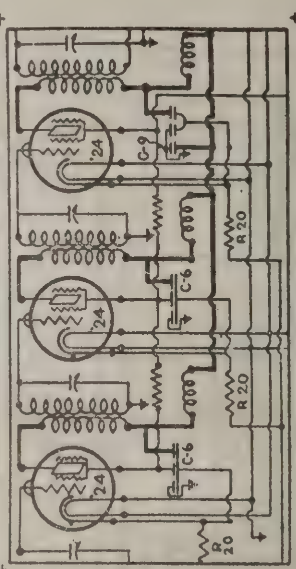
MODEL 120,130,140
Above Serial
62100A-1964B

GENERAL MOTORS RADIO CORP.


TONE SELECTOR
INPUT TRANS
DETECTOR PLATE FILTER
TUNING CONDENSER
#4 RF COIL
#3 RF COIL
#2 RF COIL
ANTENNA CHOKE #1 RF COIL
R.F. BY PASS CONDENSER
VOLUME CONTROL
ANT
GND.
PHONO SWITCH
SPEAKER PLUG RECEPTACLE
SPEAKER PLUG
OUT PUT TRANS.
VOICE COIL
FIELD COIL
SPEAKER
POWER CHOKE
POWER TRANS.
DIAL LIGHT 2.5 VOLT
DIAL LIGHT BULBS
LINE BY PASS CONDENSER
FUSE
A.C. CORD & PLUG
'45
'45
'27
'27
'24
'24
'24
'80

NOTE: FIGURES IN SQUARES SHOW CONTACT NUMBERS USED IN CONTINUITY TESTS

RESISTORS			CONDENSERS		VOLTAGE DIVIDER	
NO	COLOR	OHMS	NO	MICROFARADS	SECTION	OHMS
R5	YELLOW	100,000	C2	.01	9-10	800
R6	BLUE	25,000	C3	.1	10-11	240
R7	GRAY	500,000	C4	.006	11-12	1680
R8	ORANGE	2000	C5	1-1	12-14	2465
R20	LAVENDER	1,250	C6	1-1-1		
R21	[illegible]	7000	C7	1.0		
R22	[illegible]	10,000	C8	8.0		
			C9	.5-1-1		


'24
'24
'24
C-9
C-6
C-6
R20
R20
R20

The above diagram shows the circuits of sets using the R. F. Coils with the single turn primaries. The insert shows the part of the circuit which is different from the above, in sets using the original type R. F. Coils.

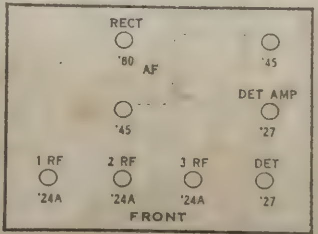
Sets with Serial Numbers Above 62100A

TUBE IN SET ANALYSER

Type of Tube	Position of Tube	"A" Volts	"B" Volts	"C" Volts Control Grid	Screen Volts	Cathode Volts	Normal Plate MA	Grid Change
'24	1st R. F.	2.3	170	—3	60	3	2.	4.
'24	2nd R. F.	2.3	170	—3	68	3	2.	4.
'24	3rd R. F.	2.3	170	—3	75	3	2.	4.
'27	Detector	2.3	100	—12	....	12	.2	.2
'27	1st A. F.	2.3	165	—3	....	12	4.	7.
'45	2nd A. F.	2.3	235	—12	....	....	30.	35.
'45	2nd A. F.	2.3	235	—12	....	....	30.	35.
'80	Rectifier	4.5	....	....	....	....	100.	....

Line Voltage 110 Volume Control on Full

Chassis Model A


RECT
'80
AF
'45
'45
DET AMP
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
FRONT

Models 120, 130 & 140

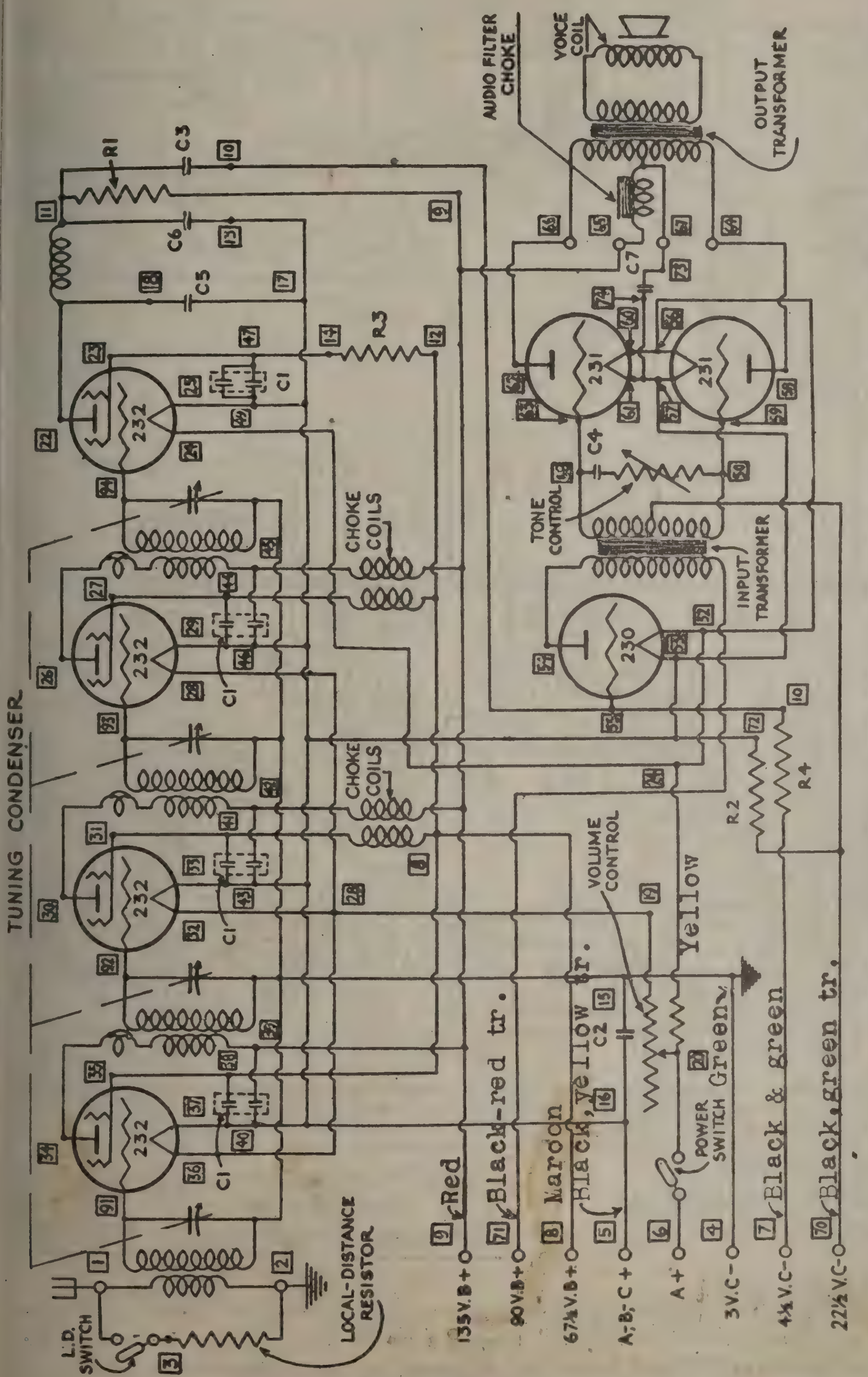
(Chassis Models "A" and "B")

Circuit Diagram of Chassis with Serial Numbers Above 62100A and 1964B.

GENERAL MOTORS RADIO CORP.

MODEL 170-(E)
Schematic

Tube	Fil	Plate	Screen	Plate Crnt.
1 RF	1.7	140	68	1.2 ma
2 RF	1.7	140	68	1.4
3 RF	1.7	140	68	1.5
Det	1.7	80	10	.2
1 AF	1.7	85	-	1.5
2 AF	1.7	135	-	7.

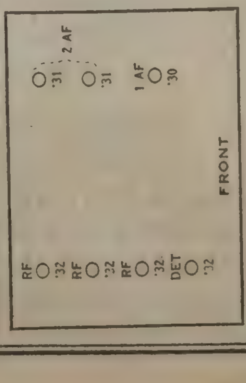

TUNING CONDENSER
L.D. SWITCH
LOCAL-DISTANCE RESISTOR
CHOKE COILS
CHOKE COILS
232
232
232
232
230
231
231
R1
R2
R3
R4
C1
C2
C3
C4
C5
C6
C7
AUDIO FILTER CHOKE
VOICE COIL
OUTPUT TRANSFORMER
INPUT TRANSFORMER
TONE CONTROL
VOLUME CONTROL
POWER SWITCH
135V.B+ Red
90V.B+ Black-red tr.
67½V.B+ Maroon
A-,B-,C+ Black, yellow tr.
A+ Yellow
3V.C- Green
4½V.C- Black & green
22½V.C- Black, green tr.

Model 170, Battery Powered Receiver

(Chassis Model E)

RESISTORS				
NO.	BODY	END	BAND	OHMS
R1	BROWN	BLACK	YELLOW	100,000
R2	RED	BLACK	YELLOW	200,000
R3	GREEN	BLACK	YELLOW	500,000
R4	RED	BLACK	GREEN	2,000,000

CONDENSERS	
NO	MICROFARADS
C1	.1-.1
C2	.5
C3	.01
C4	.002
C5	.0005
C6	.0001
C7	1.0

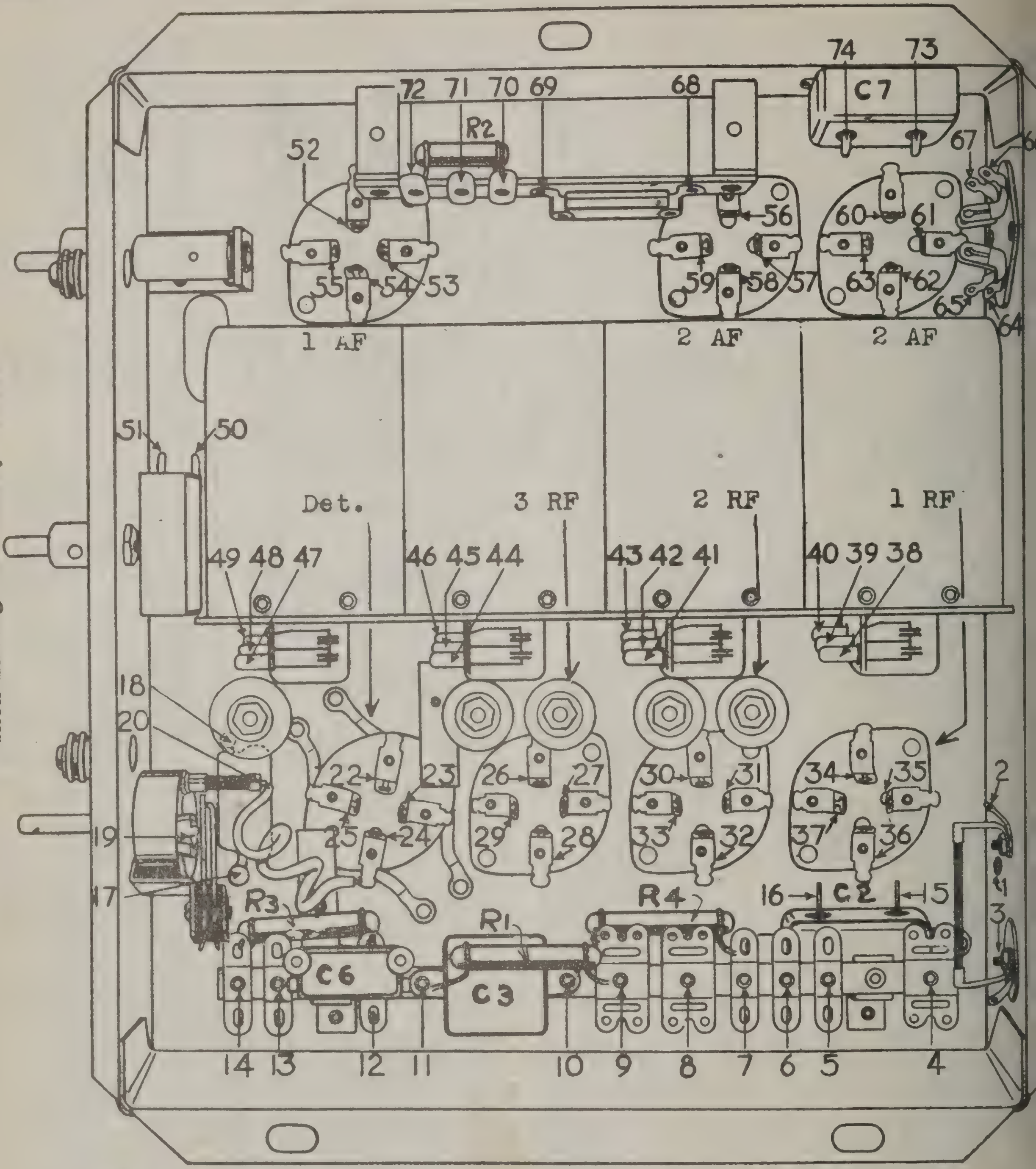

RF '32
RF '32
RF '32
DET '32
'31
'31
2 AF
1 AF '30
FRONT

Model 170-E

MODEL 170-(E)
Chassis

GENERAL MOTORS RADIO CORP.

Chart showing contact numbers used when making continuity tests.


74
73
C7
72 71 70 69
R2
68
67
52
56
60
61
55 54 53
59 58 57
63 62
65
64
1 AF
2 AF
2 AF
51
50
Det.
3 RF
2 RF
1 RF
49 48 47
46 45 44
43 42 41
40 39 38
18
20
22
23
26
27
30
31
34
35
2
19
25
24
29
28
33
32
37
36
17
R3
R4
16
C2
15
1
3
R1
C6
C3
14 13 12 11 10 9 8 7 6 5 4

NOTE: NOS. 91,92,93 & 94
ARE GRID CAPS OF 1ST, 2ND & 3RD
R.F. TUBES AND DETECTOR TUBE.

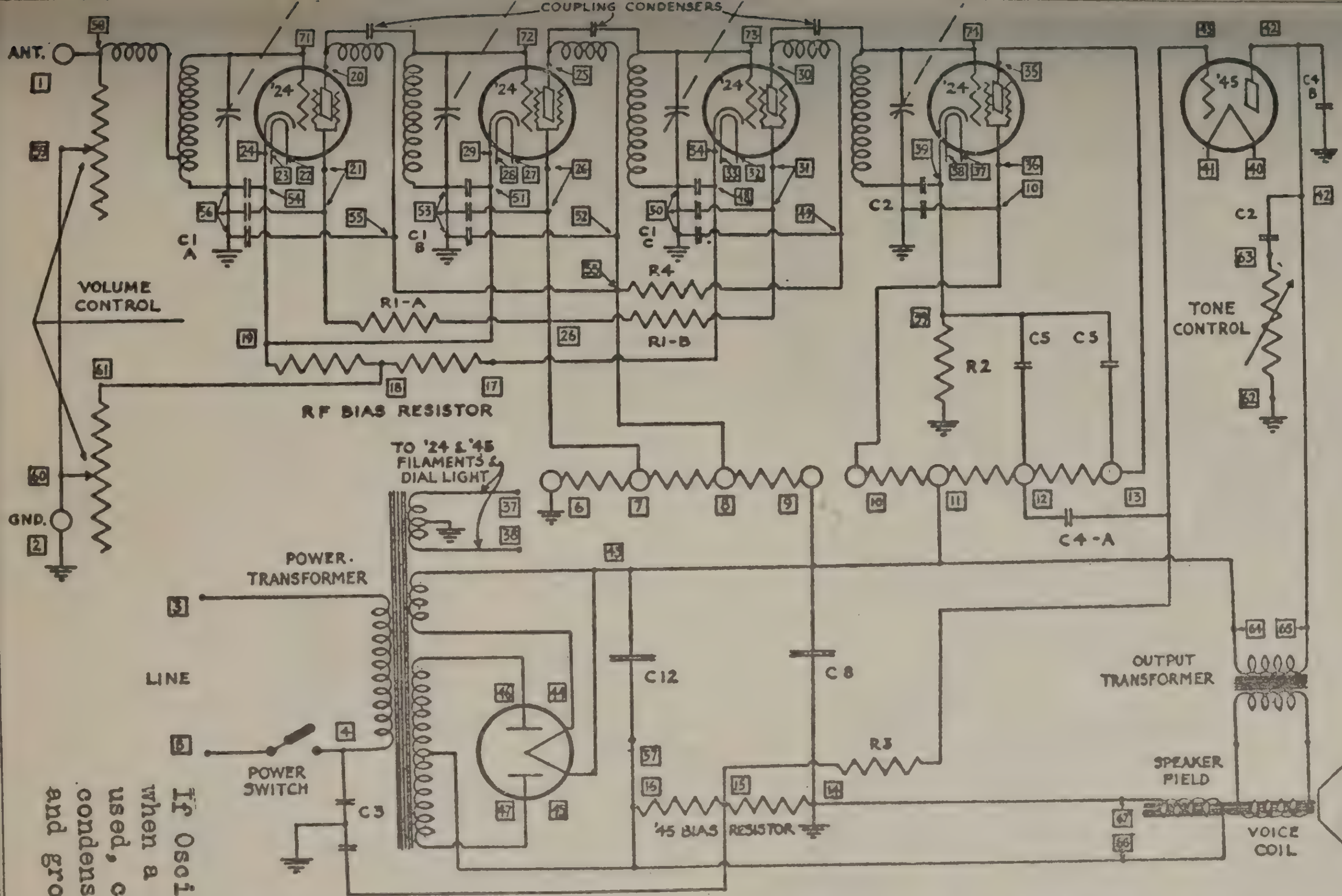
Model 170 Receiver
Chassis Model E
(PIONEER BATTERY POWERED RECEIVER)

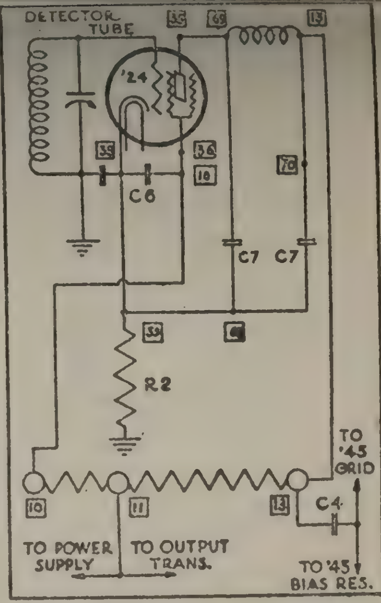
FILTER UNIT

Filter Units, Part No. 1202735, have been supplied to the field with instructions for installation on Model "E" Chassis with Serial Nos. below 3205-E only. All receivers above 3205-E have the Filter Units incorporated in the chassis and speaker., These parts include the Audio Filter Choke which is mounted on the speaker and one 1 Mfd. condenser located in the Chassis. On sets with Serial Numbers below 3205-E, use No. 1951 Speaker, Sets with Serial Numbers above 3205-E use Speaker No. 1952.

GENERAL MOTORS RADIO CORP.

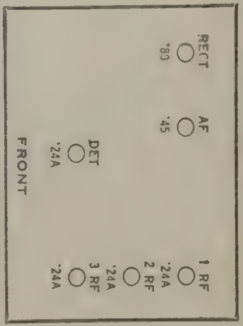
MODEL 110,180,190
Little General


ANT.
GND.
VOLUME CONTROL
COUPLING CONDENSERS
'24
'45
C1 A
C1 B
C1 C
C2
C4 B
C4-A
C5
C3
C8
C12
R1-A
R1-B
R2
R3
R4
RF BIAS RESISTOR
TO '24 & '45 FILAMENTS & DIAL LIGHT
POWER-TRANSFORMER
LINE
POWER SWITCH
'45 BIAS RESISTOR
TONE CONTROL
OUTPUT TRANSFORMER
SPEAKER FIELD
VOICE COIL


DETECTOR TUBE
'24
C6
C7
R2
C4
TO '45 GRID
TO POWER SUPPLY
TO OUTPUT TRANS.
TO '45 BIAS RES.

The above insert shows a part of the Detector Circuit for Chassis with serial numbers above 23156 MA and 1611 MB — In the Chassis with Circuits as shown above, the Detector Plate Filter Circuit includes a choke coil in the Plate Circuit instead of one section of the Voltage Divider as in previous Chassis.

Models 110, 180, 190


RECT '80
AF '45
DET '24A
1 RF '24A
2 RF '24A
3 RF '24A
FRONT

NOTE:
In Chassis with serial numbers above 23156 MA and 1611 MB, the Tone Control Condenser and the Line By-Pass Condenser are included in the same can, with capacities as shown for Condenser No. C 2.

FIXED CONDENSERS	
NO.	CAPACITY
C-1	.1-.1-.1 Mfd.
C-2	.5-.1-.25 Mfd.
C-3	.5-.1 Mfd.
C-4	.01 Mfd.
C-5	.00025 Mfd.
C-6	.5-.5 Mfd.
C-7	.0001 Mfd
C-8	8.0 Mfd.
C-12	12.0 Mfd.

SINGLE FIXED RESISTORS				
NO.	OHMS RESISTANCE	COLOR BODY	END	DOT
R 1	15,000	Brown	Green	Orange
R 2	25,000	Red	Green	Orange
R 3	500,000	Green	Black	Yellow
R 4	1,000	Insulated Resistor Wire		

VOLTAGE DIVIDER	
SECTION	RESISTANCE
6-7	25,000 Ohms
7-8	12,000 Ohms
8-9	6,000 Ohms
10-11	2 Megohms
11-12	250,000 Ohms
12-13	12,000 Ohms
On chassis with serial numbers above 23156 MA	
11-13	230000 Ohms

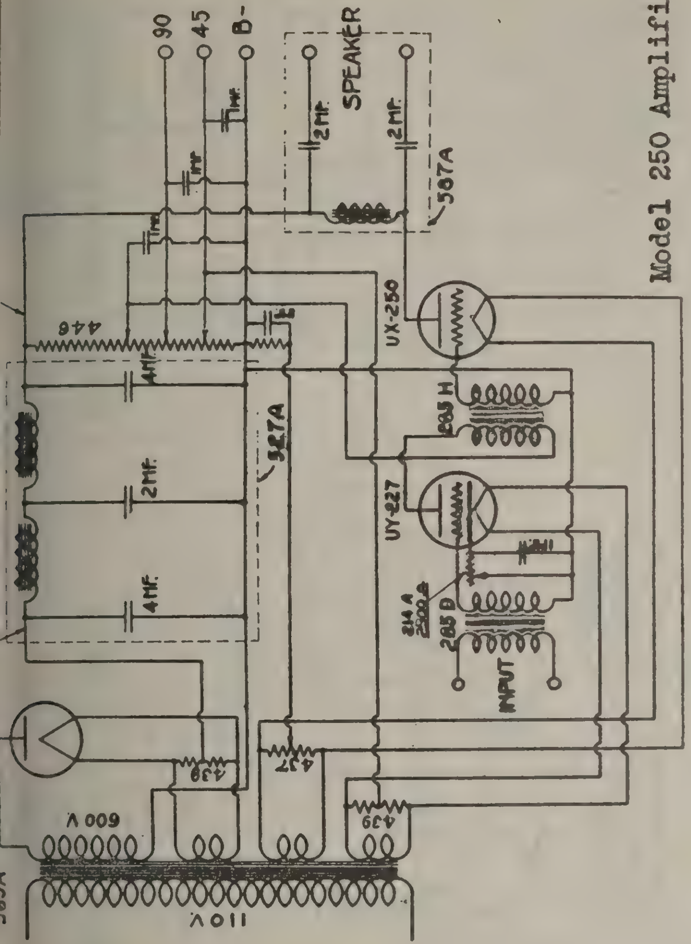
'45 BIAS RESISTOR	
SECTION	RESISTANCE
14-15	100,000
~~15-16~~	~~50,000~~
15-16	150,000
R.F. BIAS RESISTOR	
SECTION	RESISTANCE
17-18	1,000
18-19	500

TUBE	TYPE	FIL.	PLATE	CON.GRID	S.GRID	CATHODE	NORMAL MA.	GRID CHANGE
'24	1RF	2.4	165	3.1	80	3	2.5	2.5
'24	2RF	2.4	165	3.1	92	3	2.5	2.5
'24	3RF	2.4	160	3.1	82	3	2.5	2.5
'24	DET	2.5	100	6.5	12	10	.2	.1
'45	1AF	2.4	225	3.0			20	40
'80	RECT	4.5	360				20	

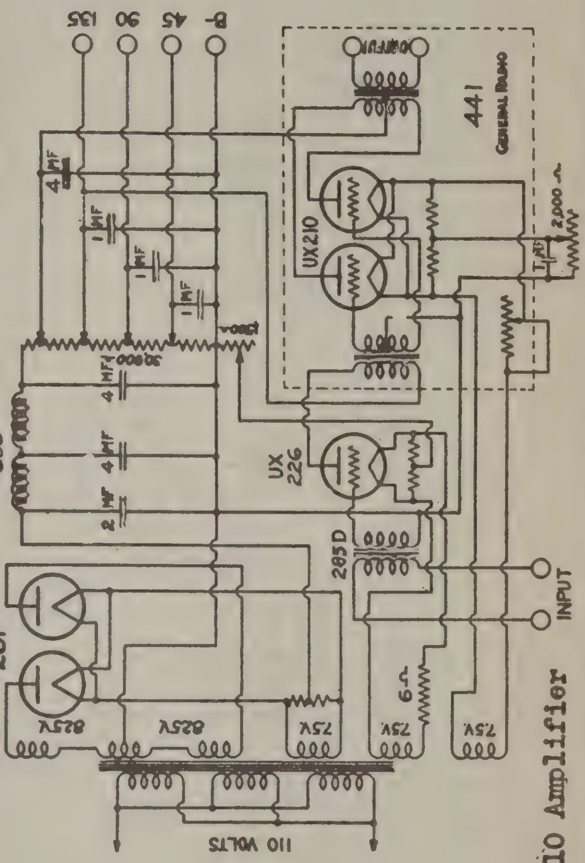
If Oscillation persists when a small aerial is used, connect a .0001 mfd condenser across the aerial and ground posts.

GENERAL RADIO CO

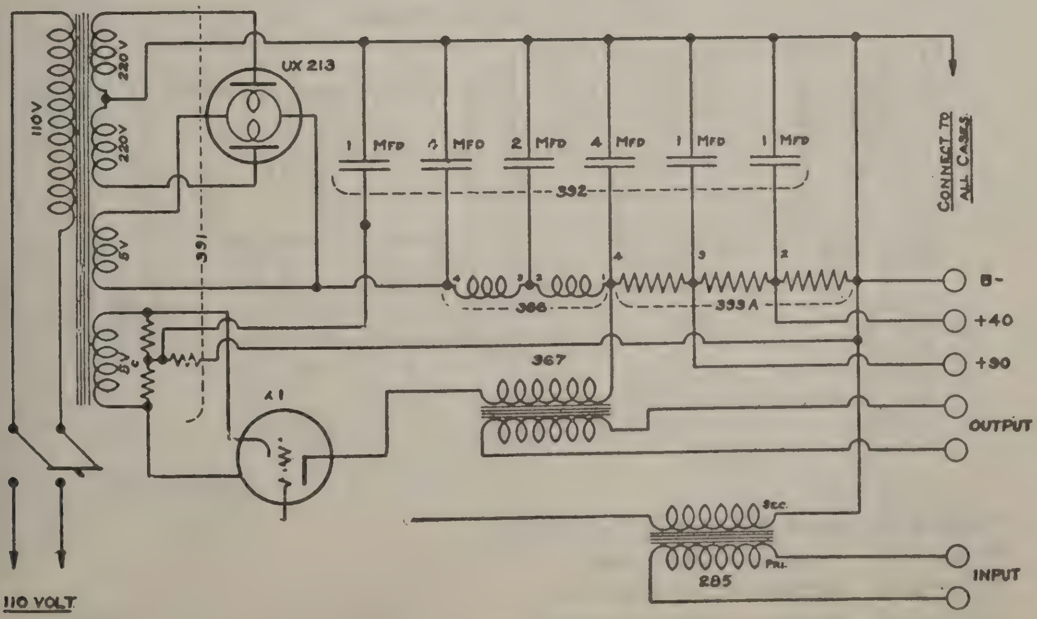
MODEL 250 Amplifier
MODEL 210 Amplifier
MODEL 390 Eliminator


90
45
B-
SPEAKER
2MF
587A
UX-250
446
4MF
2MF
4MF
327A
285 H
UY-227
214 A
2500 Ω
285 D
INPUT
437
439
439
600 V
110 V

Model 250 Amplifier


135
90
45
B-
441
GENERAL RADIO
OUTPUT
UX210
2,000 Ω
4MF
1MF
1MF
1MF
4MF
4MF
2MF
366
UX 226
285 D
INPUT
UX 281
825V
825V
7.5V
6 Ω
7.5V
7.5V
110 VOLTS

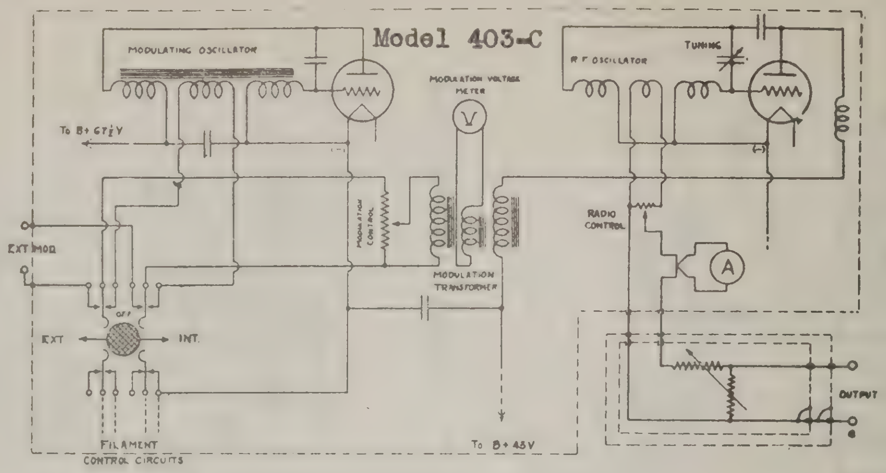
Model 210 Amplifier


110V
220V
220V
5V
5V
UX 213
391
1 MFD
4 MFD
2 MFD
4 MFD
1 MFD
1 MFD
392
386
393 A
CONNECT TO ALL CASES
B-
+40
+90
367
OUTPUT
Sec.
Pri.
285
INPUT
110 VOLT

Showing the schematic diagram of the Type 390 Rectron "B" Eliminator and Power Amplifier

MODEL 403-C
MODEL 361-B

GENERAL RADIO CO


Model 403-C
MODULATING OSCILLATOR
MODULATION VOLTAGE METER
V
R F OSCILLATOR
TUNING
To B+ 67½V
EXT MOD
MODULATION CONTROL
MODULATION TRANSFORMER
RADIO CONTROL
A
OFF
EXT
INT.
OUTPUT
FILAMENT CONTROL CIRCUITS
To B+ 45V

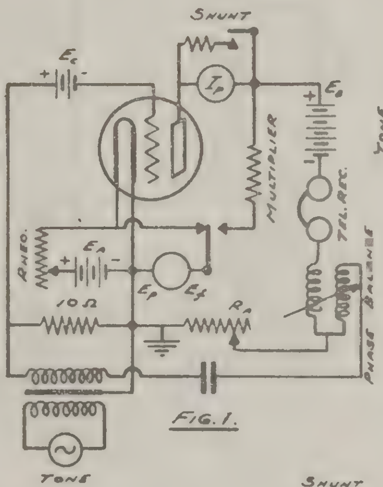

SHUNT
Ec
Ip
Eb
MULTIPLIER
TEL. REC.
RHEO.
EA
Ep
Ef
10Ω
RA
PHASE BALANCE
TONE

FIG. 1.

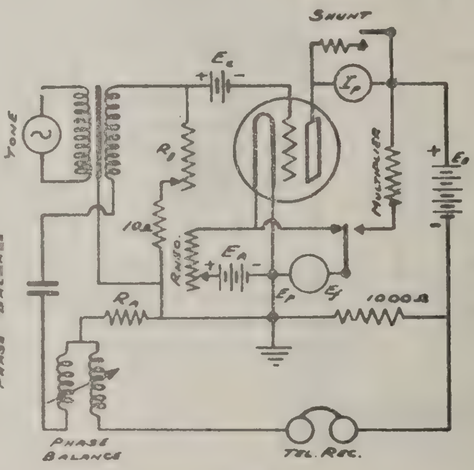

SHUNT
Ec
Ip
TONE
Rg
10Ω
RHEO.
EA
MULTIPLIER
Eb
Ep
Ef
RA
1000Ω
PHASE BALANCE
TEL. REC.

FIG. 2.

Model 361-B

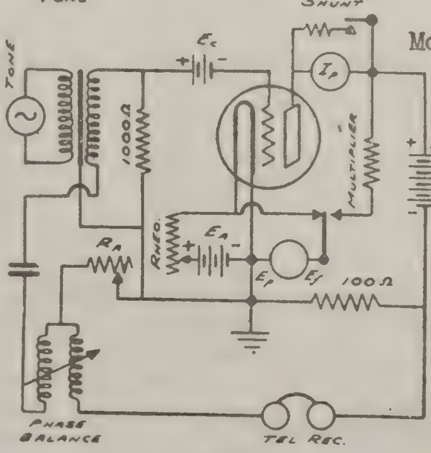

SHUNT
Ec
TONE
1000Ω
Ip
MULTIPLIER
Eb
RHEO.
EA
RA
Ep
Ef
100Ω
PHASE BALANCE
TEL. REC.

FIG. 3.

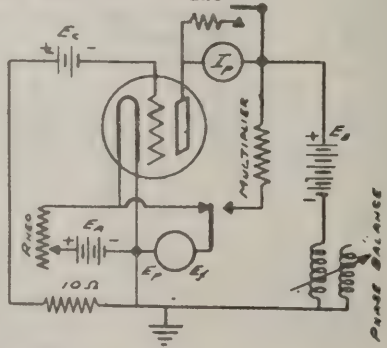

SHUNT
Ec
Ip
MULTIPLIER
Eb
RHEO.
EA
Ep
Ef
10Ω
PHASE BALANCE

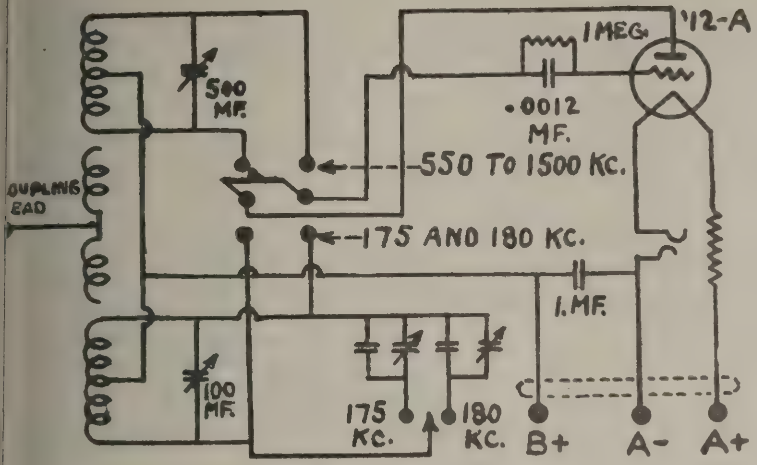
FIG. 4.

Figure 1 Amplification Constant.
Figure 2 Plate Resdstance
Figure 3 Mutual Conductance
Figure 4 Static characteristics

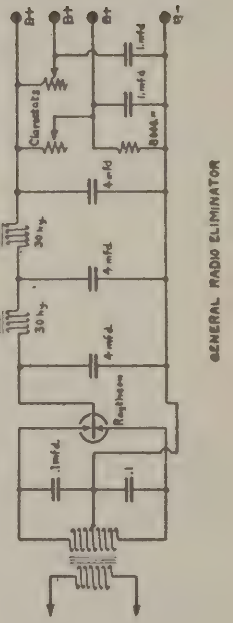
Special adaptors are available for conversion and application of the 361-B bridge to AC tubes.

GENERAL RADIO CO

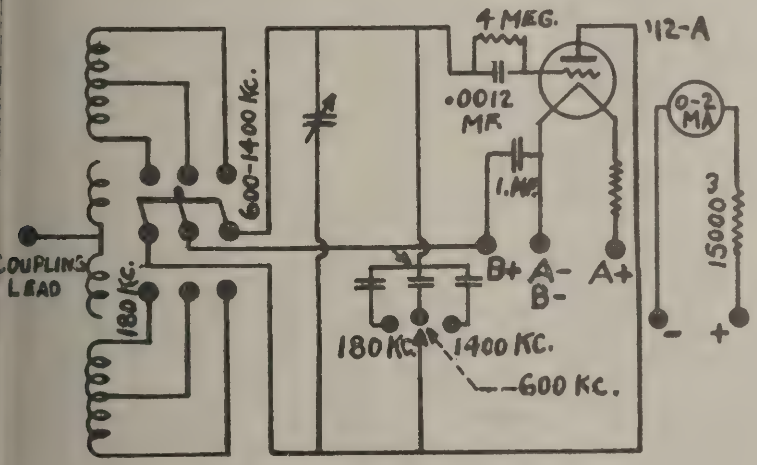
MODEL 360 Oscillator
MODEL 360-A Oscillator
MODEL 320 Oscillator


'12-A
1 MEG.
500 MF.
.0012 MF.
550 TO 1500 KC.
OUPLING EAD
175 AND 180 KC.
1. MF.
100 MF.
175 KC.
180 KC.
B+
A-
A+

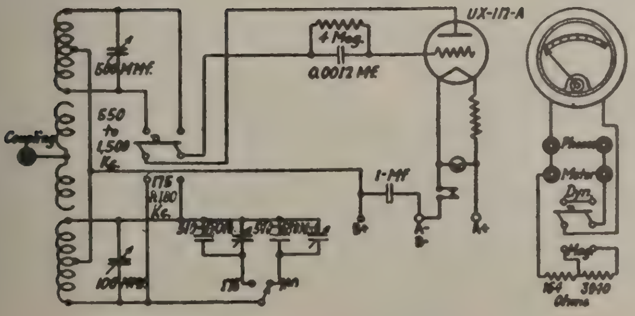
Model 360 Oscillator


B+
B+
B+
B-
1.mfd
1.mfd
Clarostats
8000 Ω
4 mfd
30 hy
4 mfd
30 hy
4 mfd
Raytheon
.1mfd.
.1

GENERAL RADIO ELIMINATOR


4 MEG.
'12-A
.0012 MF.
600-1400 Kc.
0-2 MA
1. MF.
OUPLING LEAD
180 Kc.
B+
A-
B-
A+
15000 Ω
-
+
180 KC.
1400 KC.
600 KC.

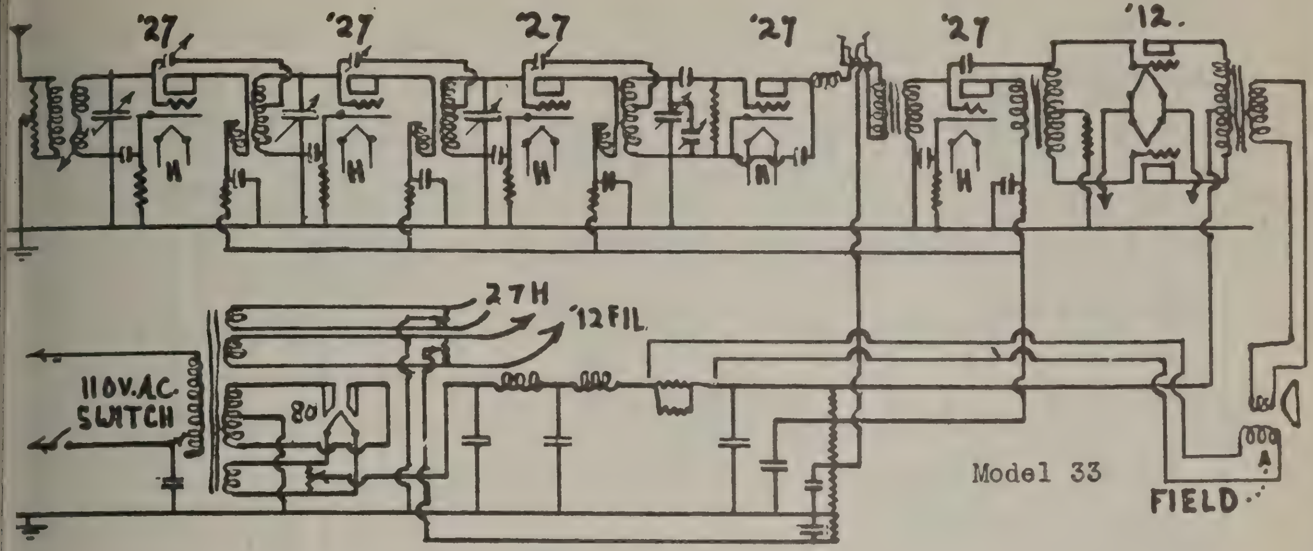
Model 320 Oscillator


UX-171-A
4 Meg.
0.0012 MF.
500 MMF.
550 to 1,500 Kc.
Coupling
175 & 180 Kc.
1-MF
B+
A-
B-
A+
100 MMF.
175
180
Phones
Meter
Dyn.
Mag.
164
3840
Ohms

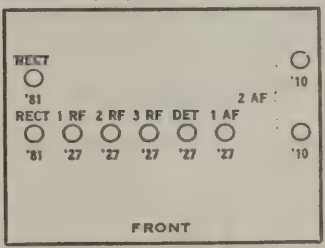
Model 360-A Oscillator

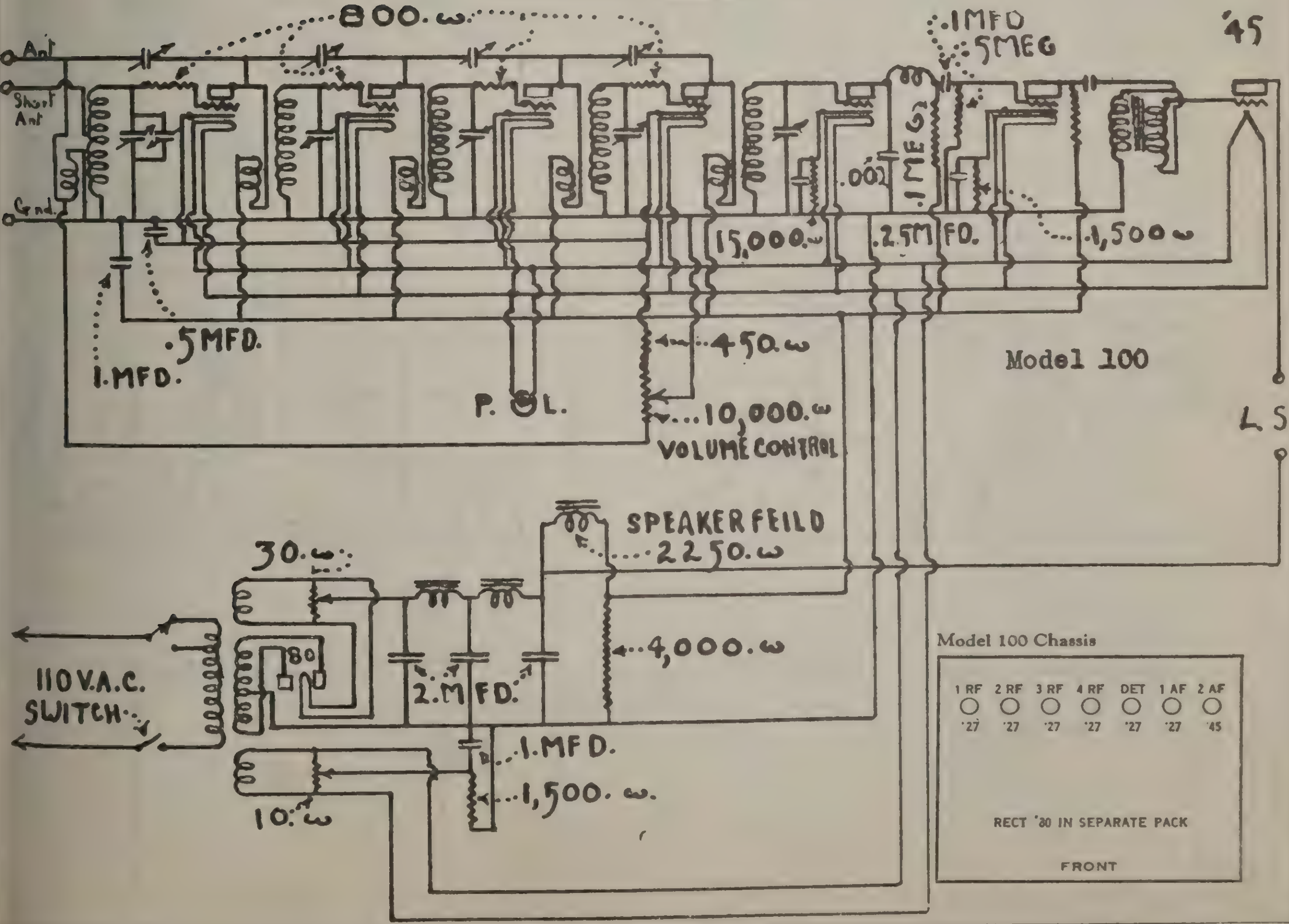
GILFILLAN BROS.

MODEL 33
MODEL 100


'27
'27
'27
'27
'27
'12.
27H
'12FIL.
110V.AC. SWITCH
80
Model 33
FIELD

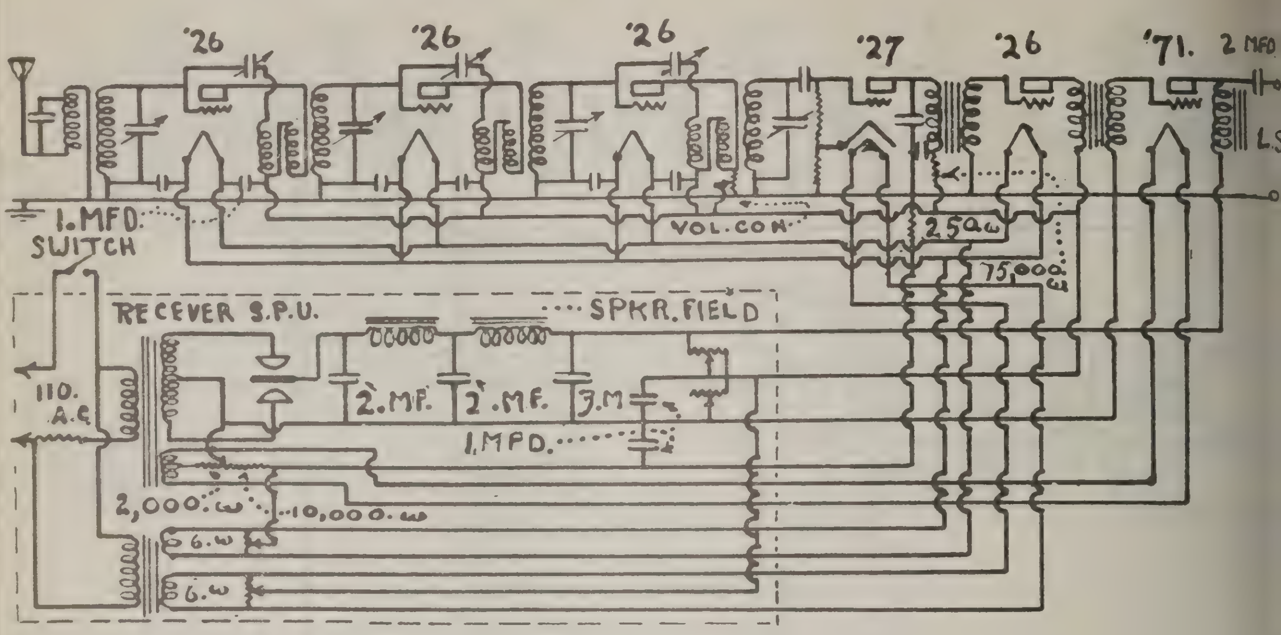
Models 33, 44, 77


RECT
'81
'10
2 AF
RECT
1 RF
2 RF
3 RF
DET
1 AF
'81
'27
'27
'27
'27
'27
'10
FRONT

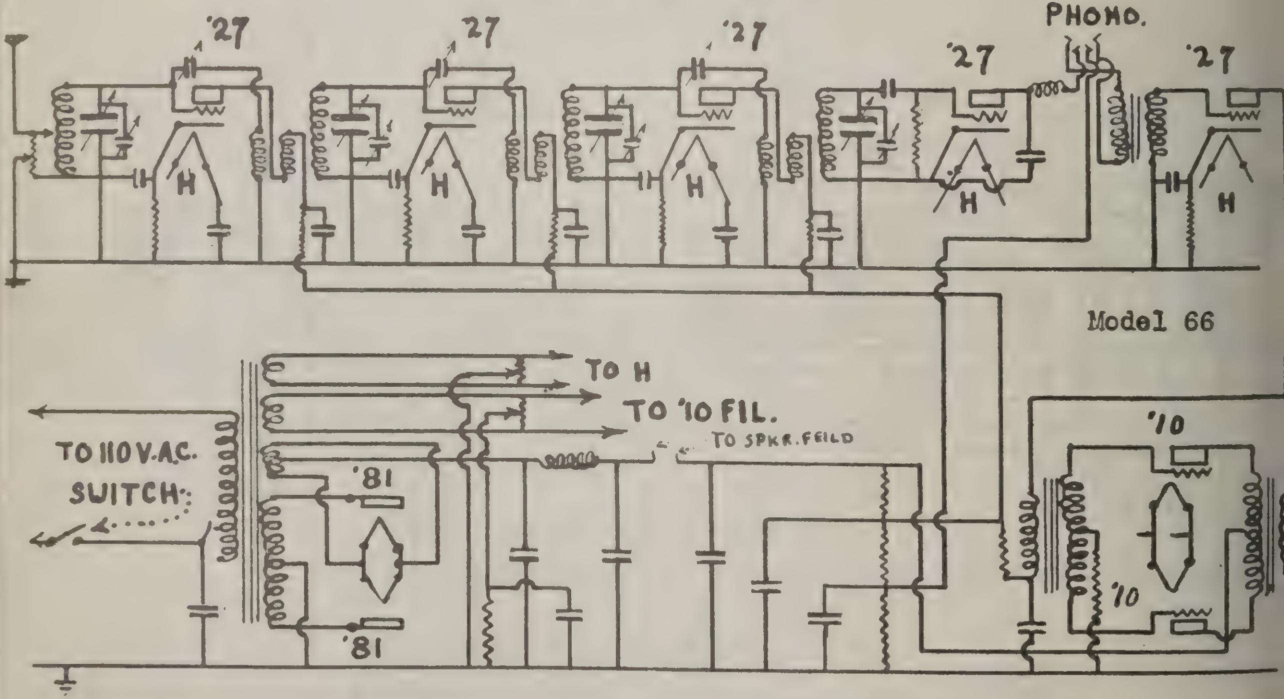

800.ω
Ant
Short Ant
Gnd
.1MFD
.5MEG
'45
.002
.1MEG.
15,000.ω
.25M FD.
1,500ω
.5MFD.
1.MFD.
450.ω
P. OL.
10,000.ω
VOLUME CONTROL
Model 100
L.S
SPEAKER FEILD
2250.ω
30.ω
110 V.A.C. SWITCH
80
2.MFD.
4,000.ω
1.MFD.
1,500.ω
10.ω
Model 100 Chassis
1 RF
2 RF
3 RF
4 RF
DET
1 AF
2 AF
'27
'27
'27
'27
'27
'27
'45
RECT '80 IN SEPARATE PACK
FRONT

MODEL 60
MODEL 66

GILFILLAN BROS..

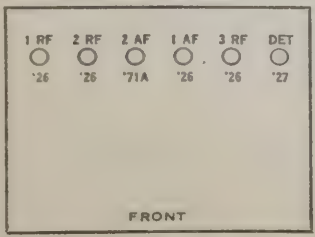

'26
'26
'26
'27
'26
'71.
2 MFD
L.S
1.MFD.
SWITCH
VOL.CON.
250.ω
75,000.ω
RECEVER S.P.U.
SPKR.FIELD
110. A.C
2.MF.
2.MF.
3.M
1.MFD.
2,000.ω
10,000.ω
6.ω
6.ω

Model 60

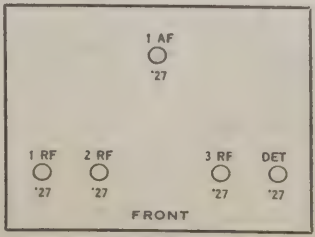

'27
'27
'27
'27
PHONO.
'27
H
H
H
H
H
TO H
TO '10 FIL.
TO SPKR.FEILD
TO 110 V.A.C.
SWITCH
'81
'81
'10
'10

Model 66

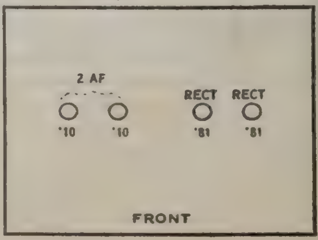
Models 55, 60, 65, 70


1 RF
'26
2 RF
'26
2 AF
'71A
1 AF
'26
3 RF
'26
DET
'27
FRONT

Model 66 Chassis

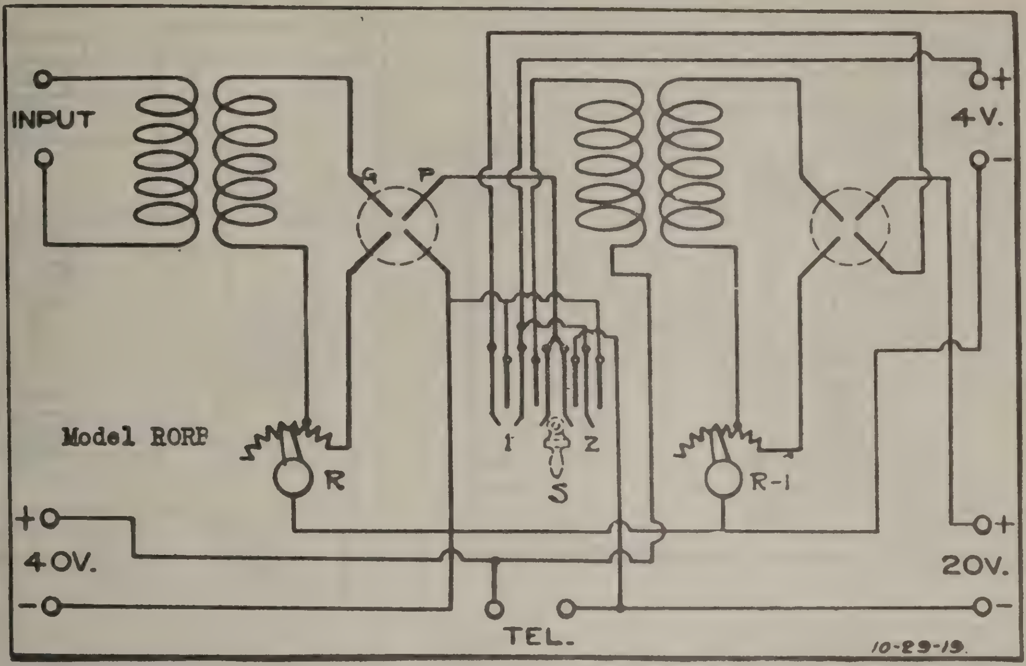

1 AF
'27
1 RF
'27
2 RF
'27
3 RF
'27
DET
'27
FRONT

Model 66 Pack

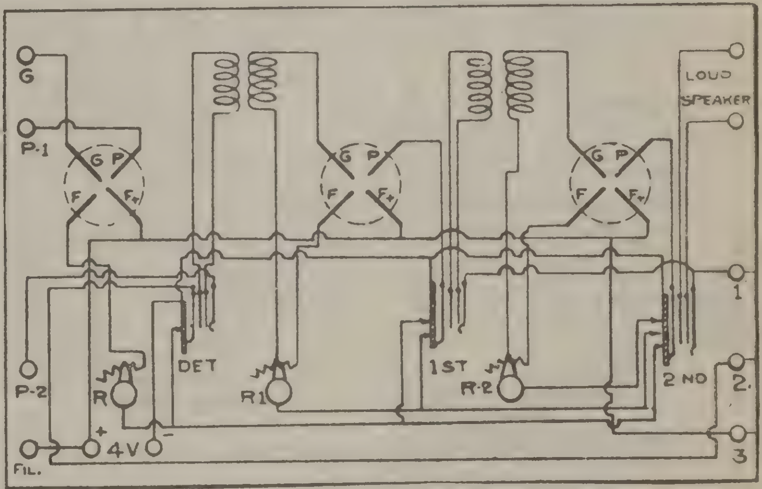

2 AF
'10
'10
RECT
'81
RECT
'81
FRONT

A. H. GREBE & CO.

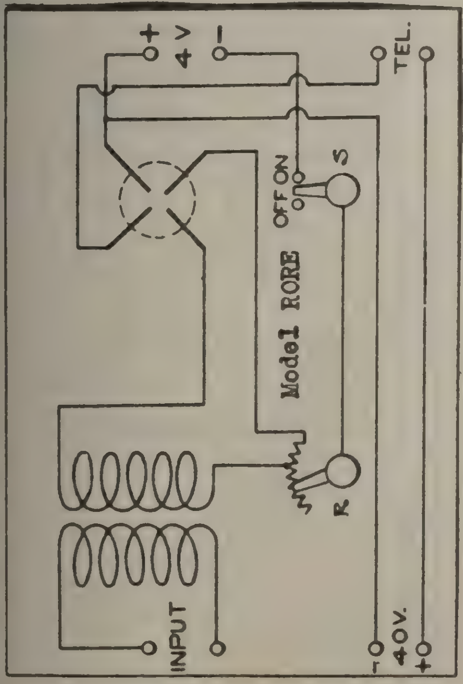
MODEL RORB
MODEL RORD
MODEL RORE
MODEL RORF


INPUT
G
P
+
4 V.
−
1
2
S
R
R-1
+
40V.
−
+
20V.
−
TEL.
10-29-19.

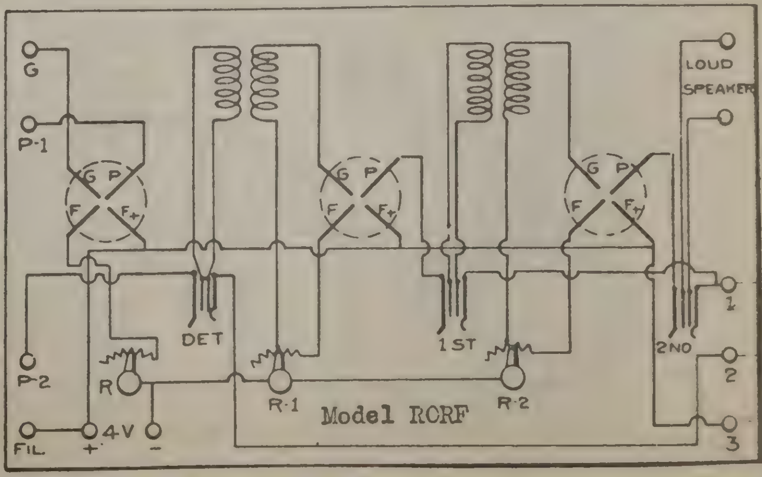
Model RORB


G
P-1
G P
F F+
LOUD
SPEAKER
1
P-2
R
DET
R1
1ST
R-2
2 ND
2.
FIL.
+
4V
−
3

Model RORD


+
4 V
−
TEL.
OFF ON
S
R
INPUT
40V.
−
+

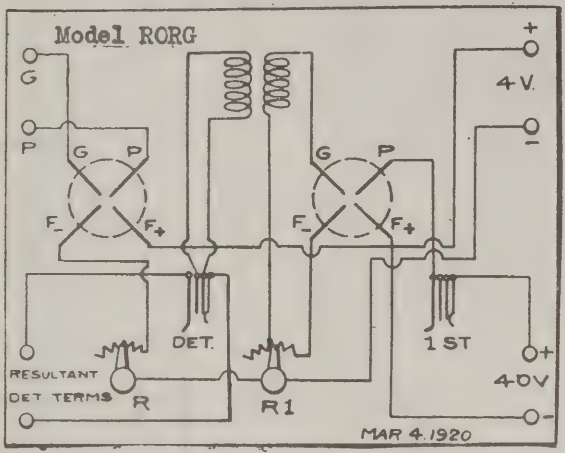
Model RORE

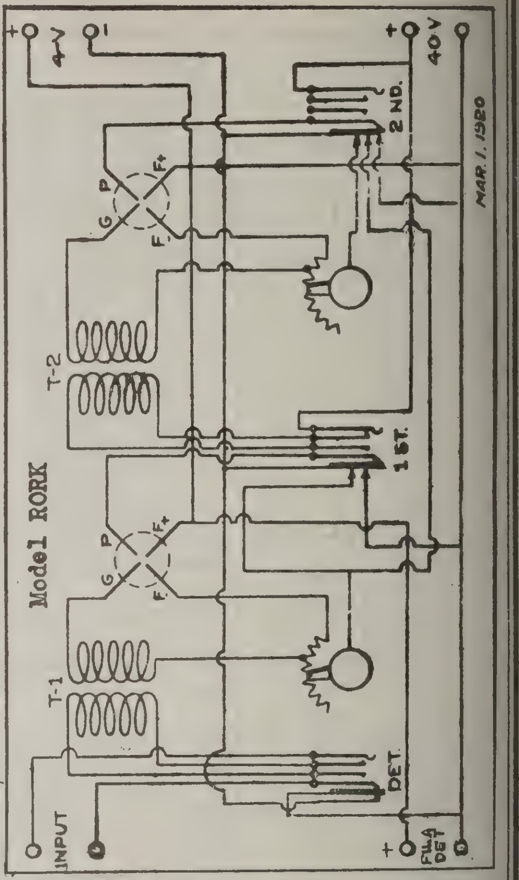

G
P-1
G P
F F+
LOUD
SPEAKER
1
DET
1 ST
2 ND
P-2
R
R-1
R-2
2
FIL.
4V
+
−
3

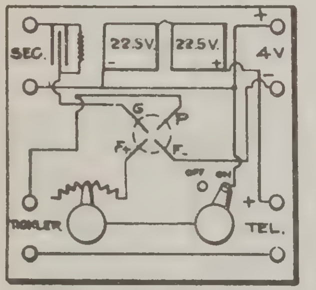
Model RORF

MODEL RORG
MODEL RORH
MODEL RORJ
MODEL RORK
MODEL RORL

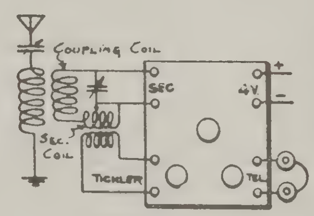
A. H. GREBE & CO.


Model RORG
G
P
G
P
F-
F+
G
P
F-
F+
+
4 V.
-
DET.
1 ST
RESULTANT
DET TERMS
R
R1
+
40V
-
MAR 4 1920

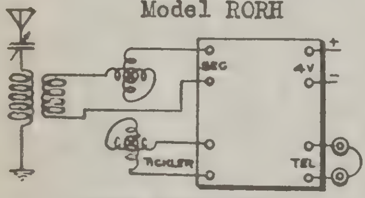

Model RORK
+
4 V
-
+
40 V
-
2 ND.
1 ST.
DET.
G
P
F-
F+
T-2
T-1
INPUT
FIL & DET
MAR. 1. 1920


SEC.
22.5V.
22.5V.
-
+
4V
+
-
G
P
F+
F-
OFF
ON
TICKLER
+
TEL.

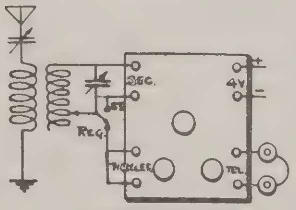
Model RORH


Coupling Coil
Sec. Coil
SEC
4V.
+
-
TICKLER
TEL

-TICKLER-

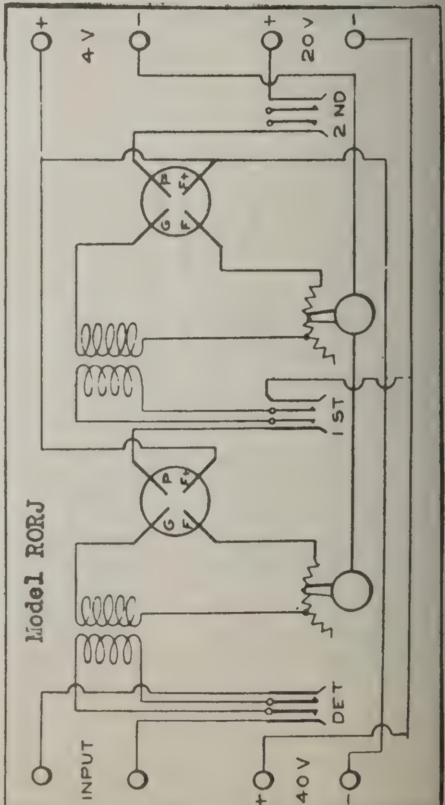

SEC
4V
+
-
TICKLER
TEL

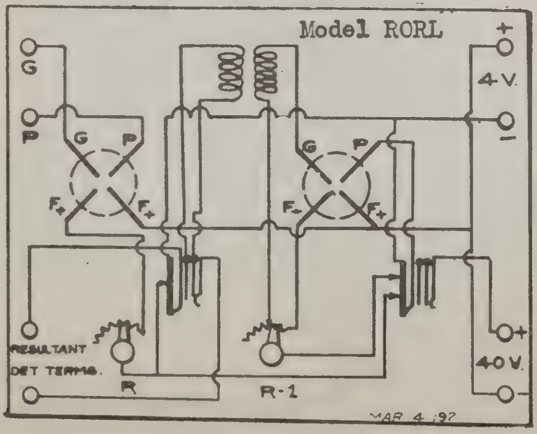
-WING-GRID-LOAD-


SEC.
4V
+
-
REG.
TICKLER
TEL

LOOSE COUPLER

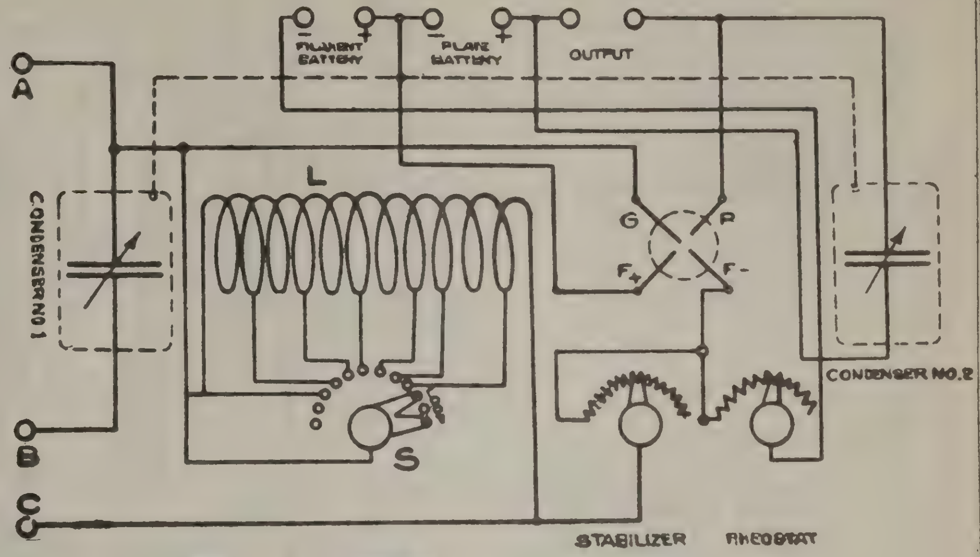
FEB 28 1920


Model RORJ
+
4 V
-
+
20 V
-
2 ND
1 ST
DET
P
F+
G
F
INPUT
+
40 V
-

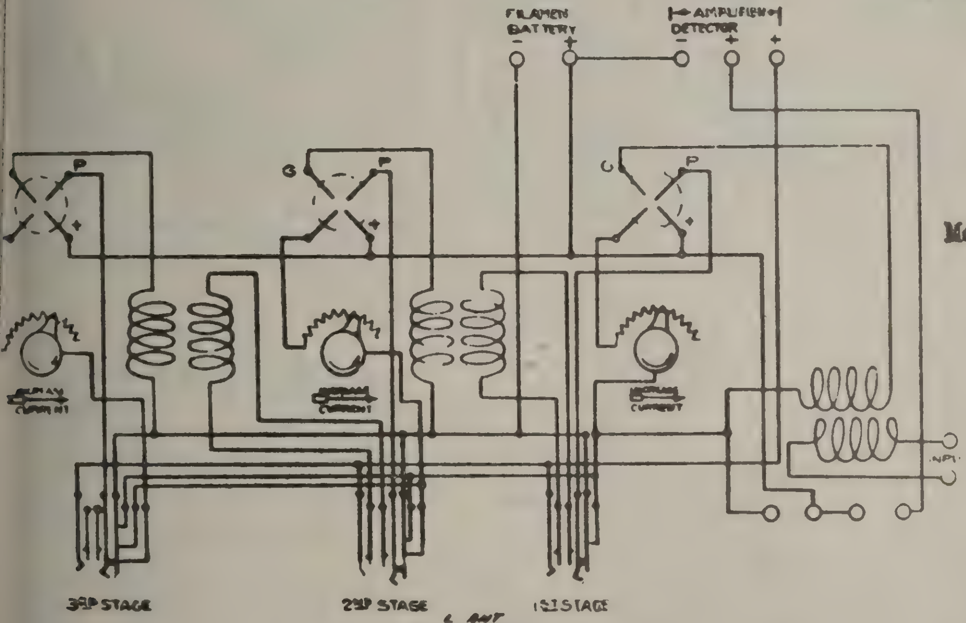

Model RORL
G
P
G
P
F+
F+
G
P
F-
F+
+
4 V.
-
RESULTANT
DET TERMS.
R
R-1
+
40 V.
-
MAR 4 1920

A. H. GREBE & CO.

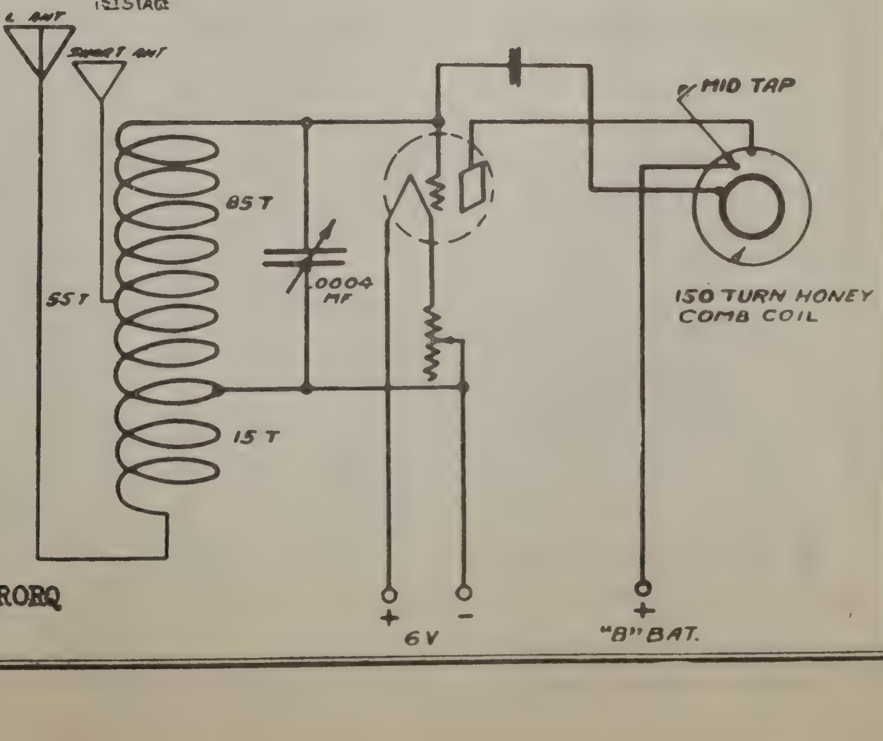
MODEL RORN
MODEL RORO
MODEL RORQ


FILAMENT BATTERY
PLATE BATTERY
OUTPUT
A
B
C
L
S
G
P
F+
F-
CONDENSER NO 1
CONDENSER NO.2
STABILIZER
RHEOSTAT

Model RORN


FILAMENT BATTERY
AMPLIFIER
DETECTOR
G
P
INPUT
3RD STAGE
2ND STAGE
1ST STAGE

Model RORO

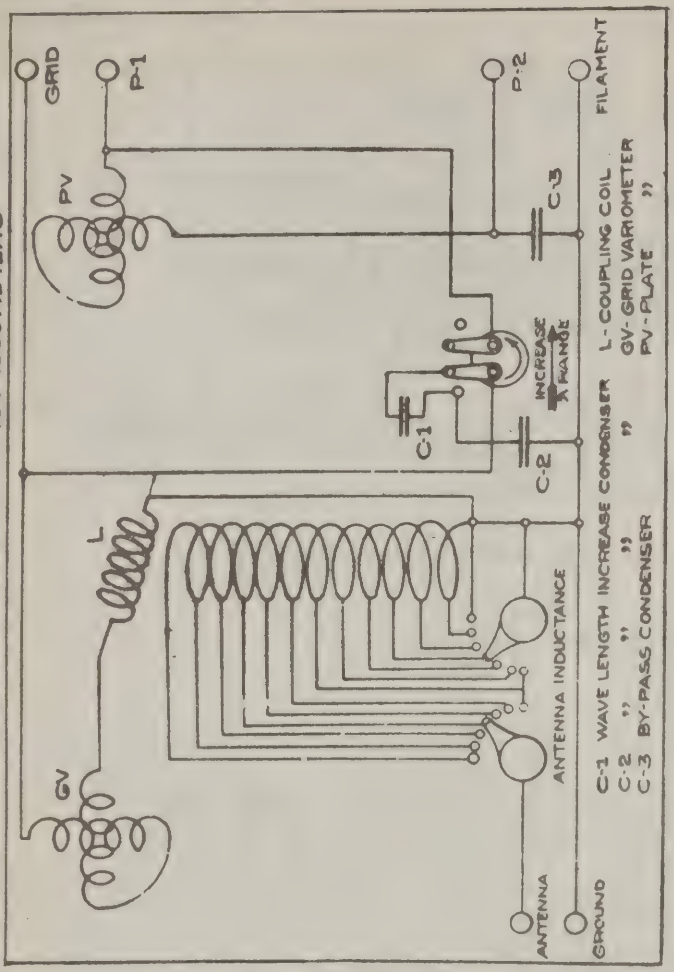

L ANT
SHORT ANT
85 T
55 T
15 T
.0004 MF
MID TAP
150 TURN HONEY COMB COIL
6 V
"B" BAT.

Model RORQ

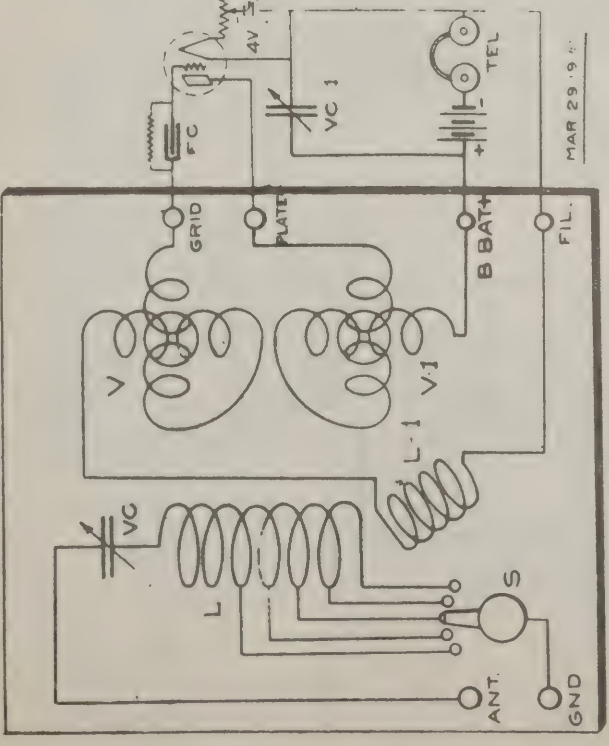
MODEL CR-1 MODEL CR-3
MODEL CR-2 MODEL CR-4

A. H. GREBE & CO.,

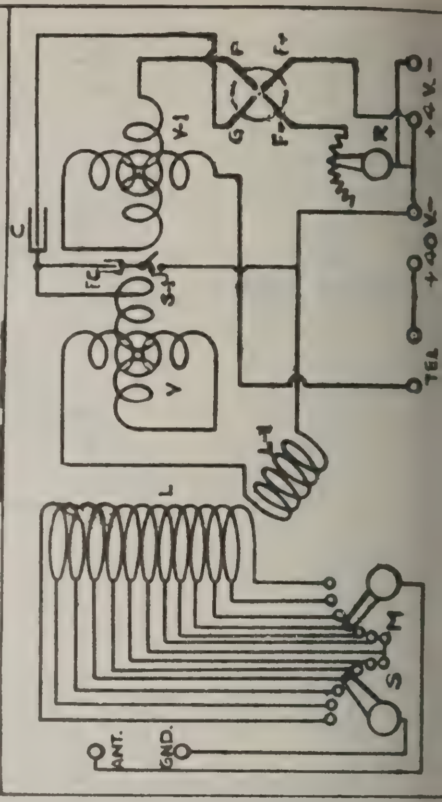
GREBE SHORT-WAVE REGENERATIVE RECEIVER
TYPE CR-3
150-1000 METERS


GRID
P-1
P-2
FILAMENT
PV
C-3
C-1
C-2
INCREASE λ RANGE
L
GV
ANTENNA INDUCTANCE
ANTENNA
GROUND
C-1 WAVE LENGTH INCREASE CONDENSER
C-2 " " "
C-3 BY-PASS CONDENSER
L - COUPLING COIL
GV - GRID VARIOMETER
PV - PLATE "

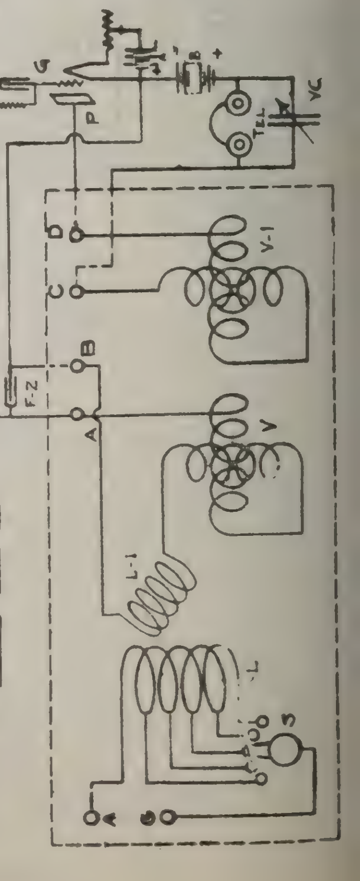
-SHORT WAVE REGENERATIVE RECEIVER-
-TYPE CR-4-


F.C
4V
VC 1
TEL
GRID
PLATE
B BAT+
FIL.
V
V-1
L-1
VC
L
S
ANT.
GND
MAR 29 '9

-SHORT WAVE REGENERATIVE RECEIVER-
-TYPE CR-1-

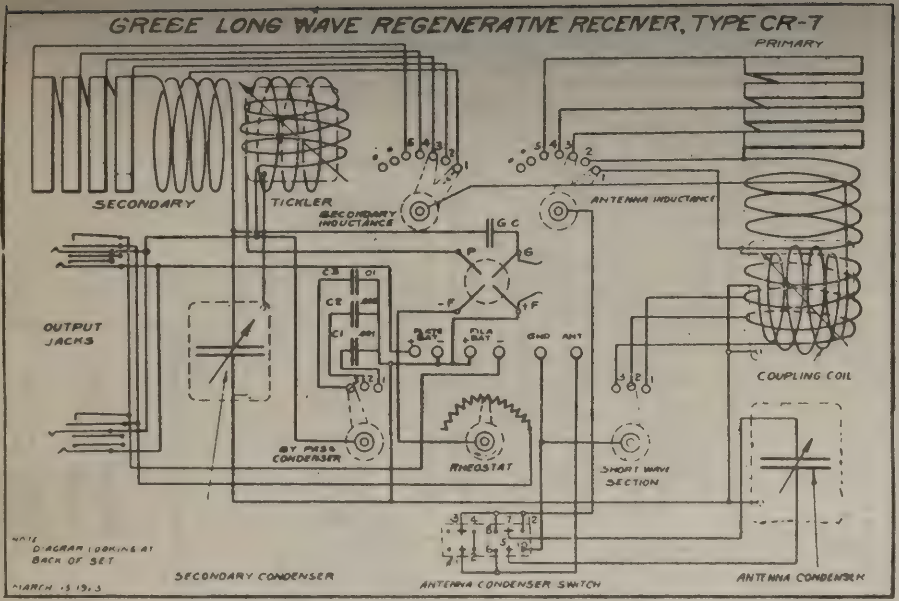

C
V-1
G
F
F+
F-
R
+4V-
+40V-
TEL
F.C
V
L-1
L
M
S
ANT.
GND.

SHORT WAVE REGENERATIVE RECEIVER-
-TYPE CR-2-


G
P
B
TEL
VC
D
C
B
A
F.Z
V-1
V
L-1
L
S
A
G

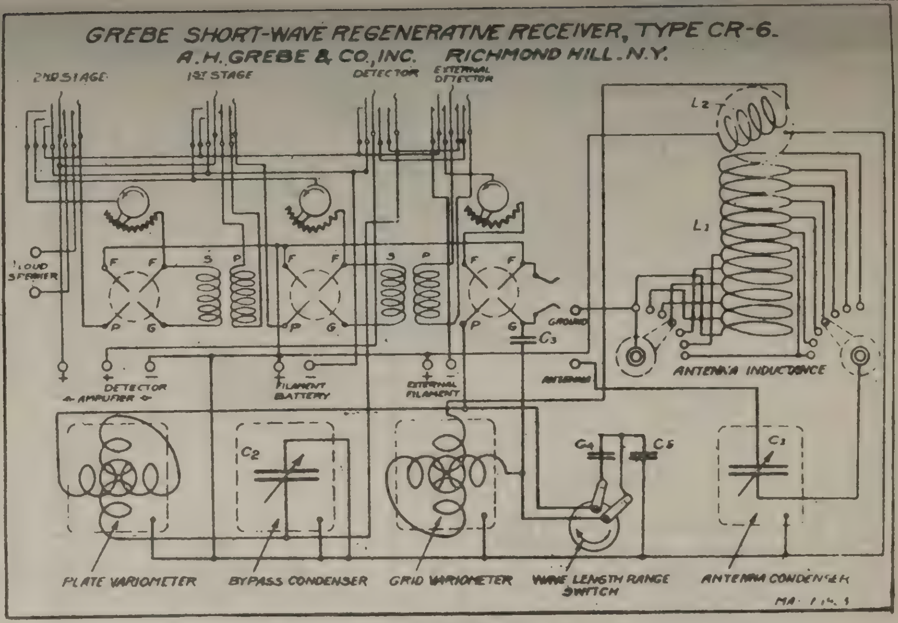
A. H. GREBE & CO.

MODEL CR-5
MODEL CR-6
MODEL CR-7
MODEL CR-8



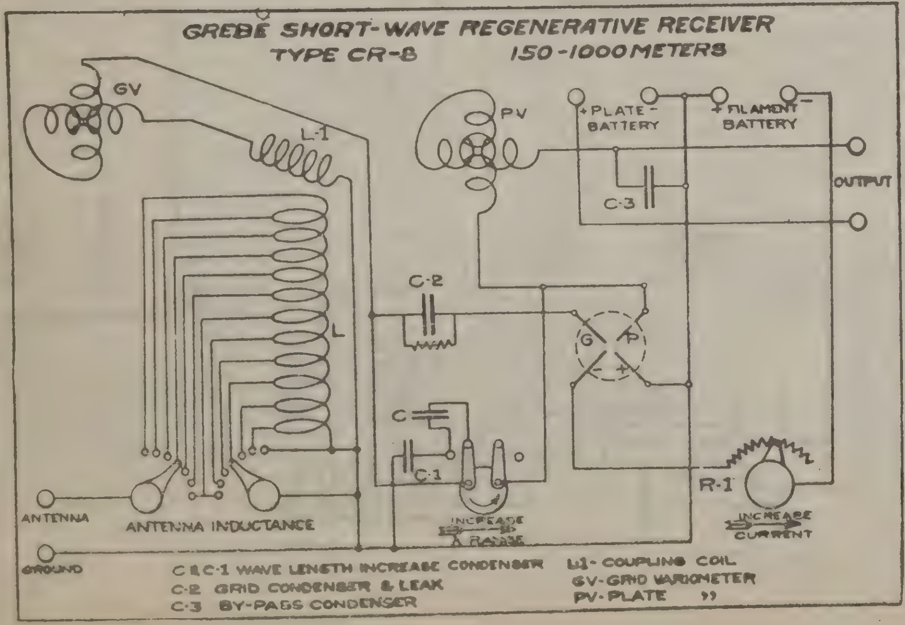
GREBE LONG WAVE REGENERATIVE RECEIVER, TYPE CR-7

PRIMARY
SECONDARY
TICKLER
SECONDARY INDUCTANCE
ANTENNA INDUCTANCE
OUTPUT JACKS
G C
G
P
F
C3 .01
C2 .001
C1 .001
PLATE BAT
FILA BAT
GND
ANT
COUPLING COIL
BY PASS CONDENSER
RHEOSTAT
SHORT WAVE SECTION
NOTE DIAGRAM LOOKING AT BACK OF SET
MARCH 15 1923
SECONDARY CONDENSER
ANTENNA CONDENSER SWITCH
ANTENNA CONDENSER



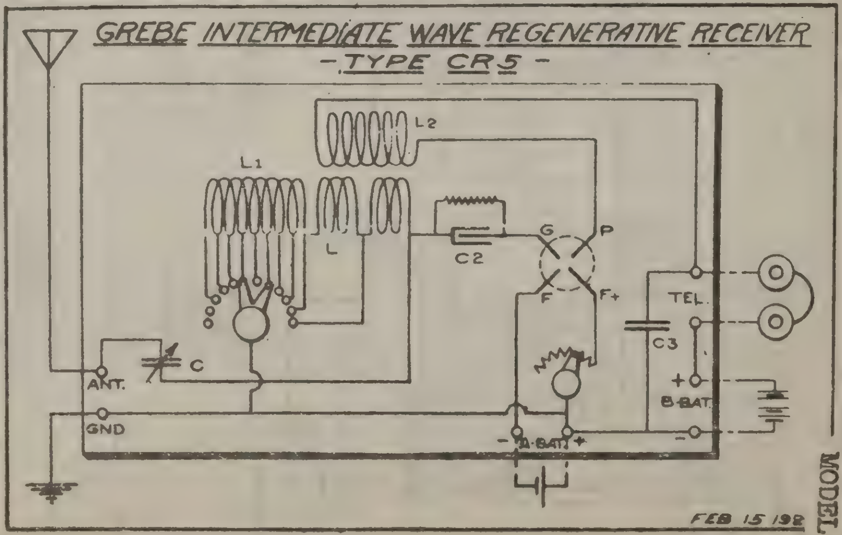
GREBE SHORT-WAVE REGENERATIVE RECEIVER, TYPE CR-6.
A. H. GREBE & CO, INC. RICHMOND HILL. N.Y.

2ND STAGE
1ST STAGE
DETECTOR
EXTERNAL DETECTOR
L2
L1
LOUD SPEAKER
F
S
P
G
C3
GROUND
ANTENNA
DETECTOR
AMPLIFIER
FILAMENT BATTERY
EXTERNAL FILAMENT
ANTENNA INDUCTANCE
C2
C4
C5
C1
PLATE VARIOMETER
BYPASS CONDENSER
GRID VARIOMETER
WAVE LENGTH RANGE SWITCH
ANTENNA CONDENSER
MA. 1 1923



GREBE SHORT-WAVE REGENERATIVE RECEIVER
TYPE CR-8 150-1000 METERS

GV
L-1
PV
+ PLATE - BATTERY
+ FILAMENT - BATTERY
OUTPUT
C-3
C-2
L
G
P
C
C-1
R-1
ANTENNA
ANTENNA INDUCTANCE
GROUND
INCREASE RANGE
INCREASE CURRENT
C & C-1 WAVE LENGTH INCREASE CONDENSER
C-2 GRID CONDENSER & LEAK
C-3 BY-PASS CONDENSER
L1- COUPLING COIL
GV- GRID VARIOMETER
PV- PLATE "

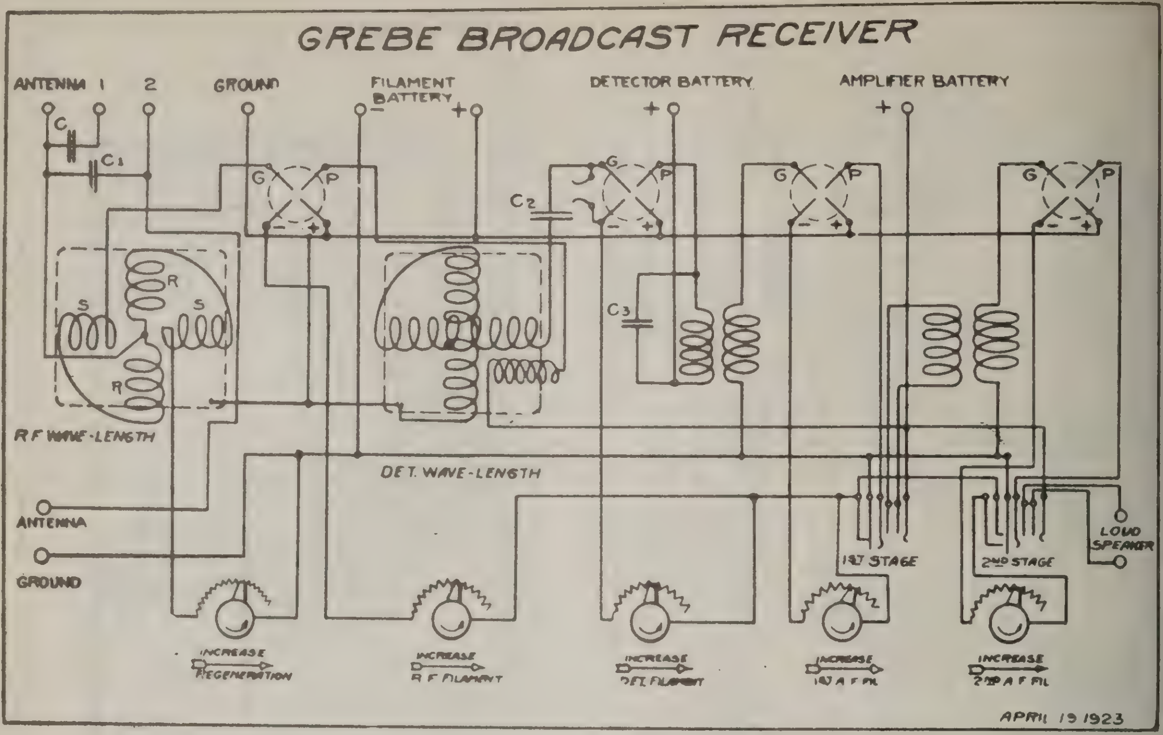


GREBE INTERMEDIATE WAVE REGENERATIVE RECEIVER
- TYPE CR5 -

L2
L1
L
C2
G
P
F
F+
TEL.
C3
C
ANT.
GND
+
B-BAT.
-
A-BAT
FEB 15 192

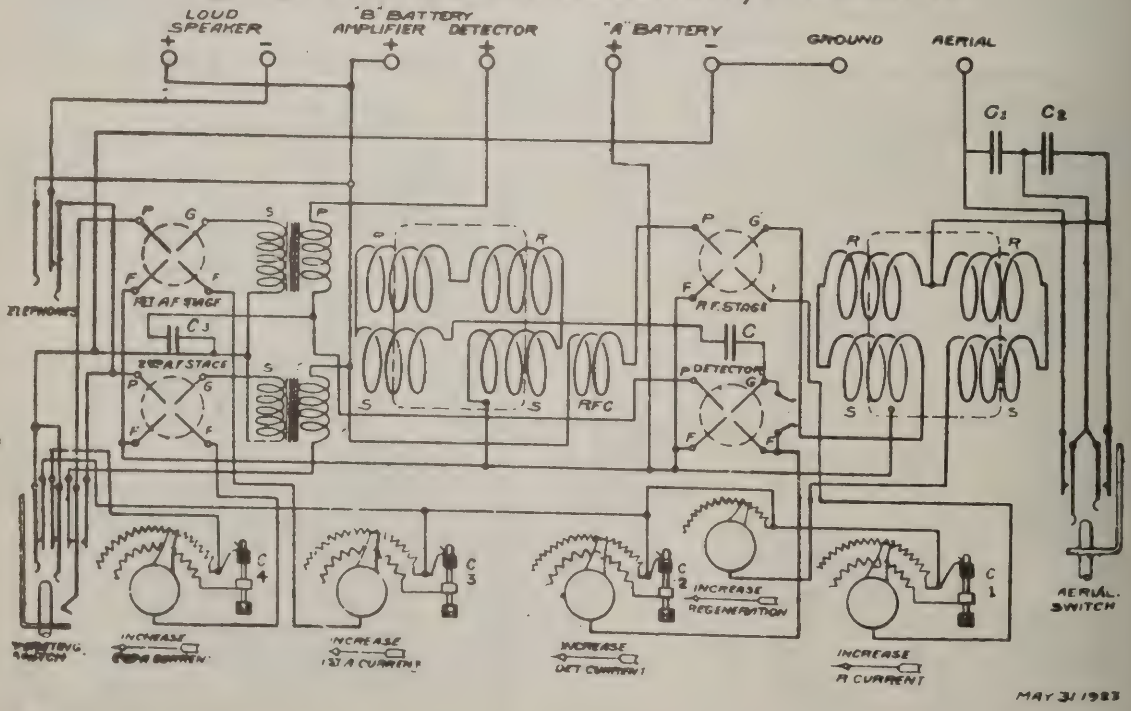
MODEL Broadcast Receiver
MODEL CR-12

A. H. GREBE & CO.,


GREBE BROADCAST RECEIVER
ANTENNA 1
2
GROUND
FILAMENT BATTERY
DETECTOR BATTERY
AMPLIFIER BATTERY
C
C1
C2
C3
G
P
R
S
R.F. WAVE-LENGTH
DET. WAVE-LENGTH
ANTENNA
GROUND
1ST STAGE
2ND STAGE
LOUD SPEAKER
INCREASE REGENERATION
INCREASE R.F. FILAMENT
INCREASE DET. FILAMENT
INCREASE 1ST A.F. FIL.
INCREASE 2ND A.F. FIL.

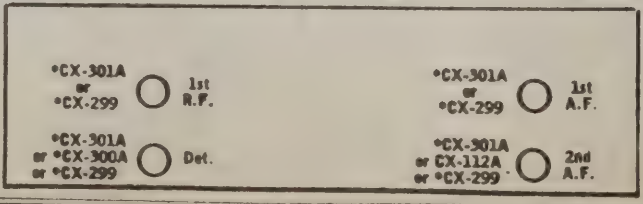
APRIL 19 1923

GREBE BROADCAST RECEIVER, TYPE CR-12.


LOUD SPEAKER
"B" BATTERY AMPLIFIER
DETECTOR
"A" BATTERY
GROUND
AERIAL
C1
C2
TELEPHONES
P
G
F
S
1ST A.F. STAGE
C3
2ND A.F. STAGE
R
RFC
R.F. STAGE
C
DETECTOR
C4
C3
C2
C1
INCREASE REGENERATION
INCREASE 1ST A CURRENT
INCREASE DET CURRENT
INCREASE R CURRENT
AERIAL SWITCH

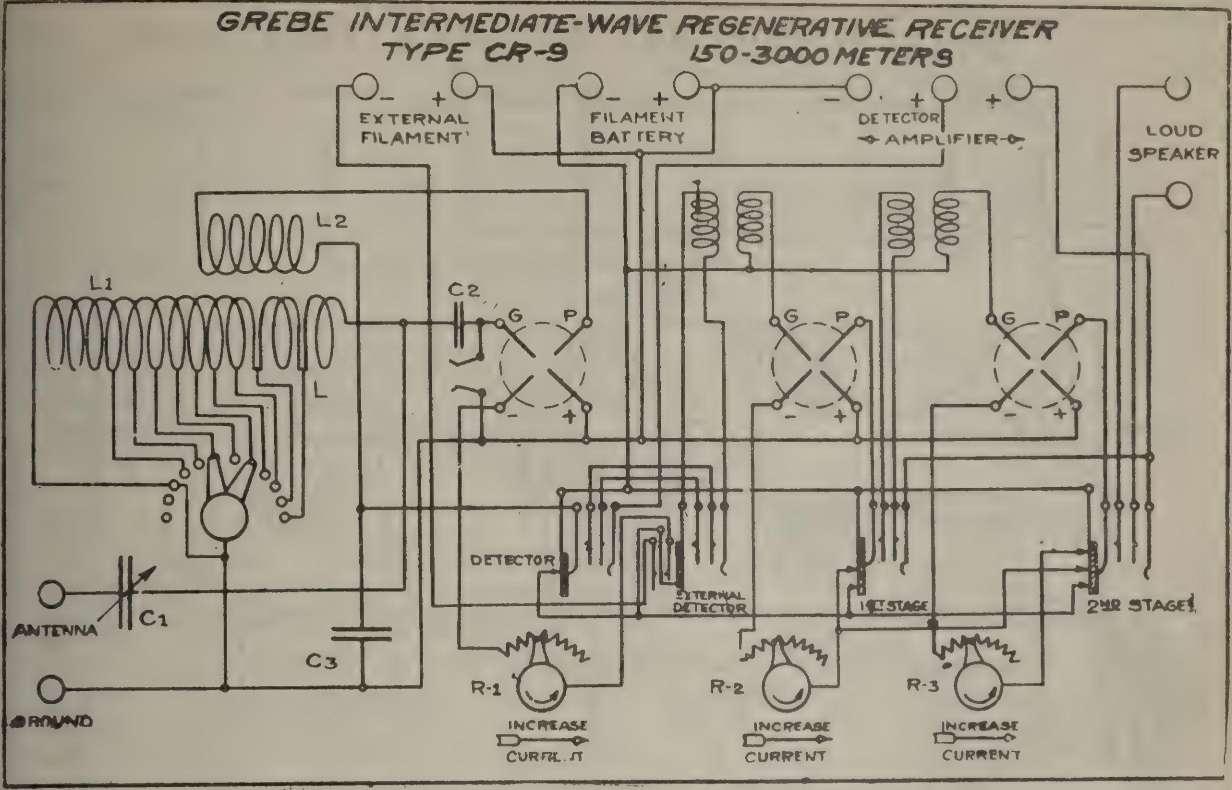
MAY 31 1923

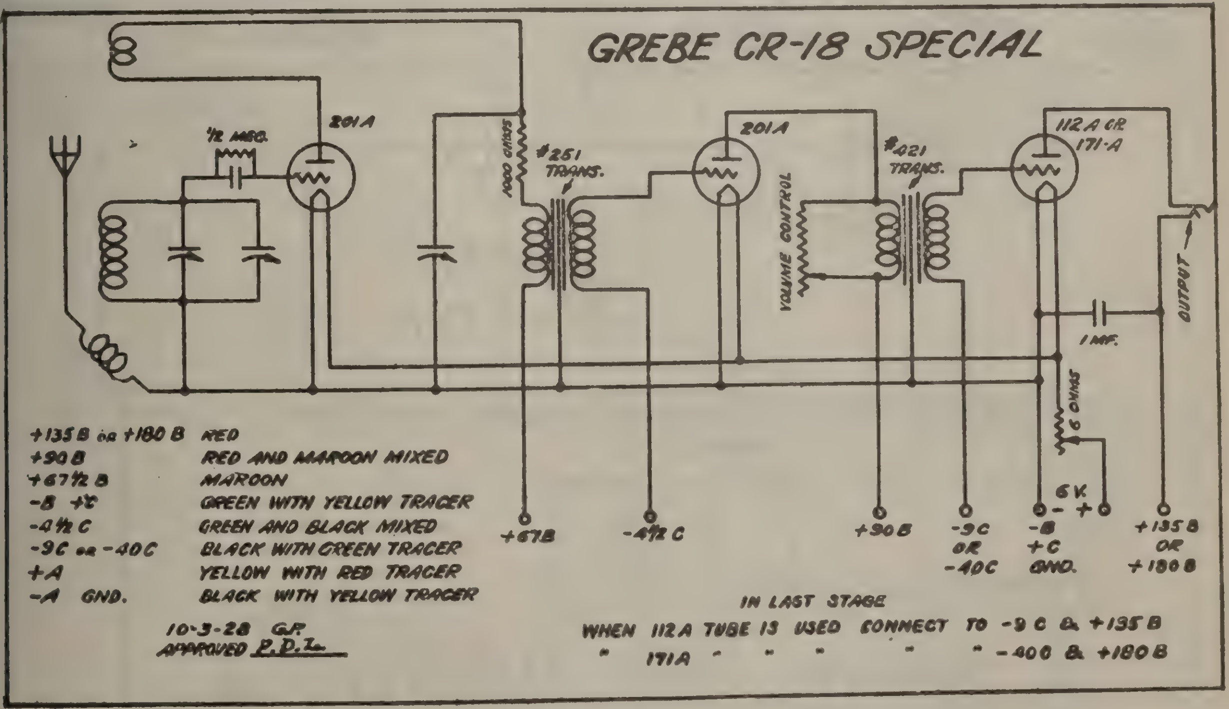
CR-12 (Batt.)


*CX-301A or *CX-299 — 1st R.F.
*CX-301A or *CX-300A or *CX-299 — Det.
*CX-301A or *CX-299 — 1st A.F.
*CX-301A or CX-112A or *CX-299 — 2nd A.F.

A. H. GREBE & CO.

MODEL CR-9
MODEL CR-18(Special)


GREBE INTERMEDIATE-WAVE REGENERATIVE RECEIVER
TYPE CR-9 150-3000 METERS
EXTERNAL FILAMENT
FILAMENT BATTERY
DETECTOR AMPLIFIER
LOUD SPEAKER
L2
L1
L
C2
G P
C1
C3
ANTENNA
GROUND
DETECTOR
EXTERNAL DETECTOR
1ST STAGE
2ND STAGE
R-1
R-2
R-3
INCREASE CURRENT
INCREASE CURRENT
INCREASE CURRENT

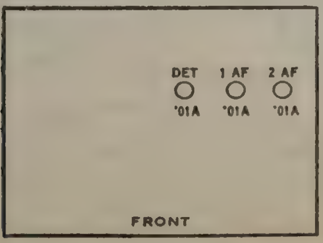

GREBE CR-18 SPECIAL
½ MEG.
201A
1000 OHMS
#251 TRANS.
201A
VOLUME CONTROL
#421 TRANS.
112A OR 171-A
OUTPUT
1 MF.
6 OHMS
6 V.
+67B
-4½ C
+90 B
-9C OR -40C
-B +C GND.
+135 B OR +180 B

+135 B or +180 B	RED
+90 B	RED AND MAROON MIXED
+67½ B	MAROON
-B +C	GREEN WITH YELLOW TRACER
-4½ C	GREEN AND BLACK MIXED
-9C or -40C	BLACK WITH GREEN TRACER
+A	YELLOW WITH RED TRACER
-A GND.	BLACK WITH YELLOW TRACER

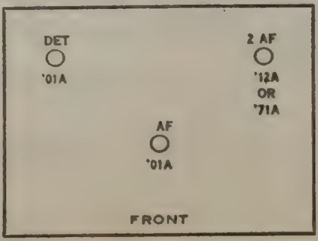
10-3-28 G.P.
APPROVED P.D.L.

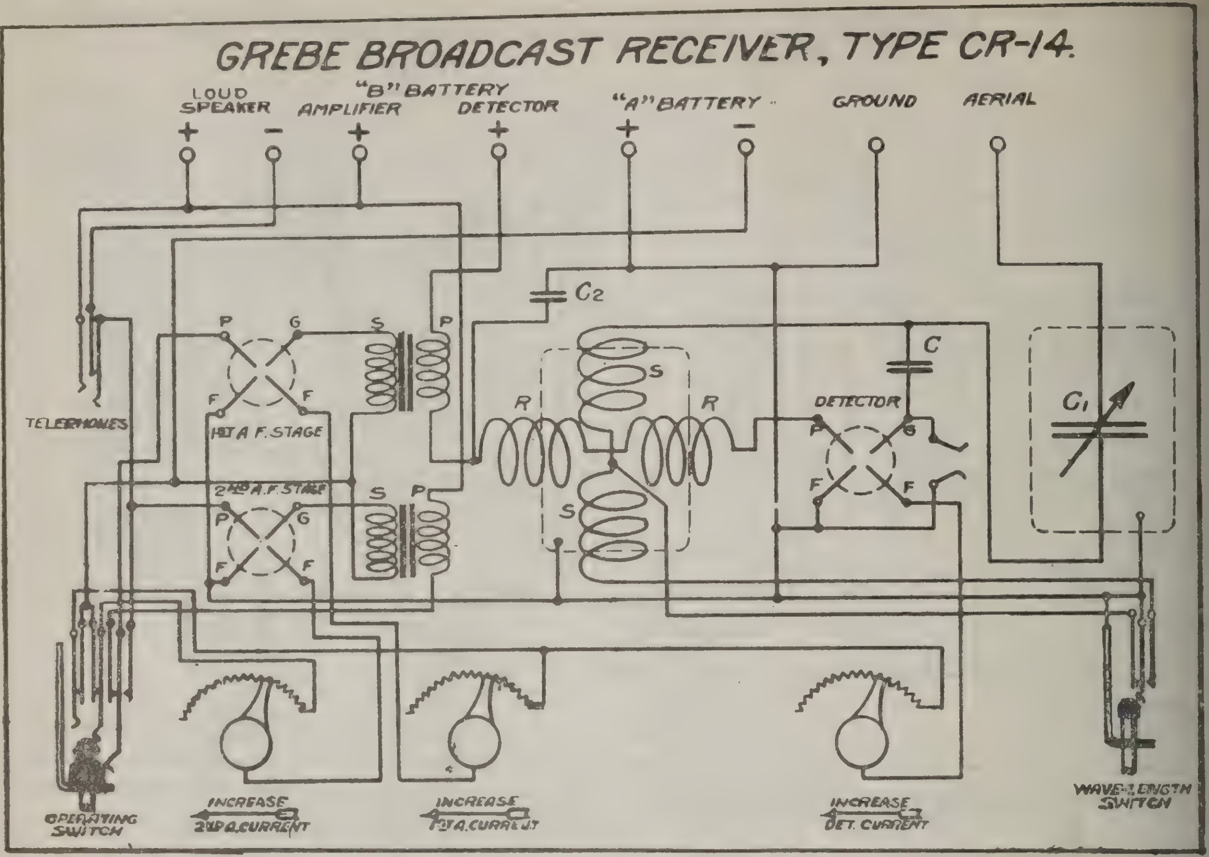
IN LAST STAGE
WHEN 112A TUBE IS USED CONNECT TO -9 C & +135 B
" 171A " " " " " -40 C & +180 B

Model CR9


DET
'01A
1 AF
'01A
2 AF
'01A
FRONT

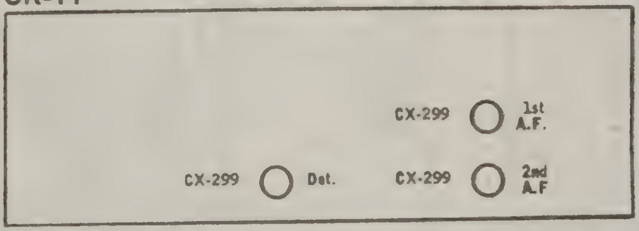
Model CR18 Special

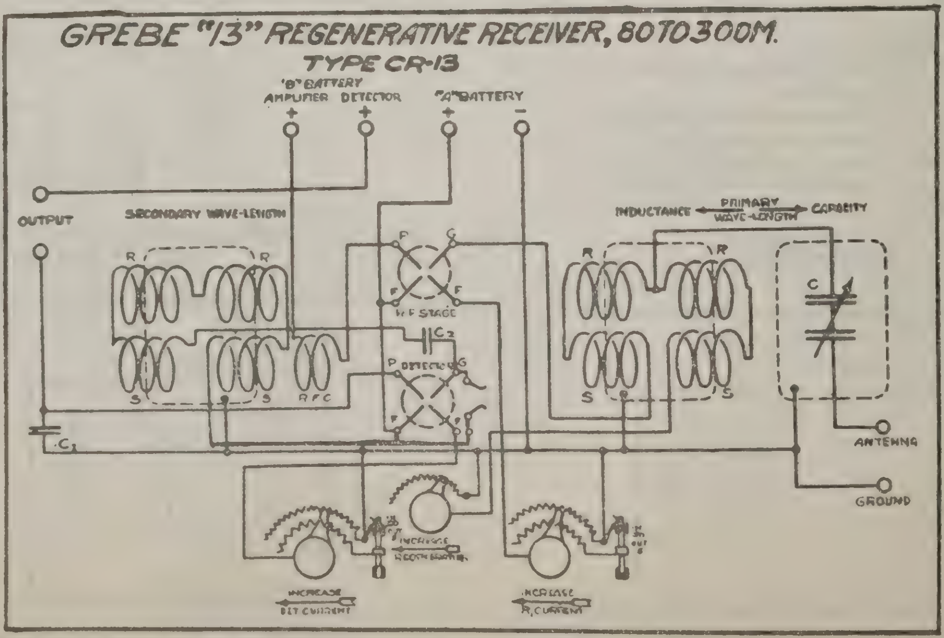

DET
'01A
2 AF
'12A OR '71A
AF
'01A
FRONT


GREBE BROADCAST RECEIVER, TYPE CR-14.
LOUD SPEAKER
+
−
"B" BATTERY
AMPLIFIER
+
DETECTOR
+
"A" BATTERY
+
−
GROUND
AERIAL
C2
C
C1
P
G
S
P
F
F
1ST A.F. STAGE
2ND A.F. STAGE
S
P
P
G
F
F
R
S
R
S
DETECTOR
P
G
F
F
TELEPHONES
OPERATING SWITCH
INCREASE
2ND A. CURRENT
INCREASE
1ST A. CURRENT
INCREASE
DET. CURRENT
WAVE-LENGTH SWITCH

CR-14

(Batt.)


CX-299
1st A.F.
CX-299
Det.
CX-299
2nd A.F


GREBE "13" REGENERATIVE RECEIVER, 80 TO 300 M.
TYPE CR-13
"B" BATTERY
AMPLIFIER
+
DETECTOR
+
"A" BATTERY
+
−
OUTPUT
SECONDARY WAVE-LENGTH
R
R
S
S
RFC
P
G
F
F
H.F. STAGE
C2
P
DETECTOR
G
F
F
C1
INDUCTANCE
PRIMARY WAVE-LENGTH
CAPACITY
R
R
S
S
C
ANTENNA
GROUND
INCREASE
REGENERATION
INCREASE
DET. CURRENT
INCREASE
R. CURRENT

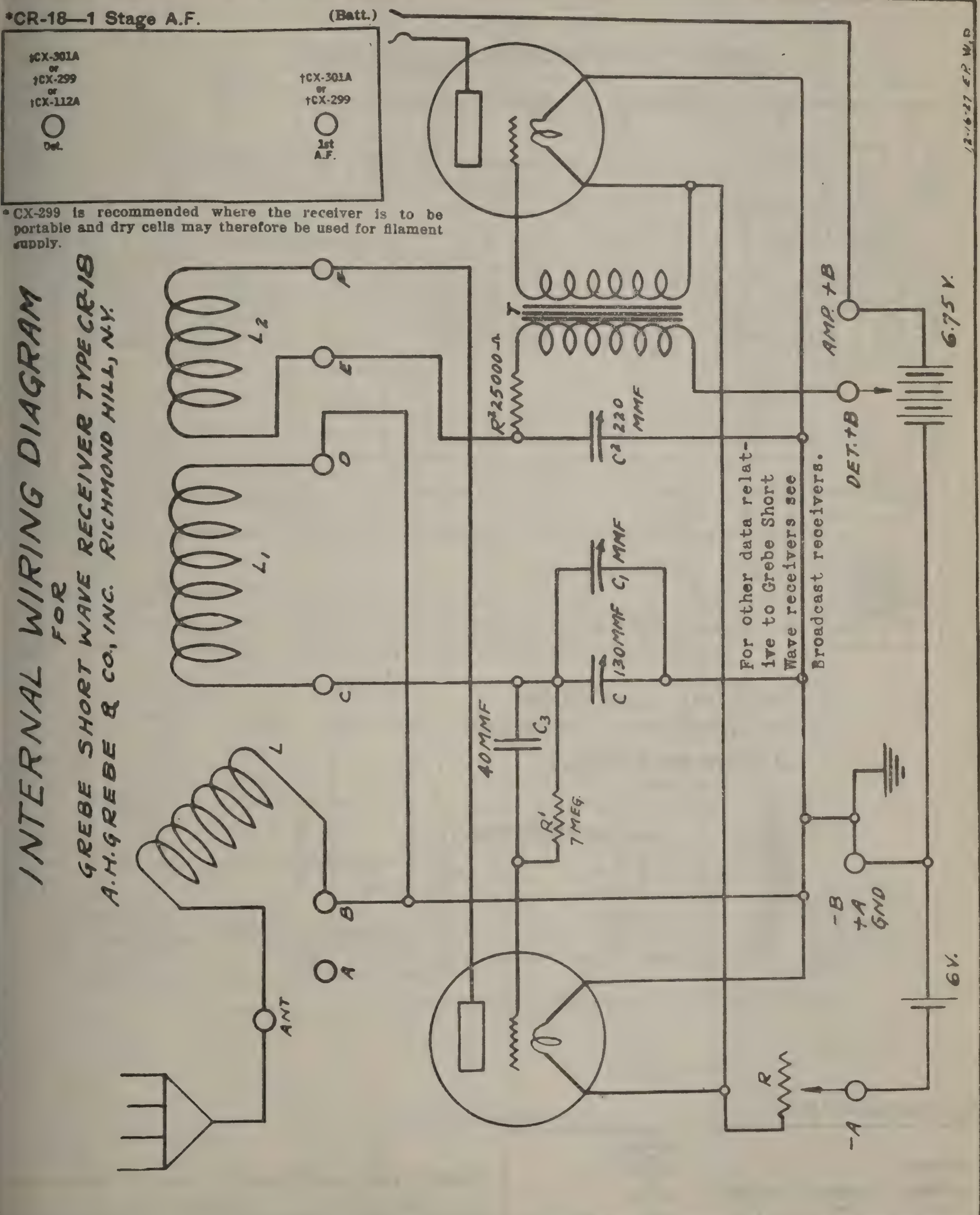
A. H. GREBE & CO.

***CR-18—1 Stage A.F.**

‡CX-301A
or
†CX-299
or
†CX-112A
Det.
†CX-301A
or
†CX-299
1st
A.F.

* CX-299 is recommended where the receiver is to be portable and dry cells may therefore be used for filament supply.

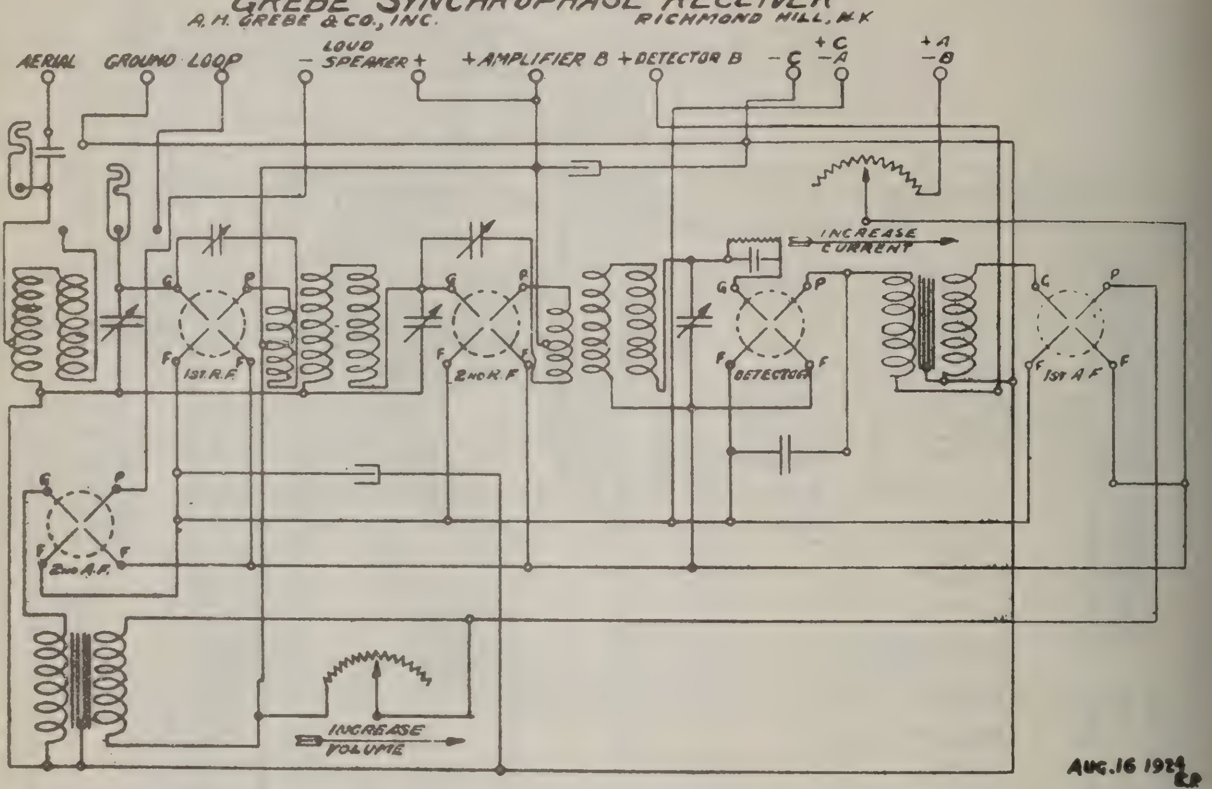
INTERNAL WIRING DIAGRAM
FOR
GREBE SHORT WAVE RECEIVER TYPE CR18
A.H.GREBE & CO, INC. RICHMOND HILL, N.Y.

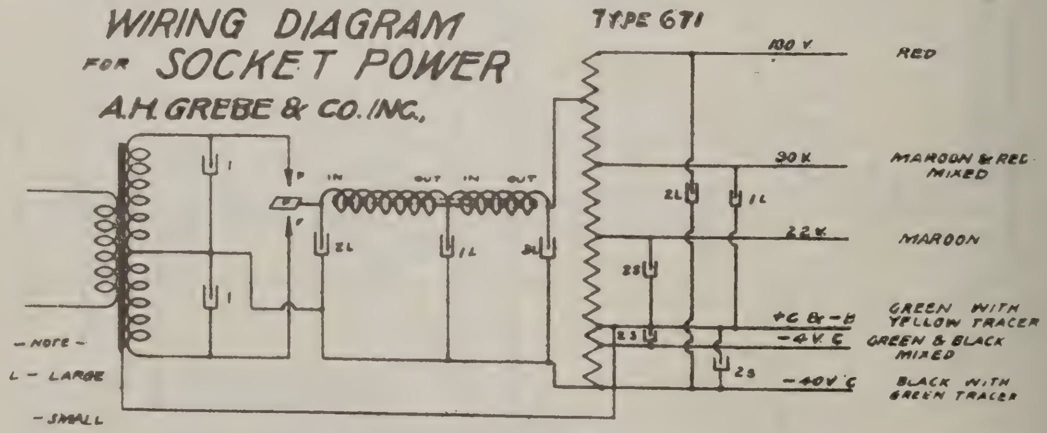

(Batt.)
12-16-27 E.P. W.D.
L2
L1
L
P
E
D
C
B
A
ANT
T
R2 25000 Ω
C2 220 MMF
C1 MMF
C 130 MMF
C3 40 MMF
R1 7 MEG
R
AMP. +B
DET. +B
6.75 V.
-B
+A
GND
6 V.
-A

For other data relative to Grebe Short Wave receivers see Broadcast receivers.

MODEL Synchrophase 5
With 671 Socket Power

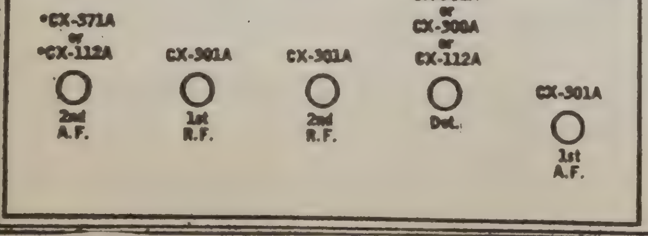
A. H. GREBE & CO.,


GREBE SYNCHROPHASE RECEIVER
A. H. GREBE & CO., INC.
RICHMOND HILL, N.Y.
AERIAL
GROUND
LOOP
– LOUD SPEAKER +
+ AMPLIFIER B
+ DETECTOR B
– C
+ C
– A
+ A
– B
INCREASE CURRENT
G
P
F
1st R.F.
2nd R.F.
DETECTOR
1st A.F.
2nd A.F.
INCREASE VOLUME
AUG. 16 1924
E.R.


WIRING DIAGRAM
FOR SOCKET POWER
A.H. GREBE & CO. INC.,
TYPE 671
100 V
RED
90 V
MAROON & RED MIXED
22 V
MAROON
+C & –B
GREEN WITH YELLOW TRACER
–4 V. C
GREEN & BLACK MIXED
–40 V. C
BLACK WITH GREEN TRACER
IN
OUT
IN
OUT
1
1
2L
1L
2L
2L
1L
2S
2S
2S
– NOTE –
L – LARGE
S – SMALL

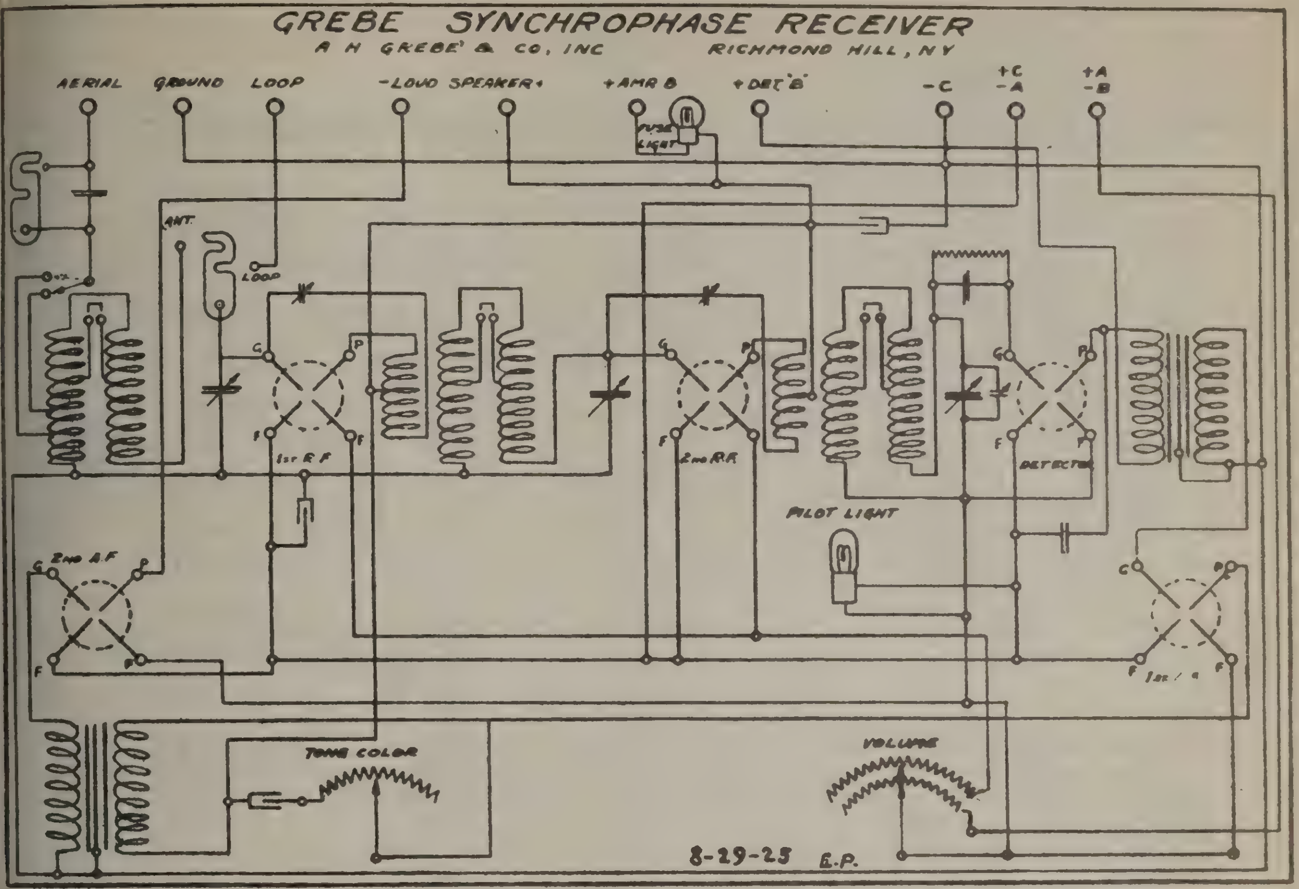
SYNCHROPHASE "5".

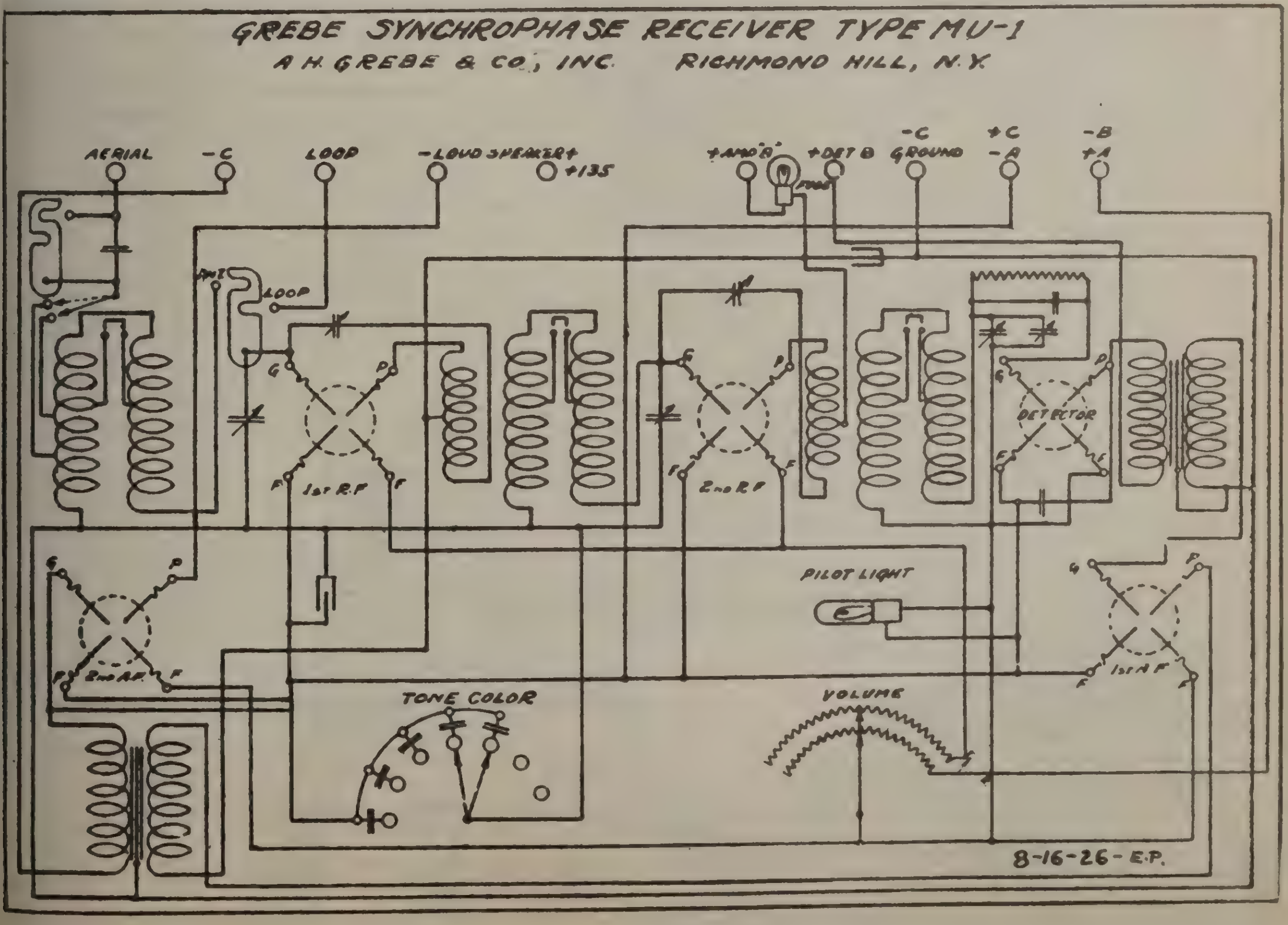
(Batt.)


*CX-371A
or
*CX-112A
2nd
A.F.
CX-301A
1st
R.F.
CX-301A
2nd
R.F.
CX-301A
or
CX-300A
or
CX-112A
Det.
CX-301A
1st
A.F.

GREBE SYNCHROPHASE "5" with 671 Socket Power

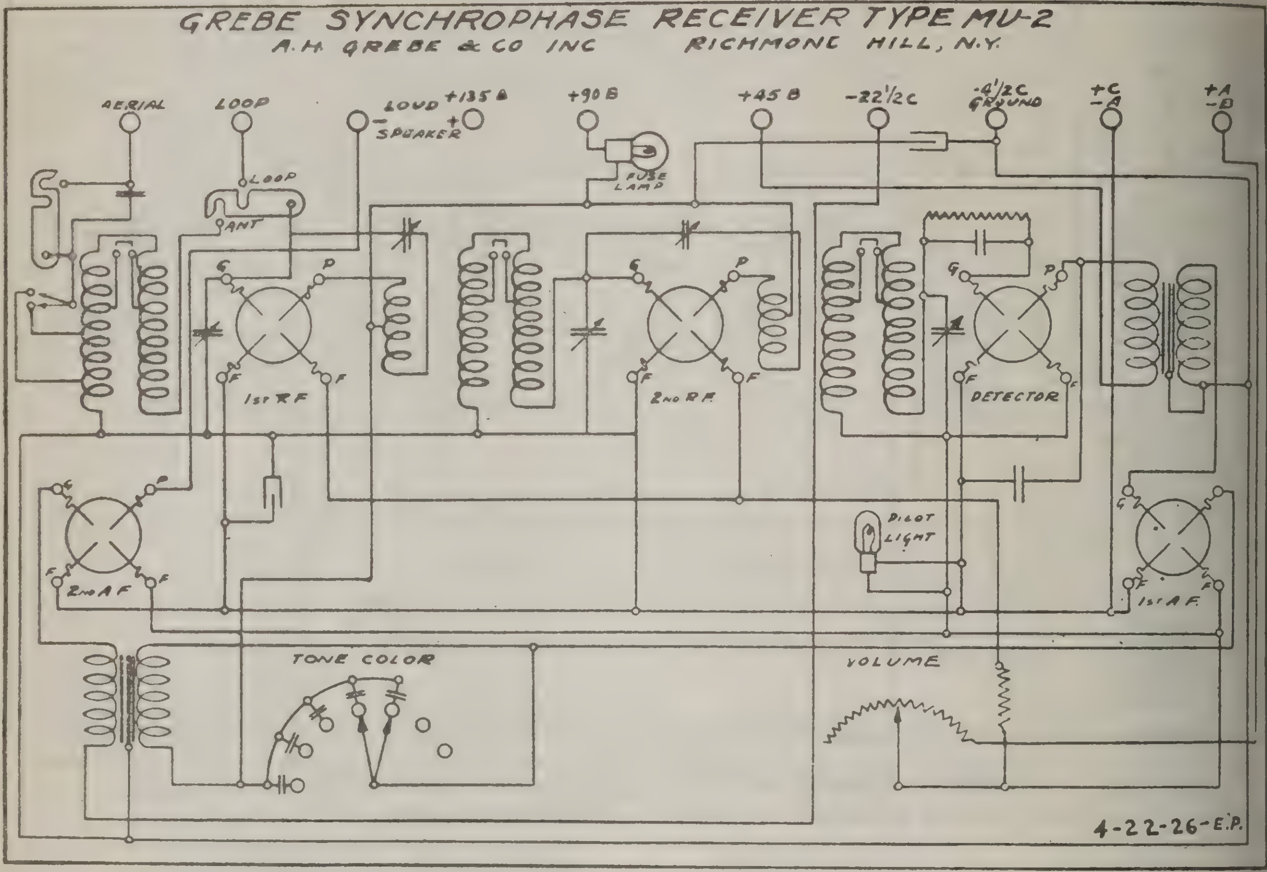
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET. ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
•	201A	1st. R.F.	6	115	5	105	0		7.0	11.0	4.0
•	201A	2nd. R.F.	6	115	5	105	0		7.0	11.0	4.0
•	201A	Detector	6	40	5	28	0		2.6	6.5	3.0
•	201A	1st. A.F.	6	115	5	105	0		7.0	11.0	4.0
•	171A	2nd. A.F.	6	200	5	180	40		20.0	26.0	6.0


GREBE SYNCHROPHASE RECEIVER
A H GREBE & CO, INC RICHMOND HILL, NY
AERIAL
GROUND
LOOP
-LOUD SPEAKER+
+AMP B
FUSE LIGHT
+DET 'B'
-C
+C -A
+A -B
ANT.
LOOP
G
P
F
F
1st R.F
2nd R.F
DETECTOR
PILOT LIGHT
2nd A.F
1st A.F
TONE COLOR
VOLUME
8-29-25 E.P.

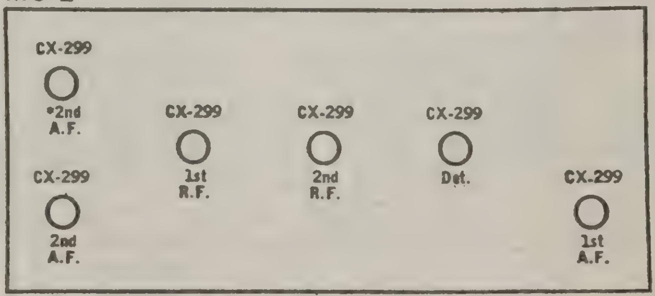

GREBE SYNCHROPHASE RECEIVER TYPE MU-1
A.H. GREBE & CO., INC. RICHMOND HILL, N.Y.
AERIAL
-C
LOOP
-LOUD SPEAKER+
+135
+AMP 'A'
FUSE
+DET B
-C GROUND
+C -A
-B +A
ANT.
LOOP
G
P
F
F
1st R.F
2nd R.F
DETECTOR
PILOT LIGHT
2nd A.F.
1st A.F
TONE COLOR
VOLUME
8-16-26-E.P.

MODEL Synchrophase MU-2

A. H. GREBE & CO., Inc.


GREBE SYNCHROPHASE RECEIVER TYPE MU-2
A.H. GREBE & CO INC RICHMOND HILL, N.Y.
AERIAL
LOOP
LOUD SPEAKER
+135 B
+90 B
+45 B
-22½C
-4½C GROUND
+C -A
+A -B
LOOP
ANT
FUSE LAMP
G
P
F
1st R.F
2nd R.F
DETECTOR
2nd A.F
1st A.F.
PILOT LIGHT
TONE COLOR
VOLUME
4-22-26-E.P.

MU-2 (Batt.)


CX-299
*2nd A.F.
CX-299
1st R.F.
CX-299
2nd R.F.
CX-299
Det.
CX-299
2nd A.F.
CX-299
1st A.F.

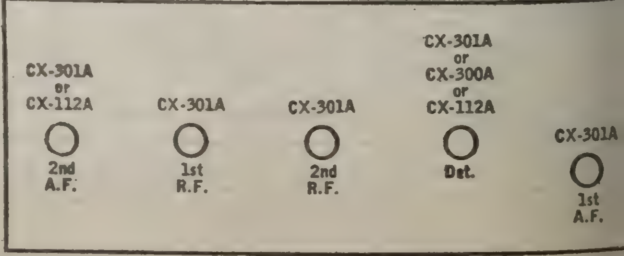
* 2nd Audio Frequency tubes are in parallel.

GREBE SYNCHROPHASE "5" or "MU-1"

Tube No. 5 Used in 1925 Models
Tube No. 6 Used in Early 1927 Models
Tube No. 7 Used in Late 1927 Models

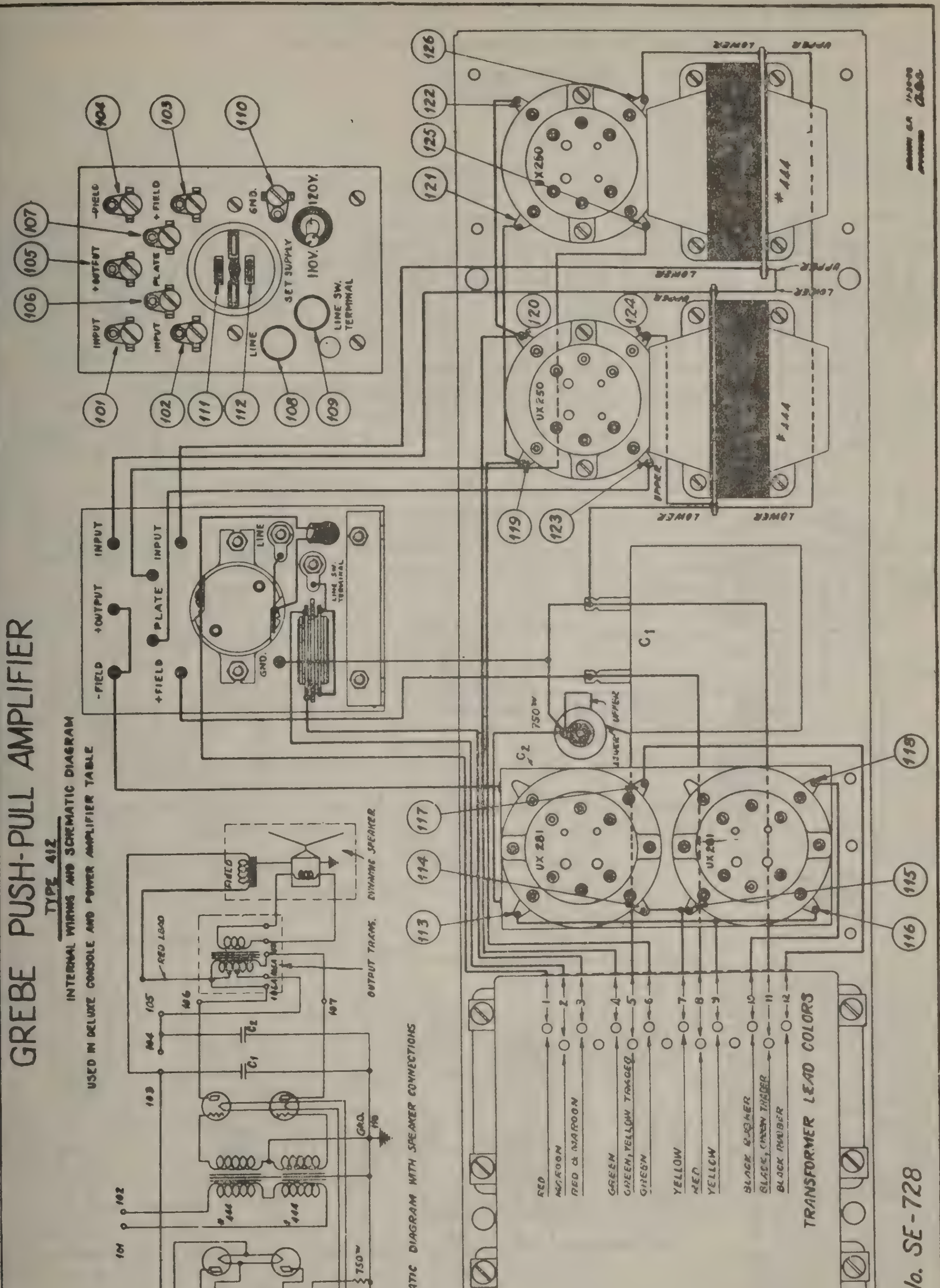
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	201A	1st. R.F.	6	100	5	90	4.5		5.0	7.5	2.5
2	201A	2nd. R.F.	6	100	5	90	4.5		5.0	7.5	2.5
3	201A	Detector	6	25	5	90	5.0		2.0	5.5	3.5
4	201A	1st. A.F.	6	100	5	90	4.5		5.0	7.5	2.5
5	201A	2nd. A.F.	6	100	5	90	4.5		5.0	7.5	2.5
6	112	2nd. A.F.	6	150	5	135	9		9.0	13.5	4.5
7	171A	2nd. A.F.	6	200	5	180	40		20.0	26.0	6.0

MU-1 (Batt


CX-301A or CX-112A
2nd A.F.
CX-301A
1st R.F.
CX-301A
2nd R.F.
CX-301A or CX-300A or CX-112A
Det.
CX-301A
1st A.F.

A. H. GREBE & CO., Inc.

MODEL 412
Push-Pull Amplifier



GREBE PUSH-PULL AMPLIFIER
TYPE 412
INTERNAL WIRING AND SCHEMATIC DIAGRAM
USED IN DELUXE CONSOLE AND POWER AMPLIFIER TABLE

TRACING No. SE-728

INPUT
+OUTPUT
-FIELD
+FIELD
PLATE
GND.
SET SUPPLY
110V.
120V.
LINE
LINE SW. TERMINAL
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
UX 250
UX 281
# 444
UPPER
LOWER
C1
C2
750 W
SCHEMATIC DIAGRAM WITH SPEAKER CONNECTIONS
OUTPUT TRANS.
DYNAMIC SPEAKER
FIELD
RED LEAD
GRD.
TRANSFORMER LEAD COLORS
RED
MAROON
RED & MAROON
GREEN
GREEN, YELLOW TRACER
GREEN
YELLOW
RED
YELLOW
BLACK RUBBER
BLACK, GREEN TRACER
BLACK RUBBER

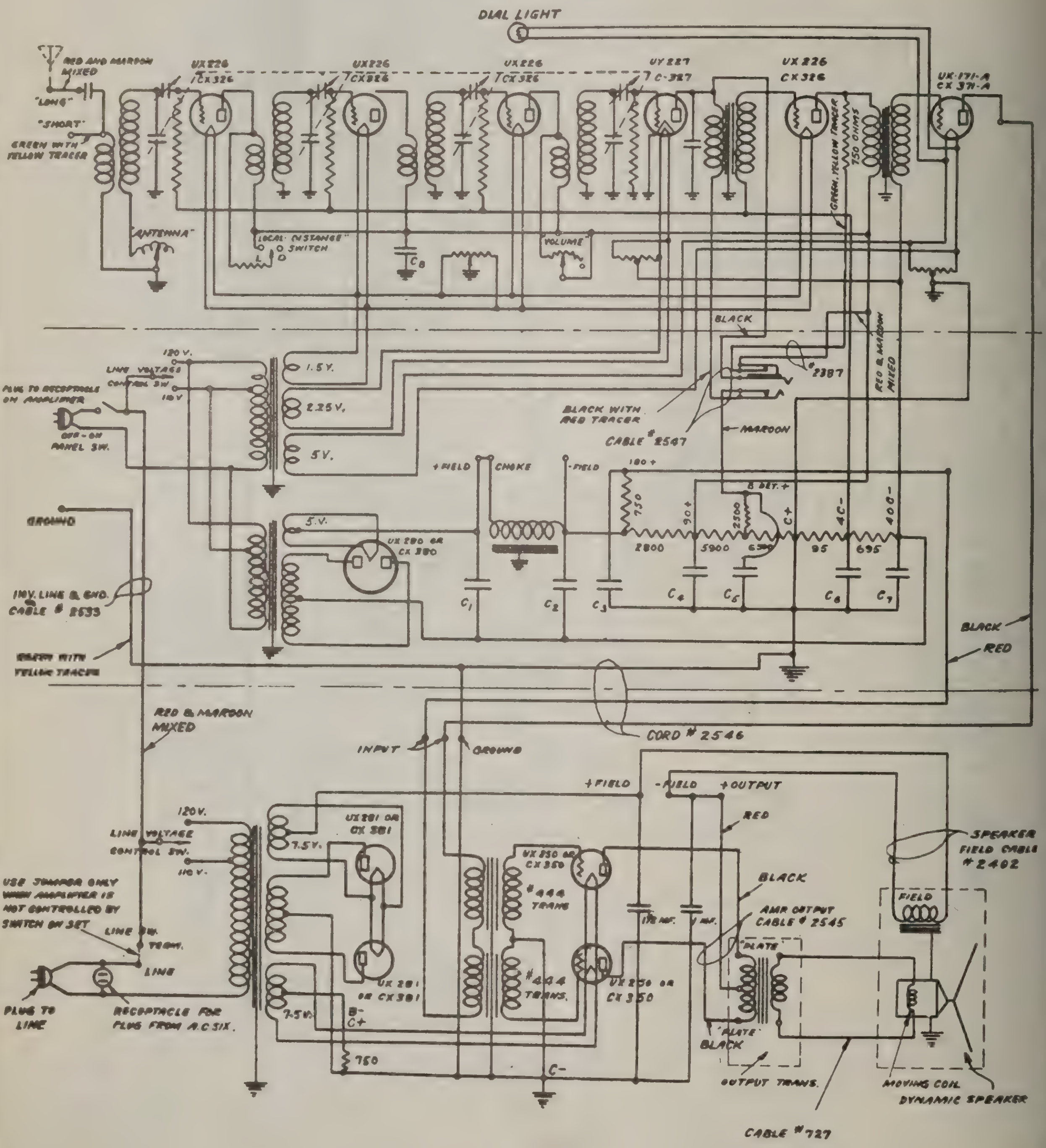
MODEL 428
DeLux Console

A. H. GREBE & CO.

WIRING DIAGRAM FOR GREBE DELUXE CONSOLE TYPE 428

A.C. SIX RECEIVER, PUSH PULL AMPLIFIER TYPE 412
OUTPUT TRANS. TYPE 413 AND DYNAMIC SPEAKER TYPE 400

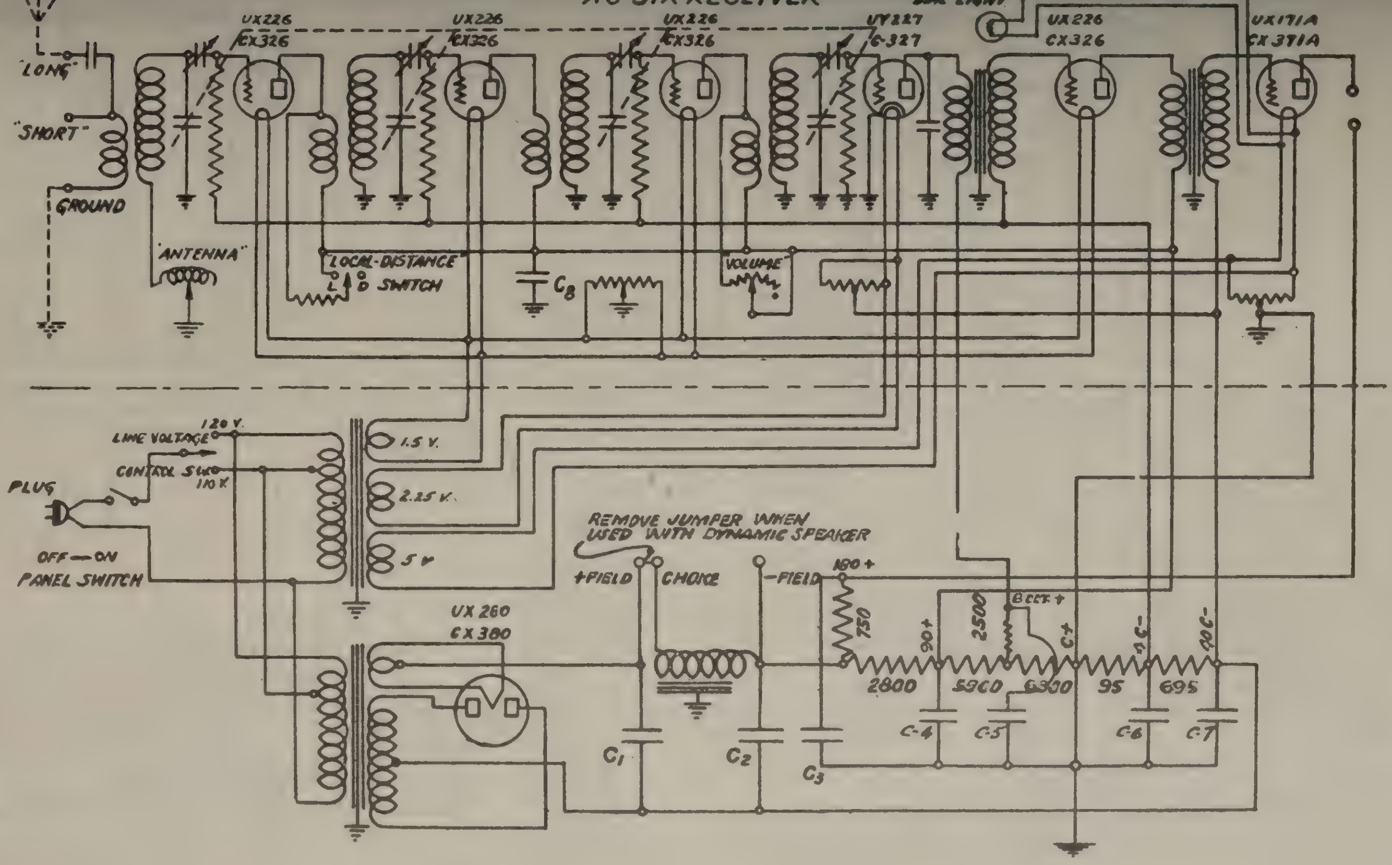
A. H. GREBE & CO., INC.
RICHMOND HILL, N.Y.


DIAL LIGHT
RED AND MAROON MIXED
"LONG"
"SHORT"
GREEN WITH YELLOW TRACER
UX226 / CX326
UX226 / CX326
UX226 / CX326
UY227 / C-327
UX 226 CX 326
UX-171-A CX 371-A
GREEN. YELLOW TRACER
750 OHMS
"ANTENNA"
"LOCAL DISTANCE" SWITCH
L
D
C8
"VOLUME"
BLACK
#2387
RED & MAROON MIXED
BLACK WITH RED TRACER
CABLE #2547
MAROON
120 V.
LINE VOLTAGE CONTROL SW
110 V
PLUG TO RECEPTACLE ON AMPLIFIER
OFF-ON PANEL SW.
1.5 V.
2.25 V.
5 V.
+FIELD
CHOKE
-FIELD
180 +
B DET. +
750
90+
2500
C+
4C-
400-
2800
5900
6500
95
695
GROUND
5.V.
UX 280 OR CX 380
C1
C2
C3
C4
C5
C6
C7
110V. LINE & GND. CABLE # 2533
GREEN WITH YELLOW TRACER
BLACK
RED
CORD # 2546
RED & MAROON MIXED
INPUT
GROUND
+FIELD
-FIELD
+OUTPUT
RED
120V.
LINE VOLTAGE CONTROL SW.
110 V.
UX281 OR CX 381
7.5V.
UX 350 OR CX 350
#444 TRANS
SPEAKER FIELD CABLE # 2402
BLACK
1 1/2 MF.
1 MF.
AMP. OUTPUT CABLE # 2545
FIELD
USE JUMPER ONLY WHEN AMPLIFIER IS NOT CONTROLLED BY SWITCH ON SET
LINE SW.
TERM.
LINE
"PLATE"
#444 TRANS.
UX 250 OR CX 350
UX 281 OR CX381
7.5V.
B-
C+
750
C-
"PLATE"
BLACK
PLUG TO LINE
RECEPTACLE FOR PLUG FROM A.C SIX.
OUTPUT TRANS.
MOVING COIL
DYNAMIC SPEAKER
CABLE # 727

A. H. GREBE & CO., Inc.

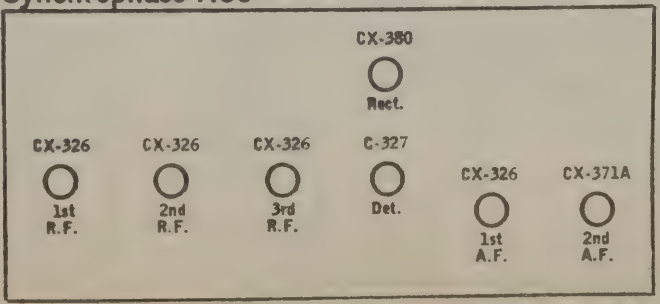
MODEL Synchrophase AC-6
Schematic

WIRING DIAGRAM FOR GREBE SYNCHROPHASE
AC SIX RECEIVER


"LONG"
"SHORT"
GROUND
"ANTENNA"
UX226
CX326
UX226
CX326
UX226
CX326
UY227
C-327
DIAL LIGHT
UX226
CX326
UX171A
CX371A
"LOCAL-DISTANCE"
L D SWITCH
C8
"VOLUME"
120 V.
LINE VOLTAGE
CONTROL SW.
110 V.
PLUG
OFF — ON
PANEL SWITCH
1.5 V.
2.25 V.
5 V
UX 280
CX 380
REMOVE JUMPER WHEN
USED WITH DYNAMIC SPEAKER
+FIELD
CHOKE
-FIELD
180+
750
90+
2500
B CCT. +
C+
-4.5
-40C
2800
5960
6300
95
695
C1
C2
C3
C-4
C-5
C-6
C-7

Synchrophase AC6

(A.C.)

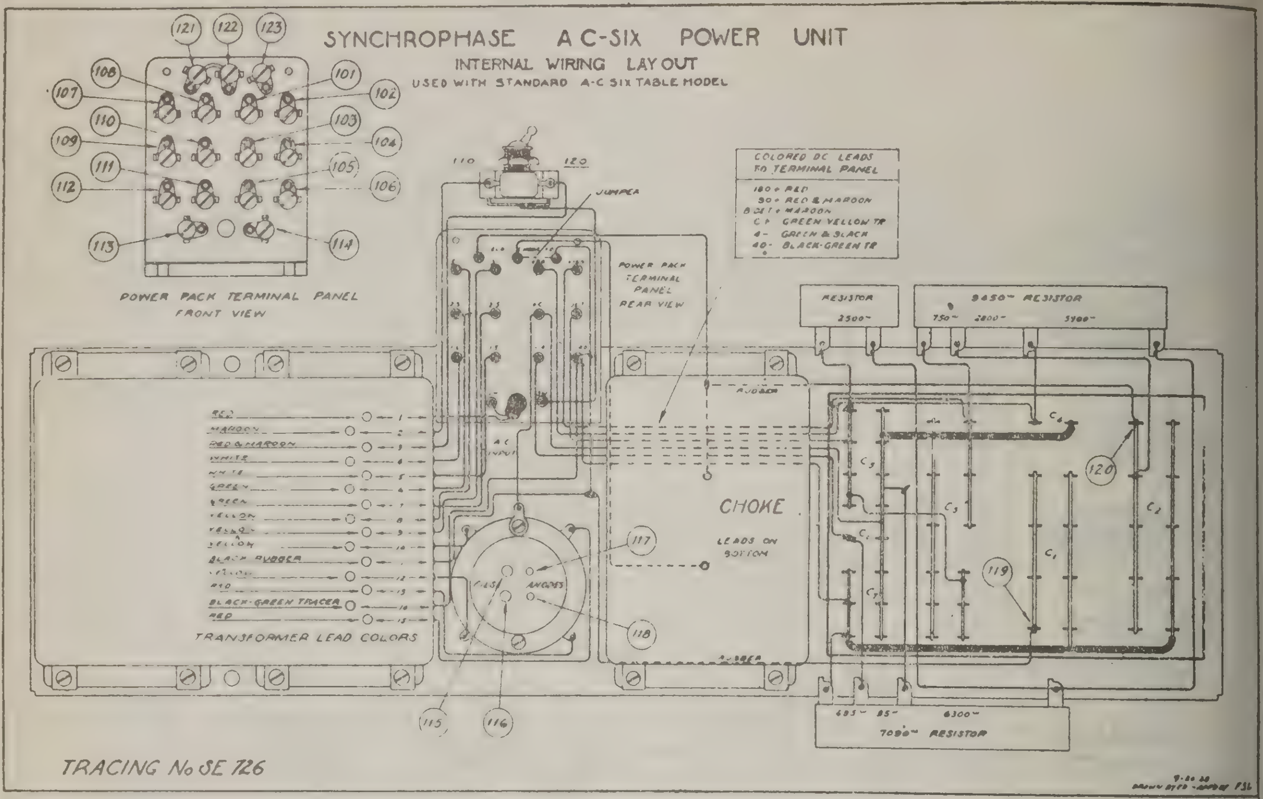

CX-380
Rect.
CX-326
1st
R.F.
CX-326
2nd
R.F.
CX-326
3rd
R.F.
C-327
Det.
CX-326
1st
A.F.
CX-371A
2nd
A.F.

GREBE—Type A. C. 6
Line Voltage 120—Set on 120 Volt Tap

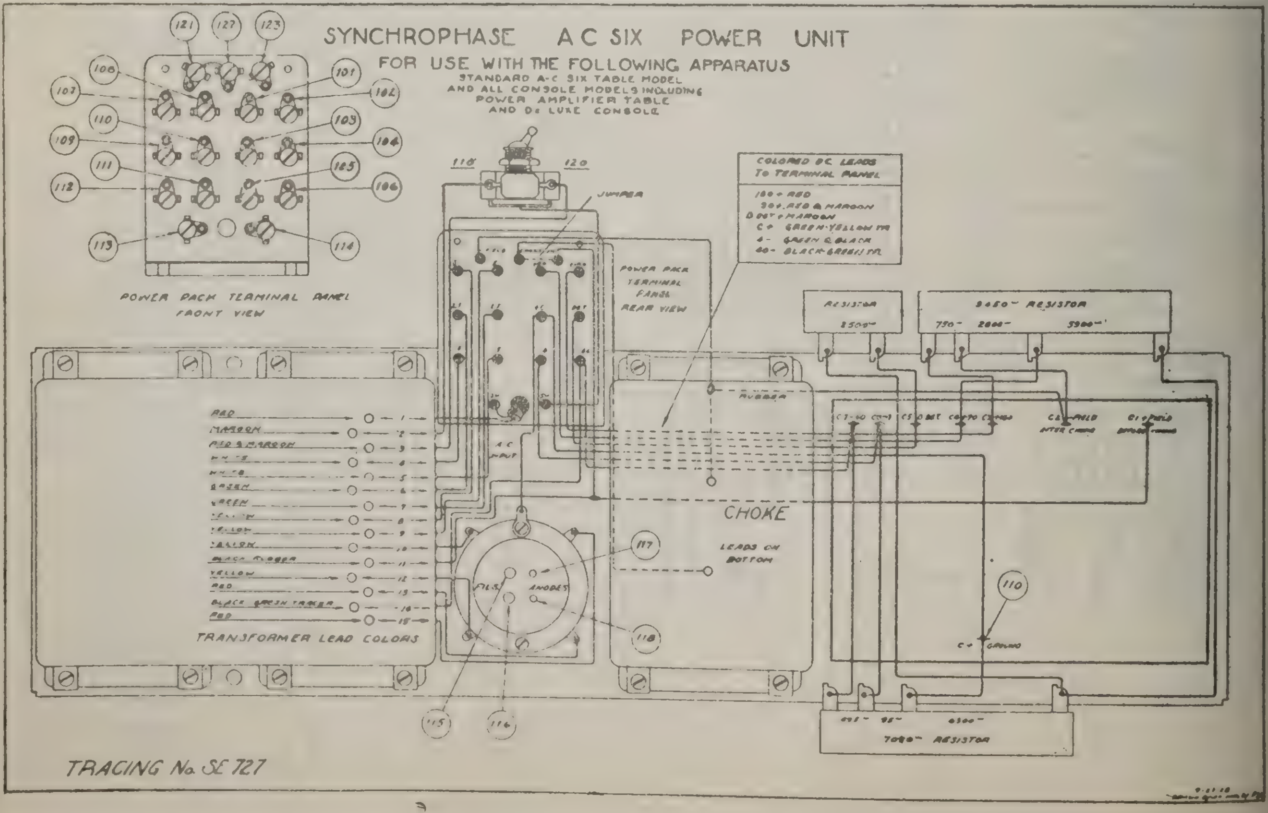
Tube No. in Order ①	Type of Tube ②	Position of Tube (1st RF Det. etc.) ③	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	226	1st RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
2	226	2nd RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
3	226	3rd RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
4	227	Det.	2.5	50	2.2	45	-	-	2.5	2.5	0	
5	226	1st AF	1.5	100	1.4	100	4.5	R-40	3.8	8.0	4.2	
6	171A	2nd AF	5.5	180	5.2	195	40.0	-	20.0	25.0	5.0	
7	280	Rect.	5.5	-	5.2	-	-	-	60	-	-	
8												
9												
10												

MODEL Synchrophase AC-6
Power Unit
Chassis
Two Types

A. H. GREBE & CO., Inc.


SYNCHROPHASE A C-SIX POWER UNIT
INTERNAL WIRING LAY OUT
USED WITH STANDARD A-C SIX TABLE MODEL
121
122
123
108
101
107
102
110
103
109
104
111
105
112
106
113
114
POWER PACK TERMINAL PANEL
FRONT VIEW
110
120
JUMPER
COLORED DC LEADS
TO TERMINAL PANEL
180+ RED
90+ RED & MAROON
B DET + MAROON
C+ GREEN YELLOW TR
4- GREEN & BLACK
40- BLACK-GREEN TR
POWER PACK TERMINAL PANEL REAR VIEW
RESISTOR
2500~
3450~ RESISTOR
750~
2800~
5900~
RUBBER
RED
MAROON
RED & MAROON
WHITE
WHITE
GREEN
GREEN
YELLOW
YELLOW
YELLOW
BLACK RUBBER
YELLOW
RED
BLACK-GREEN TRACER
RED
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
TRANSFORMER LEAD COLORS
A C INPUT
FILS
ANODES
117
118
CHOKE
LEADS ON BOTTOM
RUBBER
C₆
C₃
C₅
C₄
C₇
C₁
C₂
120
119
115
116
685~
85~
6300~
7080~ RESISTOR

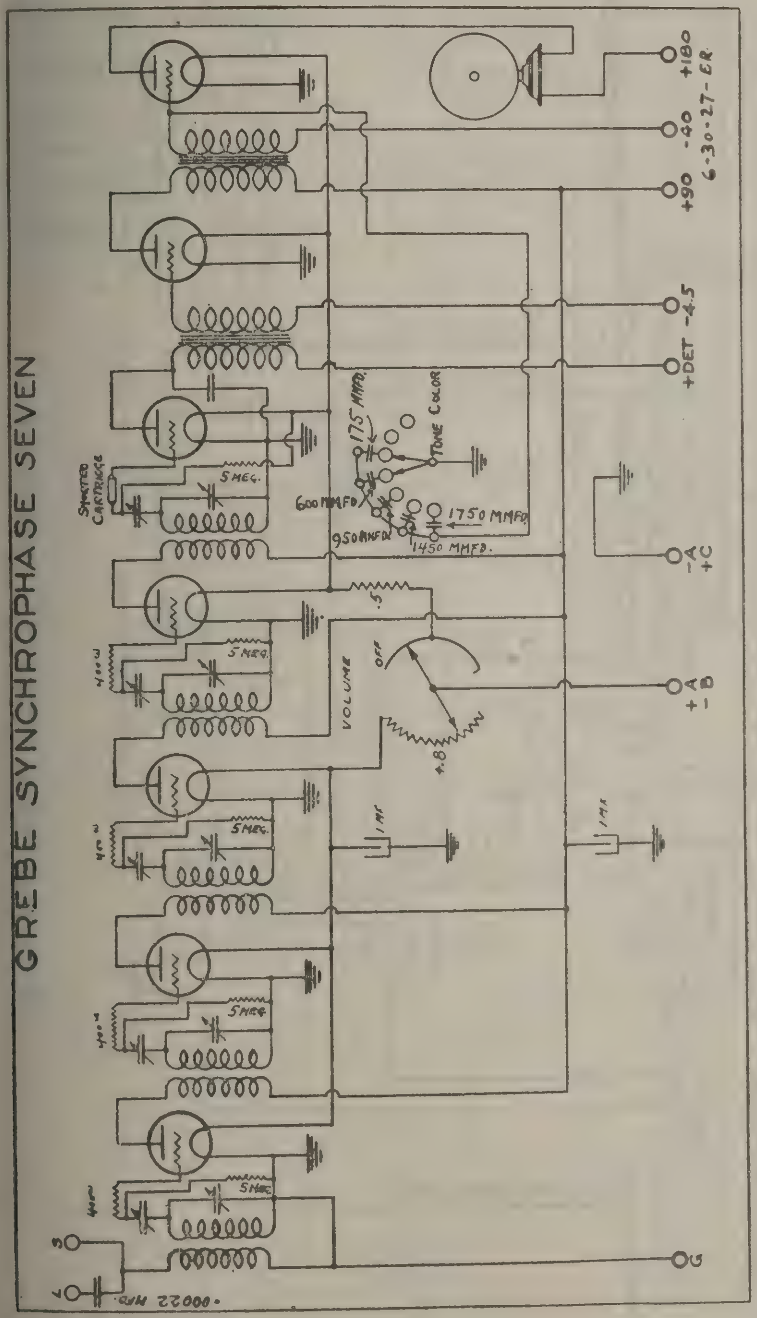
TRACING No SE 726

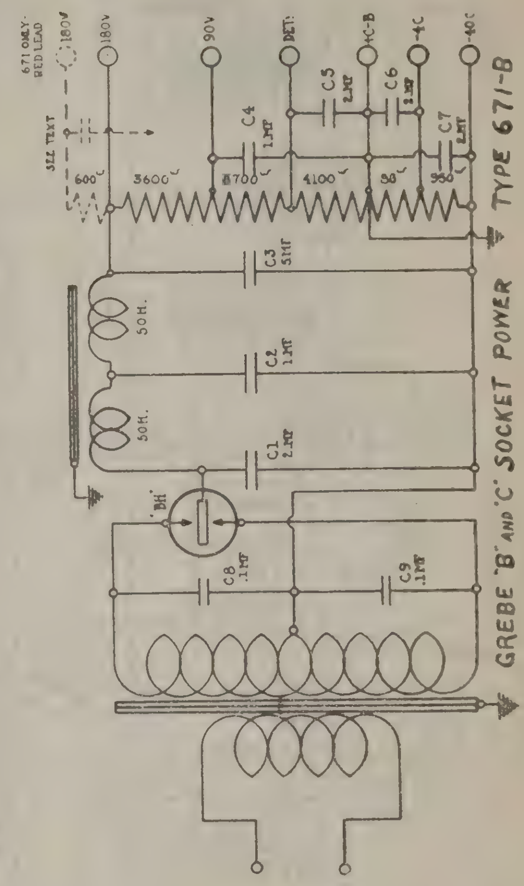

SYNCHROPHASE A C SIX POWER UNIT
FOR USE WITH THE FOLLOWING APPARATUS
STANDARD A-C SIX TABLE MODEL
AND ALL CONSOLE MODELS INCLUDING
POWER AMPLIFIER TABLE
AND DE LUXE CONSOLE
121
122
123
108
101
107
102
110
103
109
104
111
125
112
106
113
114
POWER PACK TERMINAL PANEL
FRONT VIEW
110
120
JUMPER
COLORED DC LEADS
TO TERMINAL PANEL
180+ RED
90+ RED & MAROON
B DET + MAROON
C+ GREEN-YELLOW TR
4- GREEN & BLACK
40- BLACK-GREEN TR
POWER PACK TERMINAL PANEL REAR VIEW
RESISTOR
2500~
3450~ RESISTOR
750~
2800~
5900~
RUBBER
C3-40
C5 B DET
C6 TO CHOKE
C2 FIELD AFTER CHOKE
C1 FIELD BEFORE CHOKE
RED
MAROON
RED & MAROON
WHITE
WHITE
GREEN
GREEN
YELLOW
YELLOW
YELLOW
BLACK RUBBER
YELLOW
RED
BLACK GREEN TRACER
RED
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
TRANSFORMER LEAD COLORS
A C INPUT
FILS
ANODES
117
118
CHOKE
LEADS ON BOTTOM
110
C+ GROUND
115
116
685~
85~
6300~
7080~ RESISTOR

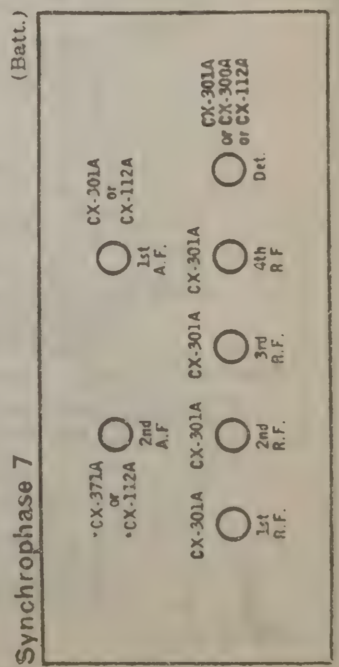
TRACING No SE 727

A. H. GREBE & CO.

MODEL Synchrophase 7
Battery Type
Socket Power Unit 671-B

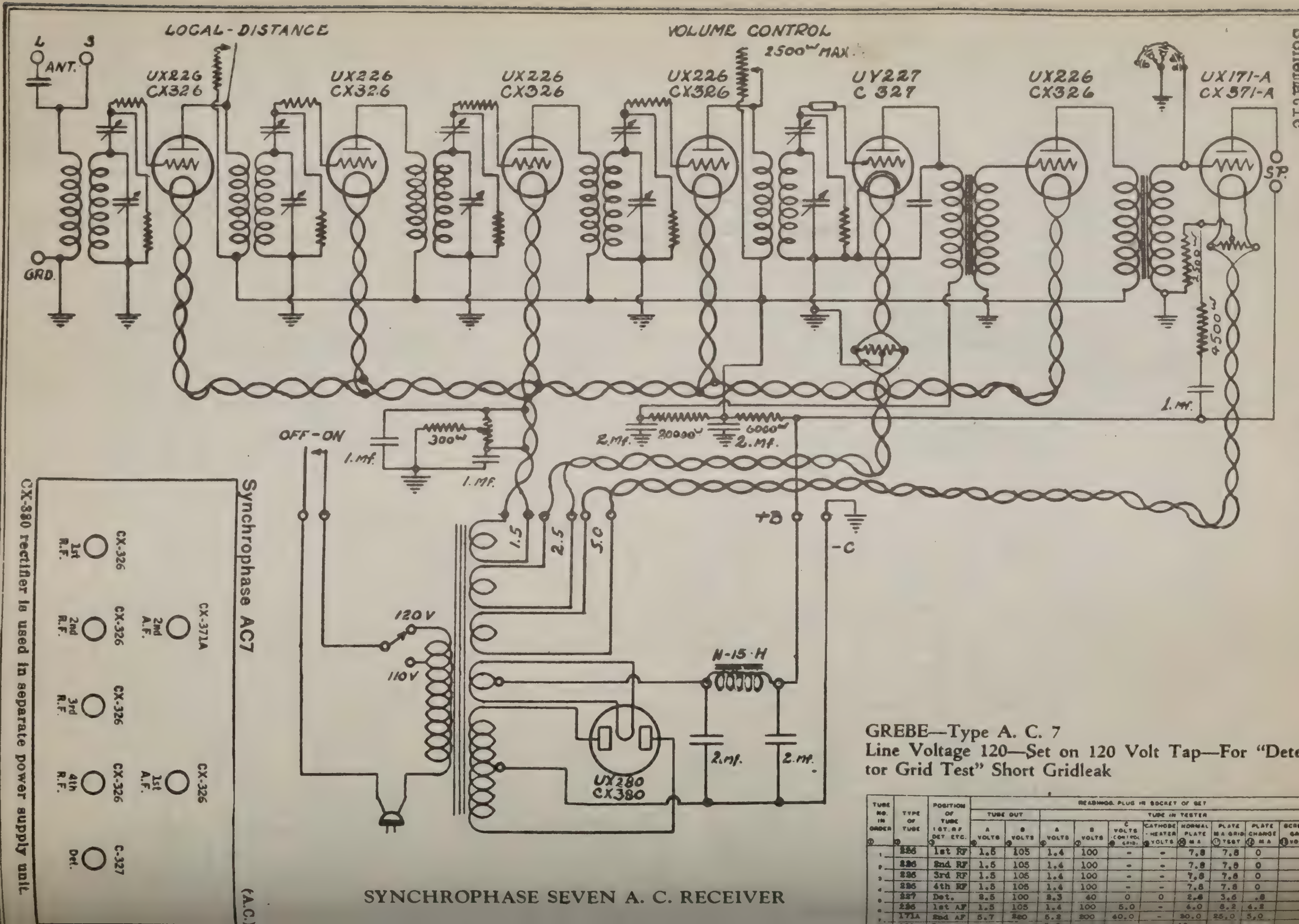

GREBE SYNCHROPHASE SEVEN
+180
-40
6-30-27-ER
+90
-4.5
+DET
175 MMFD.
TONE COLOR
600 MMFD.
1750 MMFD.
950 MMFD.
1450 MMFD.
SHORTED CARTRIDGE
5 MEG.
-A
+C
.5
OFF
VOLUME
+A
-B
.8
1 MF
1 MF
G
.00022 MFD.
3
7


671 ONLY RED LEAD
180V
SEE TEXT
180V
90V
DET.
+C-B
+C
-40C
C4 1 MF
C5 2 MF
C6 1 MF
C7 1 MF
600
3600
8700
4100
50
350
C3 5 MF
50 H.
C2 1 MF
50 H.
C1 2 MF
'BH'
C8 .1 MF
C9 .1 MF
TYPE 671-B
GREBE 'B' AND 'C' SOCKET POWER


(Batt.)
Synchrophase 7
CX-301A or CX-300A or CX-112A
Det.
CX-301A or CX-112A
1st A.F.
CX-301A
4th R.F.
CX-301A
3rd R.F.
•CX-371A or •CX-112A
2nd A.F.
CX-301A
2nd R.F.
CX-301A
1st R.F.

MODEL Synchrophase 7
Schematic

A. H. GREBE & CO.


LOCAL-DISTANCE
VOLUME CONTROL
2500Ω MAX.
L
S
ANT.
GRD.
UX226
CX326
UX226
CX326
UX226
CX326
UX226
CX326
UY227
C 327
UX226
CX326
UX171-A
CX371-A
SP.
4500Ω
2500
1.mf.
OFF-ON
1.mf.
300Ω
1.MF.
2.mf.
20000Ω
6000Ω
2.mf.
+B
-C
1.5
2.5
5.0
120V
110V
N-15-H
2.mf.
2.mf.
UX280
CX380
Synchrophase AC7
CX-371A
2nd
A.F.
CX-326
1st
A.F.
CX-326
1st
R.F.
CX-326
2nd
R.F.
CX-326
3rd
R.F.
CX-326
4th
R.F.
C-327
Det.
(A.C.

CX-380 rectifier is used in separate power supply unit.

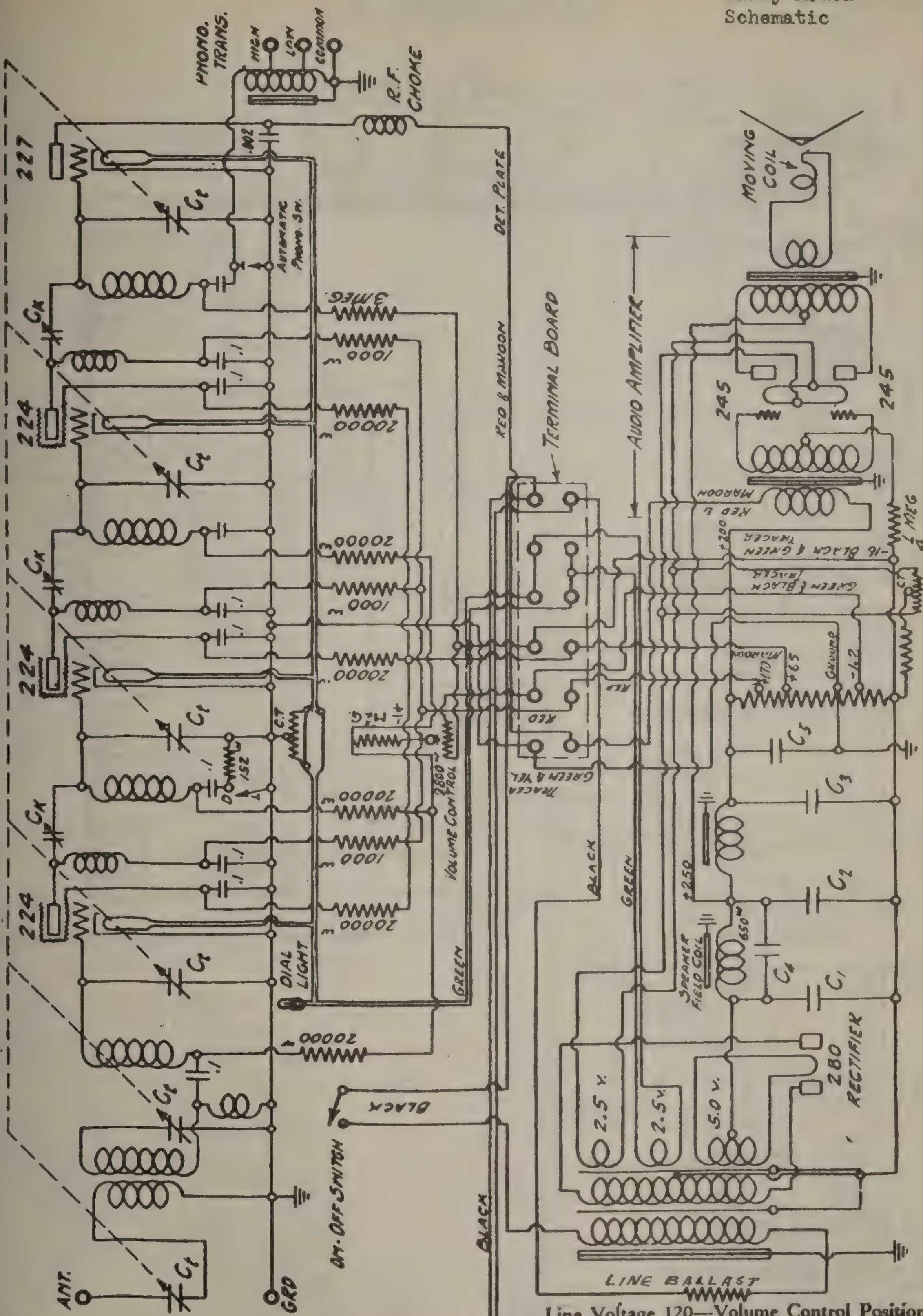
SYNCHROPHASE SEVEN A. C. RECEIVER

GREBE—Type A. C. 7
Line Voltage 120—Set on 120 Volt Tap—For "Detector Grid Test" Short Gridleak

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST. R.F. DET. ETC. ③	READINGS. PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	226	1st RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
2	226	2nd RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
3	226	3rd RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
4	226	4th RF	1.5	105	1.4	100	-	-	7.8	7.8	0	
5	227	Det.	2.5	100	2.3	40	0	0	2.8	3.6	.8	
6	226	1st AF	1.5	105	1.4	100	5.0	-	4.0	8.2	4.2	
7	171A	2nd AF	5.7	220	5.2	200	40.0	-	20.0	25.0	5.0	

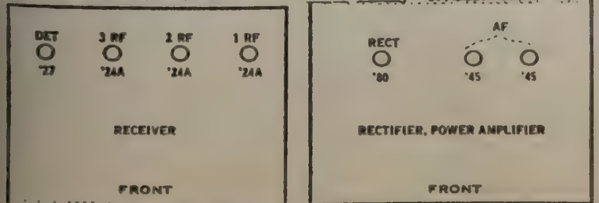
A. H. GREBE & CO.

MODEL Synchrophase SK-4
Early Model
Schematic


PHONO. TRANS.
HIGH
LOW
COMMON
R.F. CHOKE
227
.002
Ct
Cx
AUTOMATIC PHONO. SW.
DET. PLATE
3 MEG
1000
.1
20000
224
224
224
RED & MAROON
TERMINAL BOARD
AUDIO AMPLIFIER
MOVING COIL
245
245
MAROON
RED & BLACK
+200
-16 BLACK & GREEN TRACER
GREEN & BLACK TRACER
¼ MEG
MAROON
+65
GROUND
-42
RED
RED
GREEN & YEL TRACER
¼ MEG
C.T.
152
2800 Ω
VOLUME CONTROL
C5
C3
C2
C1
C4
BLACK
GREEN
+250
SPEAKER FIELD COIL
650 Ω
280 RECTIFIER
2.5 V.
2.5 V.
5.0 V.
DIAL LIGHT
GREEN
.00002
BLACK
ON-OFF SWITCH
BLACK
LINE BALLAST
ANT.
GRD

GREBE SYNCHROPHASE SK-4 Early Model

Models Super-synchrophase SK4,
21950, 270, 285, 450, 265

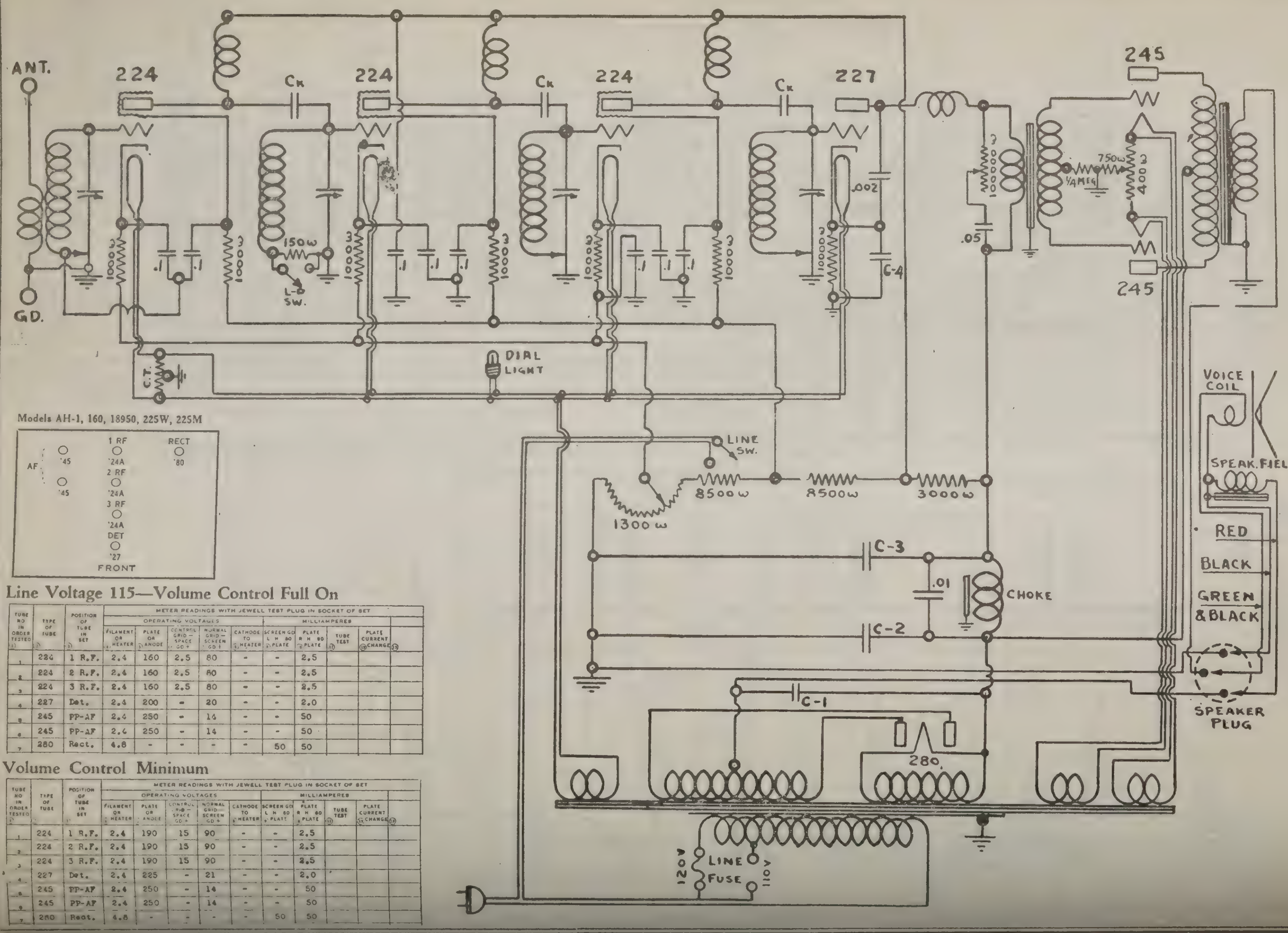

DET
'27
3 RF
'24A
2 RF
'24A
1 RF
'24A
RECEIVER
FRONT
RECT
'80
AF
'45
'45
RECTIFIER, POWER AMPLIFIER
FRONT

Line Voltage 120—Volume Control Position Min.*
Note: x Resistors in circuit prevent readings.
Note: -*-224 plate current read with volume control at maximum position.

Tube No. in order ①	Type of tube ②	Position of tube 1st RF, Det. etc. ③	Readings plug in socket of set									
			Tube out		Tube in tester							
			A volts ④	B volts ⑤	A volts ⑥	B volts ⑦	C volts (control grid) ⑧	Cathode-heater volts ⑨	Normal plate ma ⑩	Plate ma grid test ⑪	Plate change ma ⑫	Screen grid volts ⑬
	224	1st RF	2.7	195	2.35	188	14	-	0	2	2	57
	224	2nd RF	2.7	195	2.35	188	14	-	0	2	2	57
	224	3rd RF	2.7	195	2.35	188	14	-	0	2	2	57
	227	Det.	2.7	195	2.35	210	x	-	.8	.8	0	-
	245	1st AF	2.7	270	2.35	245	x	-	30	34	4	-
	245	2nd AF	2.7	270	2.35	245	x	-	30	34	4	-
	280	Rect.	7	-	5.2	-	x	-	90	-	-	-

MODEL AH-1
Schematic

A. H. GREBE & CO.


ANT.
GD.
224
224
224
227
245
245
280
Ck
Ck
Ck
.1
10000
150w
L-D SW.
.002
C-4
.05
750w
1/4 MEG
400
DIAL LIGHT
C.T.
LINE SW.
8500w
8500w
3000w
1300w
C-3
C-2
C-1
.01
CHOKE
VOICE COIL
SPEAK. FIELD
RED
BLACK
GREEN & BLACK
SPEAKER PLUG
LINE FUSE
120V
110V
Models AH-1, 160, 18950, 225W, 225M
AF
'45
'45
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'27
RECT
'80
FRONT

Line Voltage 115—Volume Control Full On

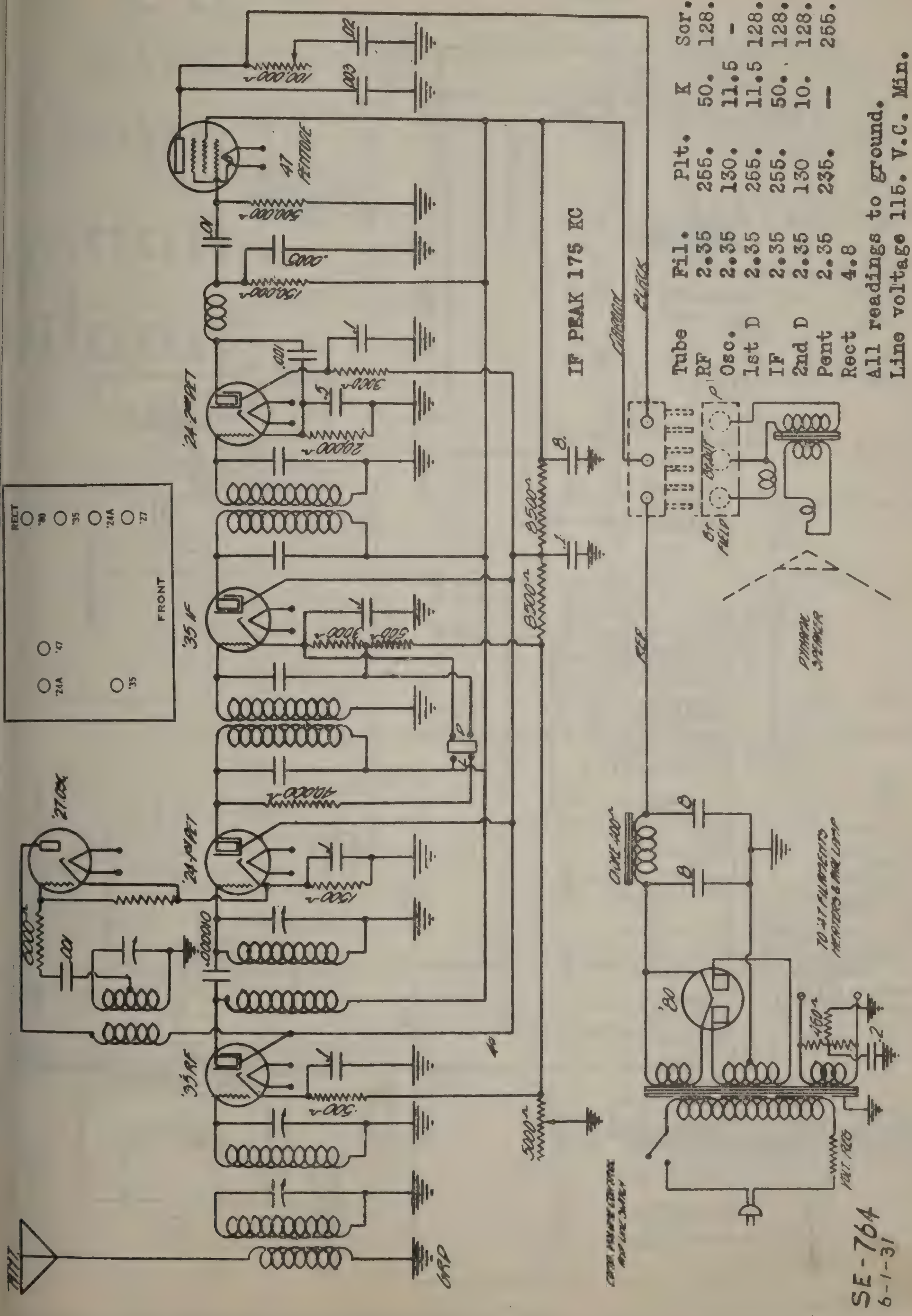
TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE GD + ⑥	NORMAL GRID—SCREEN GD + ⑦	CATHODE TO HEATER ⑧	SCREEN GD L H 80 PLATE ⑨	PLATE R H 80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫	⑬
1	224	1 R.F.	2.4	160	2.5	80	-	-	2.5			
2	224	2 R.F.	2.4	160	2.5	80	-	-	2.5			
3	224	3 R.F.	2.4	160	2.5	80	-	-	2.5			
4	227	Det.	2.4	200	-	20	-	-	2.0			
5	245	PP-AF	2.4	250	-	14	-	-	50			
6	245	PP-AF	2.4	250	-	14	-	-	50			
7	280	Rect.	4.8	-	-	-	-	50	50			

Volume Control Minimum

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE GD + ⑥	NORMAL GRID SCREEN GD + ⑦	CATHODE TO HEATER ⑧	SCREEN GD L H 80 PLATE ⑨	PLATE R H 80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫	⑬
1	224	1 R.F.	2.4	190	15	90	-	-	2.5			
2	224	2 R.F.	2.4	190	15	90	-	-	2.5			
3	224	3 R.F.	2.4	190	15	90	-	-	2.5			
4	227	Det.	2.4	225	-	21	-	-	2.0			
5	245	PP-AF	2.4	250	-	14	-	-	50			
6	245	PP-AF	2.4	250	-	14	-	-	50			
7	280	Rect.	4.8	-	-	-	-	50	50			

MODEL HS-4
1 Pentode

A. H. GREBE & CO.


ANT.
GRD
'35 RF
'24 1st DET
'27 OSC
'35 IF
'24 2nd DET
47 PENTODE
'80
IF PEAK 175 KC
FRONT
RECT
'80
'35
'24A
'27
'47
'24A
'35
100,000Ω
.02
.003
500,000Ω
.01
.0005
150,000Ω
.001
3000Ω
20000Ω
.8
.1
8500Ω
8300Ω
3000Ω
500Ω
40000Ω
1500Ω
300Ω
5000Ω
.001
.000010
CHOKE 400Ω
8
8
460Ω
.2
VOLT. REG.
MAROON
BLACK
RED
B+ FIELD
DYNAMIC SPEAKER
TO '47 FILAMENTS HEATERS & PILOT LAMP

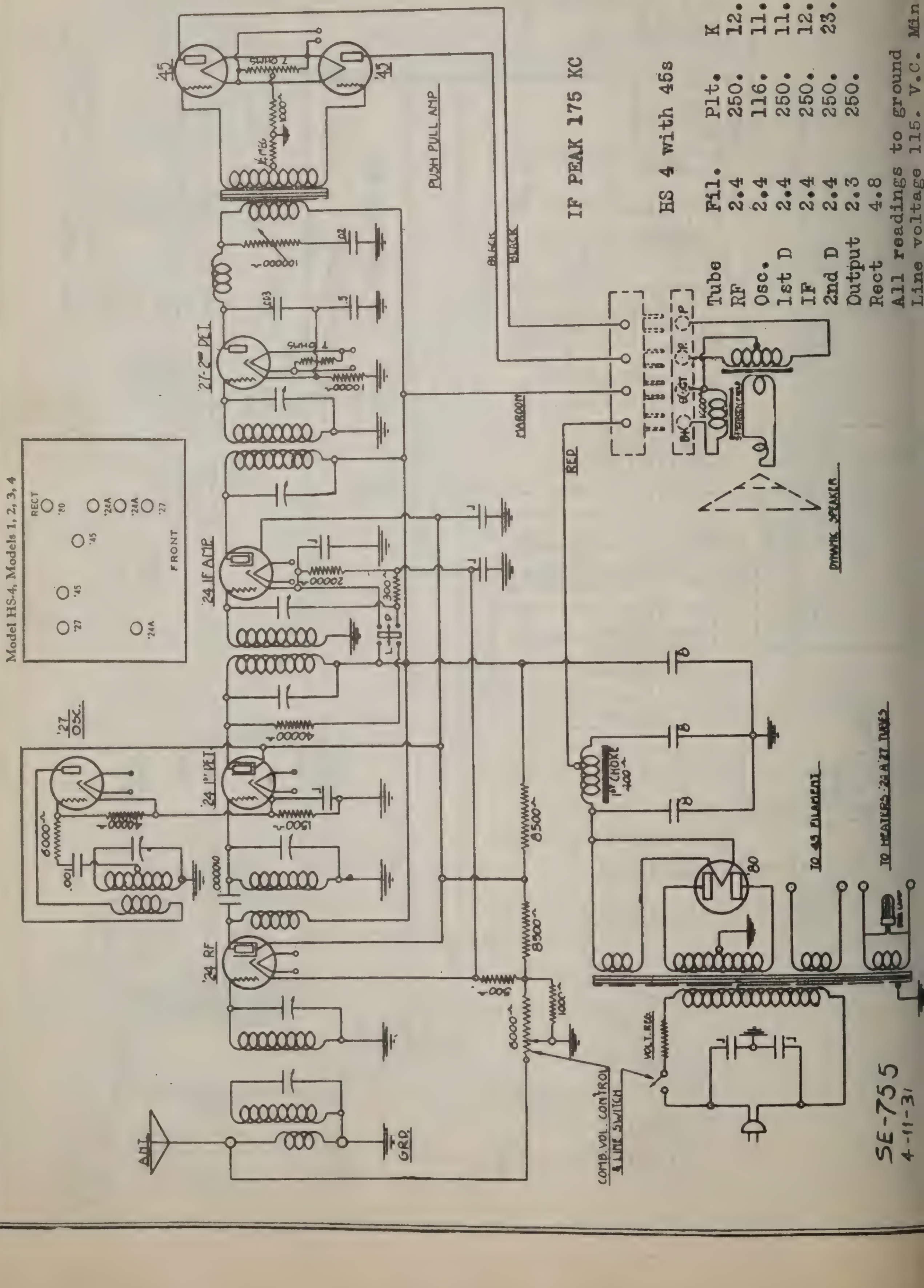
SE-764
6-1-31

Tube	Fil.	Plt.	K	Scr.
RF	2.35	255.	50.	128.
Osc.	2.35	130.	11.5	-
1st D	2.35	255.	11.5	128.
IF	2.35	255.	50.	128.
2nd D	2.35	130	10.	128.
Pent	2.35	235.	—	255.
Rect	4.8			

All readings to ground.
Line voltage 115. V.C. Min.

MODEL HS-4
With 45 P.P.

A. H. GREBE & CO.


'45
'45
7 OHMS
1000
1 MEG
PUSH PULL AMP
BLACK
BLACK
'27-2nd DET
7 OHMS
10000
100000
.02
.03
.5
MAROON
RED
BK
B&GT
R
P
DYNAMIC SPEAKER
Model HS-4, Models 1, 2, 3, 4
RECT
'80
'45
'24A
'24A
'27
'45
'27
'24A
FRONT
'24 IF AMP
20000
300
.1
.1
L
'27 OSC.
'24 1st DET
40000
1500
6000
.001
.00005
8500
8500
1st CHOKE 400
8
8
8
'80
TO 45 FILAMENT
TO HEATERS '24 & '27 TUBES
'24 RF
300
1000
6000
VOLT. REG.
COMB. VOL. CONTROL & LINE SWITCH
ANT
GRD
SE-755
4-11-31

IF PEAK 175 KC

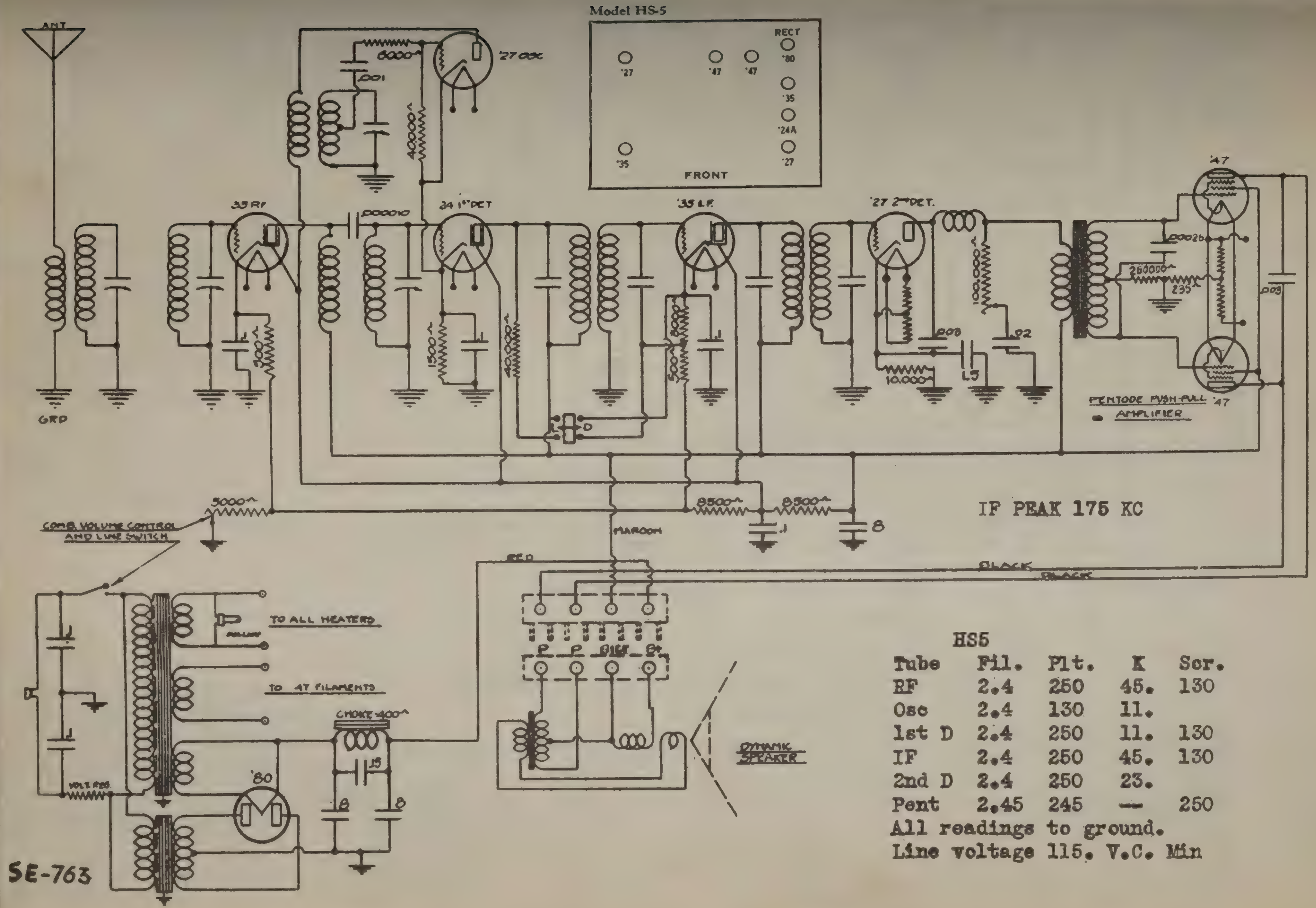
HS 4 with 45s

Tube	Fil.	Plt.	K	Scr.
RF	2.4	250.	12.	116.
Osc.	2.4	116.	11.	--
1st D	2.4	250.	11.	116.
IF	2.4	250.	12.	116.
2nd D	2.4	250.	23.	
Output	2.3	250.		
Rect	4.8			

All readings to ground
Line voltage 115. V.C. Min.

MODEL HS-5

A. H. GREBE & CO.


ANT
GRD
'35 RF
'27 OSC
'24 1st DET
'35 I.F.
'27 2nd DET.
'47
'47
PENTODE PUSH-PULL
AMPLIFIER
Model HS-5
RECT
'80
'35
'24A
'27
'47
'47
'27
'35
FRONT
.001
6000
40000
.00010
300
1500
40,000
500
500
D
100,000
.02
.03
10,000
.5
.00026
250000
235
.003
8500
8500
.1
8
5000
COMB. VOLUME CONTROL
AND LINE SWITCH
MAROON
RED
BLACK
BLACK
P
P
BIAS
B+
TO ALL HEATERS
TO 47 FILAMENTS
CHOKE 400
.15
8
8
'80
VOLT. REG.
DYNAMIC
SPEAKER
SE-763

IF PEAK 175 KC

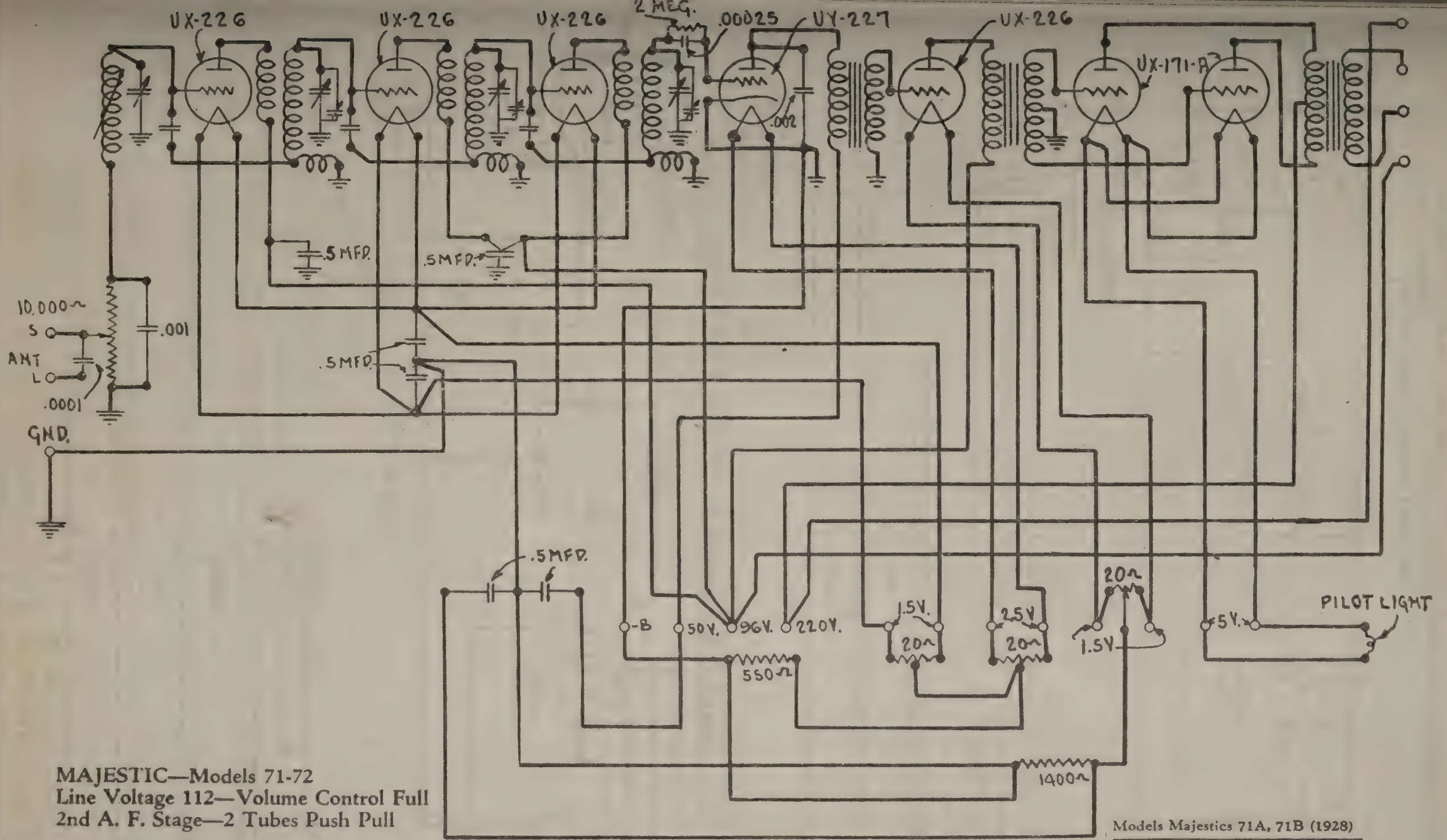
HS5

Tube	Fil.	Plt.	K	Scr.
RF	2.4	250	45.	130
Osc	2.4	130	11.	
1st D	2.4	250	11.	130
IF	2.4	250	45.	130
2nd D	2.4	250	23.	
Pent	2.45	245	—	250

All readings to ground.
Line voltage 115. V.C. Min

GRIGSBY - GRUNOW CO.

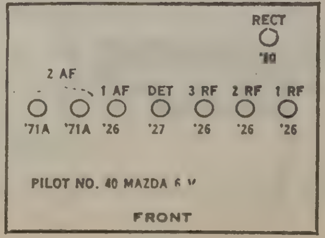
MODEL 70
Chassis


UX-226
UX-226
UX-226
2 MEG.
.00025
UY-227
.002
UX-226
UX-171-A
.5 MFD.
.5 MFD.
10.000~
S
ANT
L
.001
.0001
GND.
.5 MFD.
.5 MFD.
-B
50 V.
96 V.
220 V.
550~
1.5 V.
20~
2.5 V
20~
20~
1.5 V.
5 V.
PILOT LIGHT
1400~

MAJESTIC—Models 71-72
Line Voltage 112—Volume Control Full
2nd A. F. Stage—2 Tubes Push Pull

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET., ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
2	226	2nd. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
3	226	3rd. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
4	227	Detector	2.4	100	2.2	40	0	-	3.0	3.0	0
5	226	1st. A.F.	1.5	100	1.4	83	4	-	3.5	8.0	4.5
6	171A	2nd. A.F.	5.0	192	4.8	130	40	-	20.0	23.0	3.0
7	171A	2nd. A.F.	5.0	192	4.8	130	40	-	20.0	23.0	3.0
8	280	Rectifier	-	-	4.8	-	-	-	20.0	-	-
9											
10											

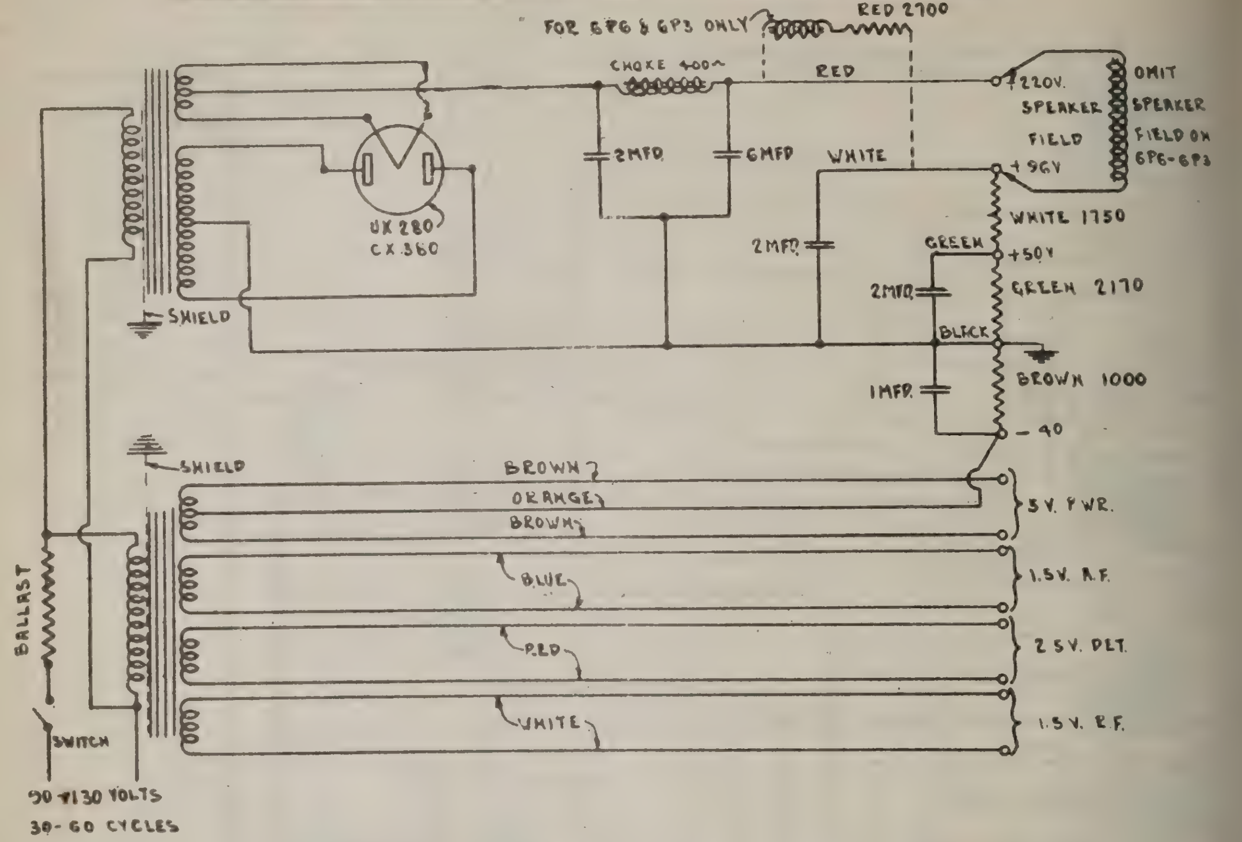
Models Majestics 71A, 71B (1928)


RECT
'80
2 AF
1 AF
DET
3 RF
2 RF
1 RF
'71A
'71A
'26
'27
'26
'26
'26
PILOT NO. 40 MAZDA 6 V
FRONT

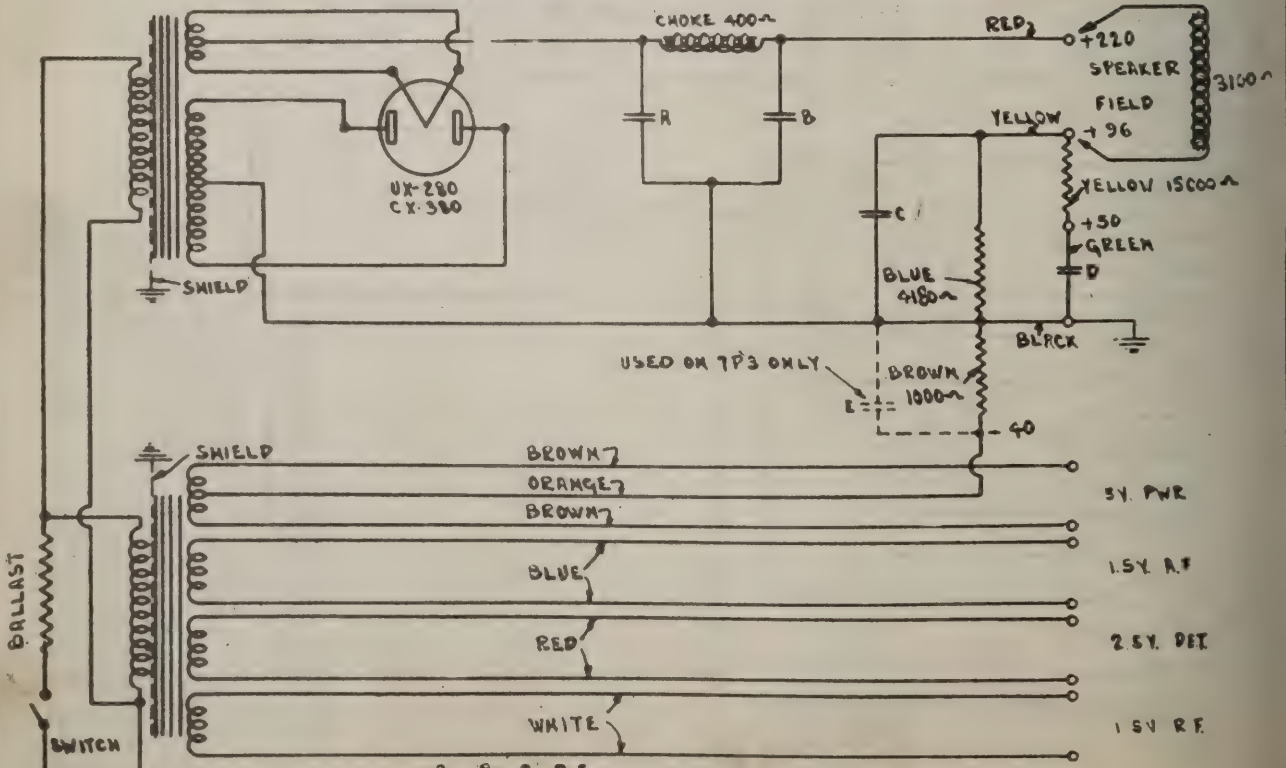
MODEL 7-P-6, 7-P-3
Two Types

GRIGSBY - GRUNOW CO.

SCHEMATIC DIAGRAM OF 7P6-7P3 POWER PACK (OLD WIRING)


FOR 6P6 & 6P3 ONLY
RED 2700
CHOKE 400~
RED
2MFD.
6MFD
WHITE
UX 280
CX 380
SHIELD
220V.
SPEAKER
FIELD
+96V
OMIT
SPEAKER
FIELD ON
6P6-6P3
WHITE 1750
2MFD.
GREEN
+50V
2MFD.
GREEN 2170
BLACK
1MFD.
BROWN 1000
-40
SHIELD
BROWN
ORANGE
BROWN
5 V. PWR.
BLUE
1.5V. R.F.
RED
2.5V. DET.
WHITE
1.5V. R.F.
BALLAST
SWITCH
90-130 VOLTS
30-60 CYCLES

SCHEMATIC DIAGRAM OF 7P6-7P3 POWER PACK

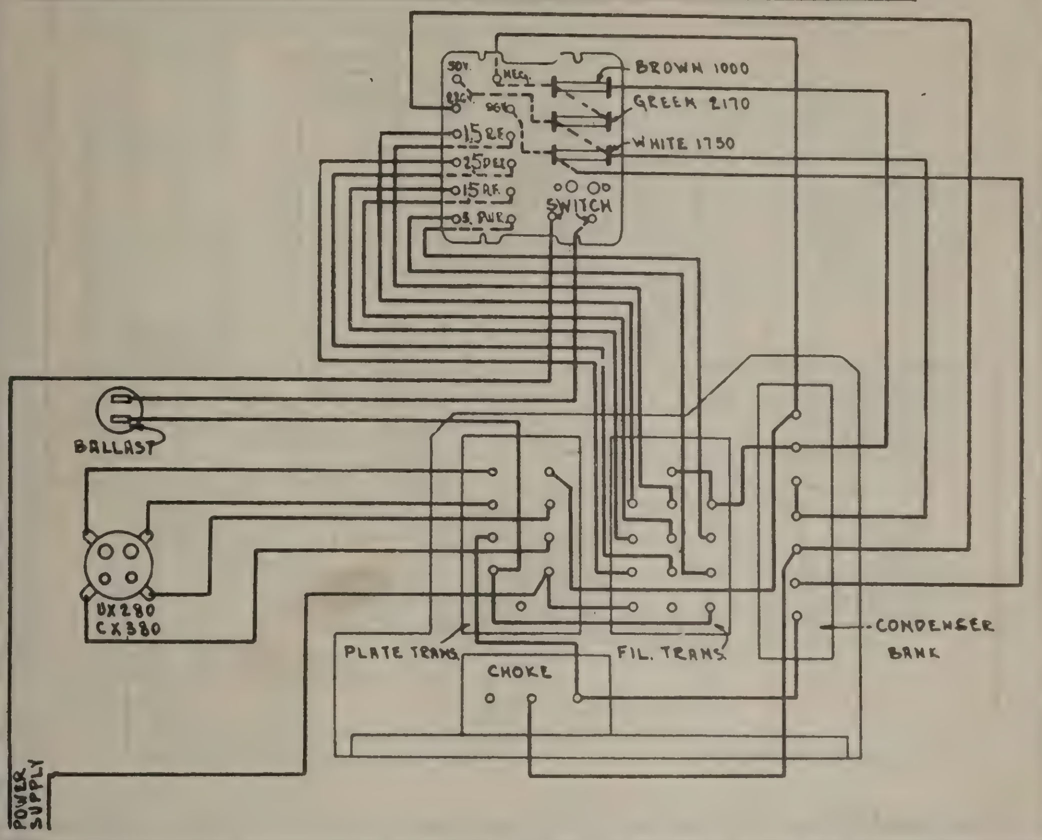

CHOKE 400~
RED
+220
SPEAKER
FIELD
3100~
A
B
UX-280
CX-380
YELLOW
+96
YELLOW 15000~
C
+50
GREEN
D
BLUE
4180~
BLACK
SHIELD
USED ON 7P3 ONLY
E
BROWN
1000~
-40
SHIELD
BROWN
ORANGE
BROWN
5V. PWR
BLUE
1.5V. R.F.
RED
2.5V. DET.
WHITE
1.5V. R.F.
BALLAST
SWITCH
90-130 VOLTS
30-60 CYCLES

	A	B	C	D	E	
7P6	2	3	3	1		MFD.
7P3	2	6	2	2	1	MFD.

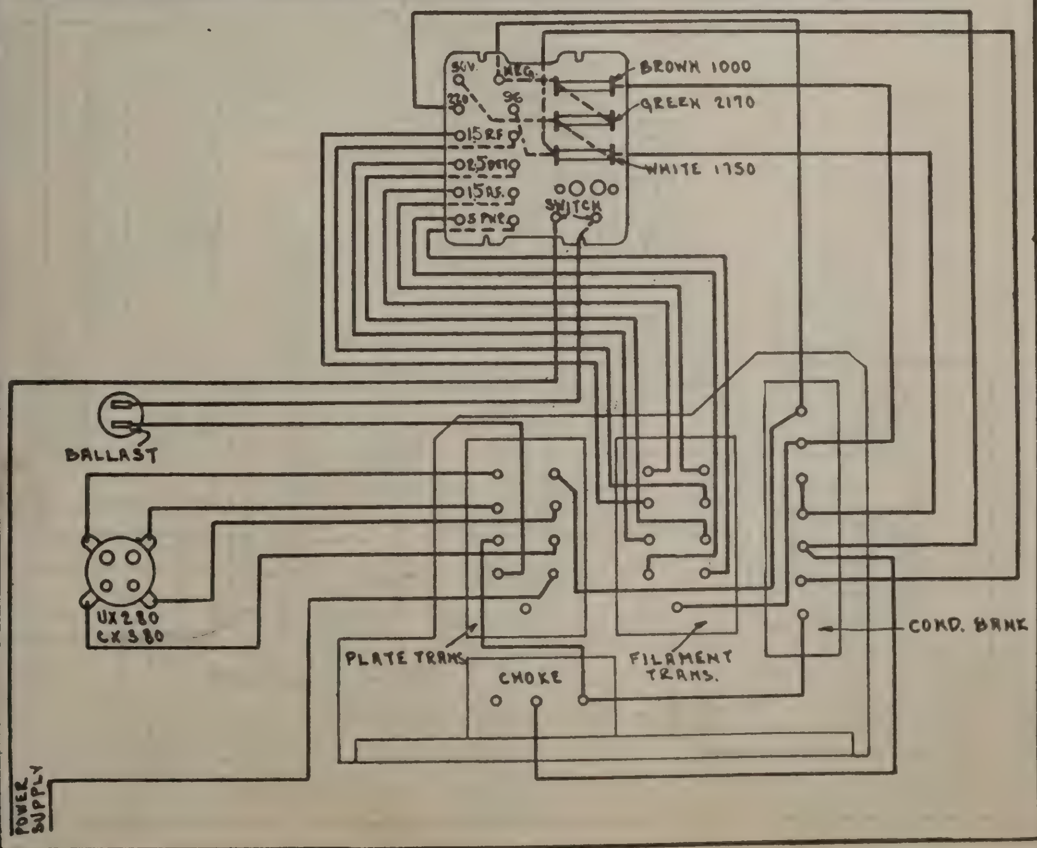
GRIGSBY - GRUNOW CO.

MODEL 7-P-6,7-P-3
Wiring Diagram
Old Wiring

WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P6 (OLD WIRING)


90V.
NEG.
67½
96½
1.5 RF.
2.5 DET.
1.5 RF.
.5 PWR.
BROWN 1000
GREEN 2170
WHITE 1750
SWITCH
BALLAST
UX280
CX380
PLATE TRANS.
FIL. TRANS.
CHOKE
CONDENSER
BANK
POWER
SUPPLY

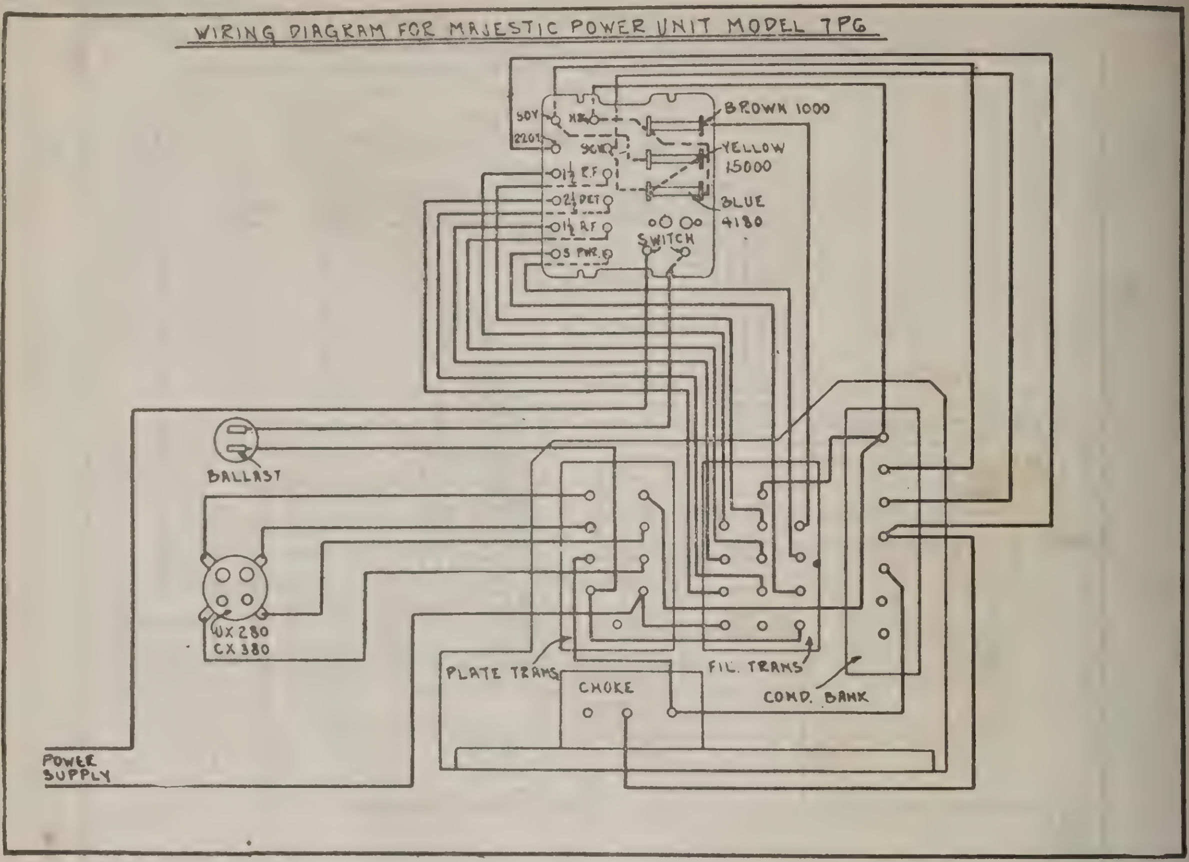
WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P3 (OLD WIRING)


90V.
NEG.
220
96
1.5 RF.
2.5 DET.
1.5 RF.
.5 PWR.
BROWN 1000
GREEN 2170
WHITE 1750
SWITCH
BALLAST
UX280
CX380
PLATE TRANS.
CHOKE
FILAMENT
TRANS.
COND. BANK
POWER
SUPPLY

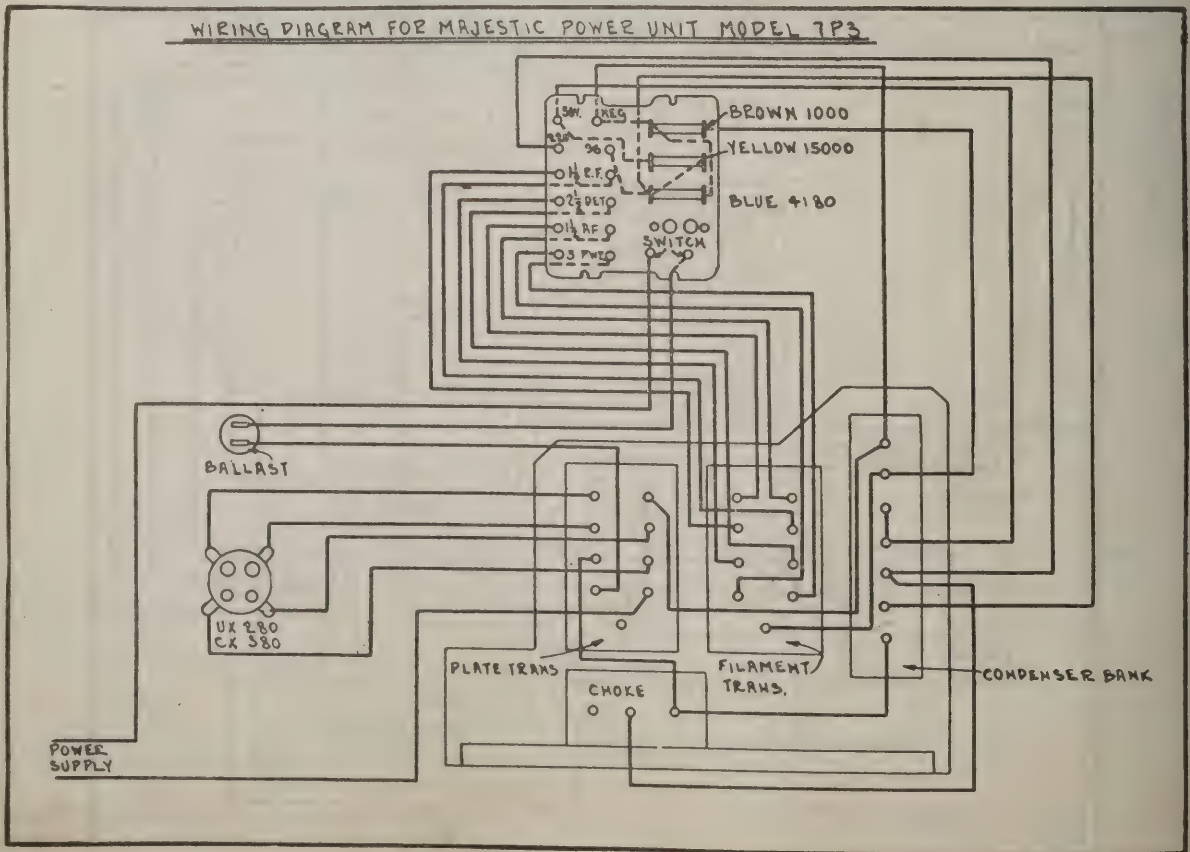
MODEL 7-P-6,7-P-3
Wiring Diagram

GRIGSBY - GRUNOW CO.

WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P6

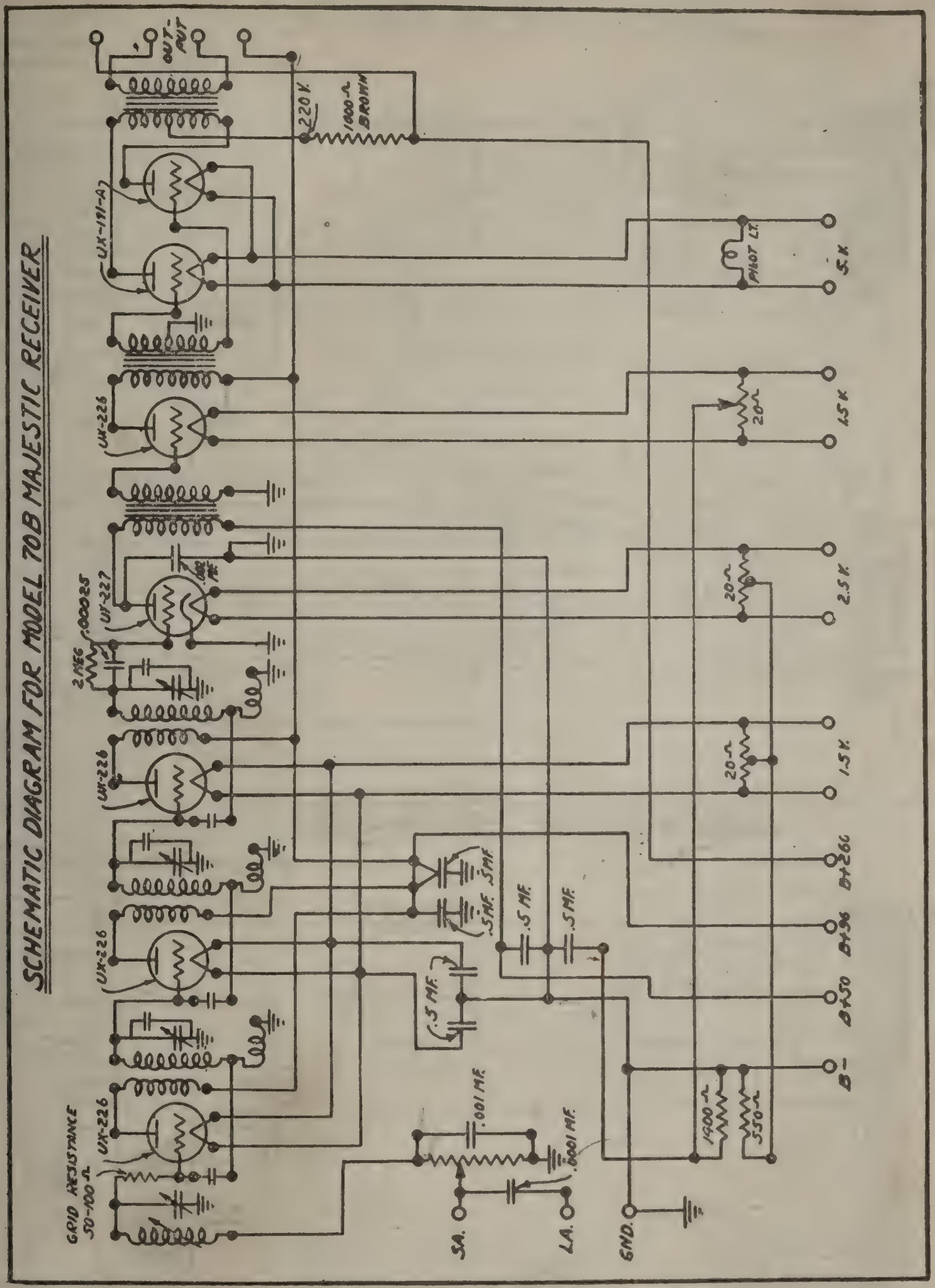

50V
220V
NEG
90V
0 1½ R.F.
0 2½ DET
0 1½ RF
0 3 PWR.
SWITCH
BROWN 1000
YELLOW 15000
BLUE 4180
BALLAST
UX 280
CX 380
PLATE TRANS
CHOKE
FIL. TRANS
COND. BANK
POWER SUPPLY

WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7P3


50V
NEG
220V
90
0 1½ R.F.
0 2½ DET
0 1½ RF
0 3 PWR
SWITCH
BROWN 1000
YELLOW 15000
BLUE 4180
BALLAST
UX 280
CX 380
PLATE TRANS
CHOKE
FILAMENT TRANS.
CONDENSER BANK
POWER SUPPLY

GRIGSBY - GRUNOW CO.

MODEL 70–B

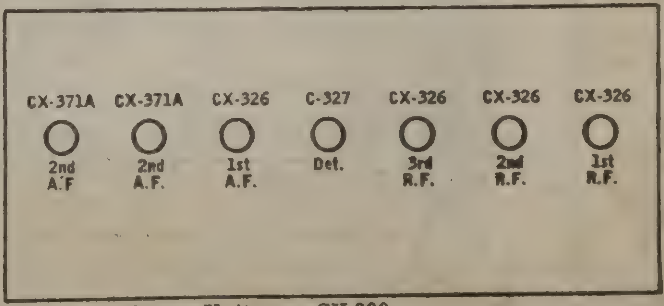


SCHEMATIC DIAGRAM FOR MODEL 70B MAJESTIC RECEIVER

OUT-PUT
220 V.
1900 Ω BROWN
UX-171-A
PILOT LT.
5 V.
UX-226
20 Ω
1.5 V.
UY-227
.00025
2 MEG.
.002 MF.
20 Ω
2.5 V.
20 Ω
1.5 V.
UX-226
UX-226
.5 MF.
.5 MF.
.5 MF.
.5 MF.
.5 MF.
B+266
B+96
B+50
B-
1900 Ω
550 Ω
UX-226
.001 MF.
.0001 MF.
GRID RESISTANCE 50-100 Ω
S.A.
L.A.
GND.

ine Voltage 112—Volume Control Full
nd A. F. Stage—2 Tubes Push Pull

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET..ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
2	226	2nd. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
3	226	3rd. R.F.	1.5	102	1.4	96	5	-	3.5	8.5	5.0
4	227	Detector	2.4	100	2.2	40	0	-	3.0	3.0	0
5	226	1st. A.F.	1.5	100	1.4	83	4	-	3.5	8.0	4.5
6	171A	2nd. A.F.	5.0	192	4.8	180	40	-	20.0	23.0	3.0
7	171A	2nd. A.F.	5.0	192	4.8	180	40	-	20.0	23.0	3.0
8	280	Rectifier	-	-	4.8	-	-	-	20.0	-	-



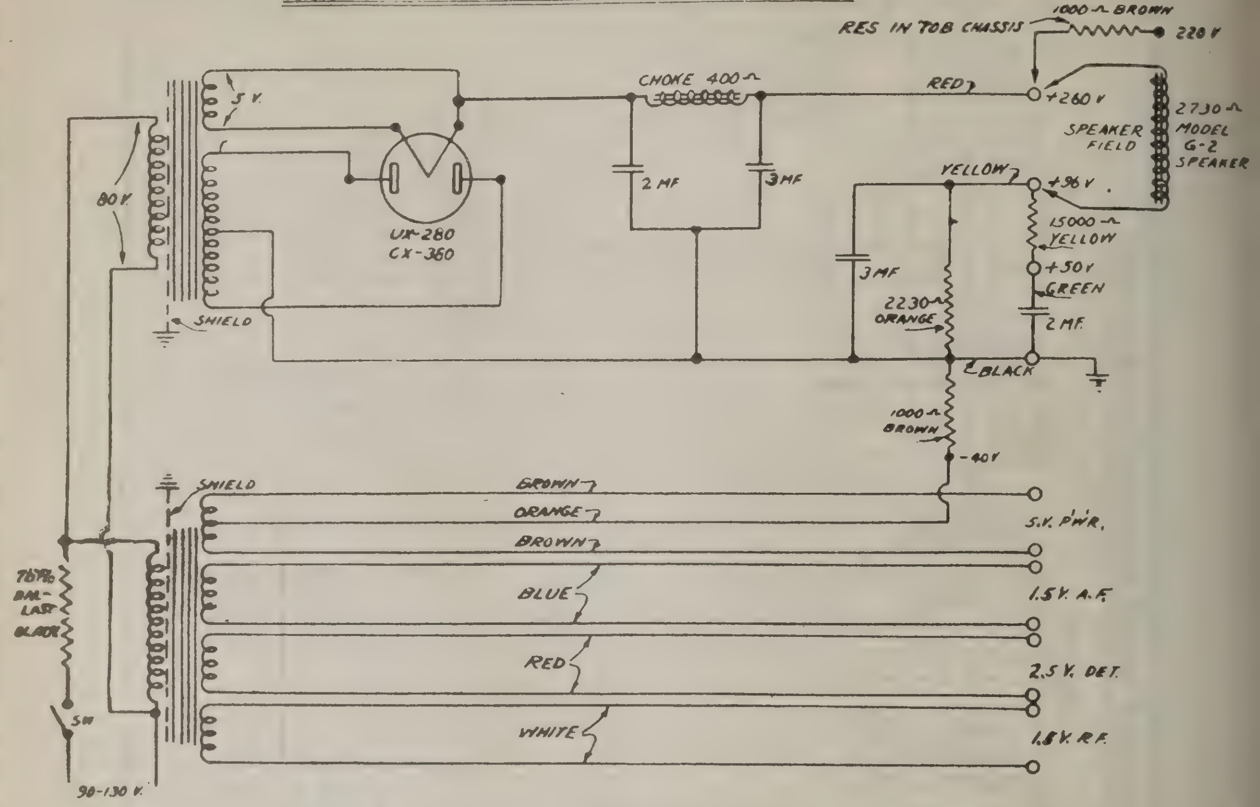
CX-371A
2nd A.F
CX-371A
2nd A.F.
CX-326
1st A.F.
C-327
Det.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.

Separate Power Unit uses CX-380.

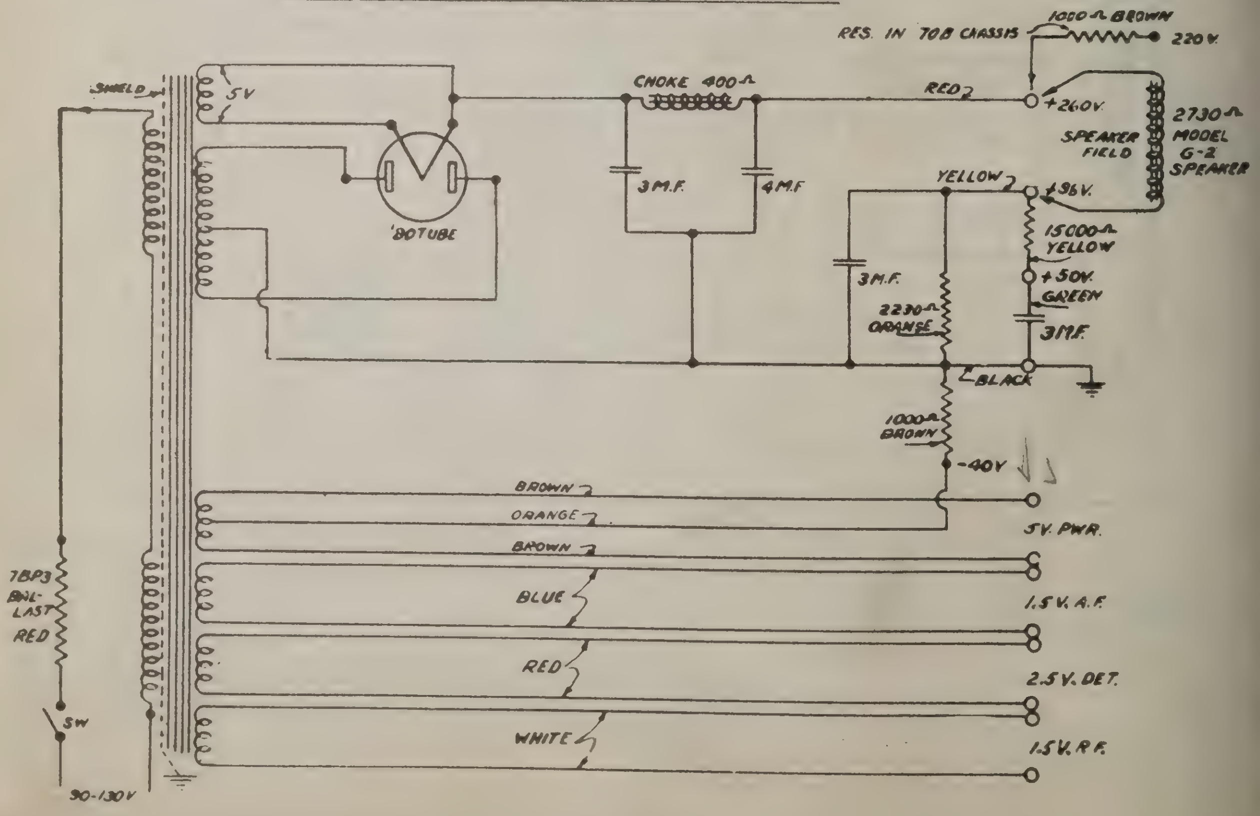
MODEL 7-BP-6,7-BP-3
Schematic

GRIGSBY - GRUNOW CO.

SCHEMATIC DIAGRAM OF 7BP6 POWER UNIT


RES IN 70B CHASSIS
1000 Ω BROWN
220 V
5 V.
80 V.
CHOKE 400 Ω
RED
+260 V
2730 Ω
MODEL G-2 SPEAKER
SPEAKER FIELD
UX-280
CX-380
2 MF
3 MF
YELLOW
+96 V.
15000 Ω
YELLOW
+50 V
GREEN
3 MF
2230 Ω
ORANGE
2 MF
SHIELD
BLACK
1000 Ω
BROWN
-40 V
SHIELD
BROWN
ORANGE
5.V. P'WR.
BROWN
BLUE
1.5 V. A.F.
7BP6 BAL-LAST BLACK
RED
2.5 V. DET.
SW
WHITE
1.5 V. R.F.
90-130 V.

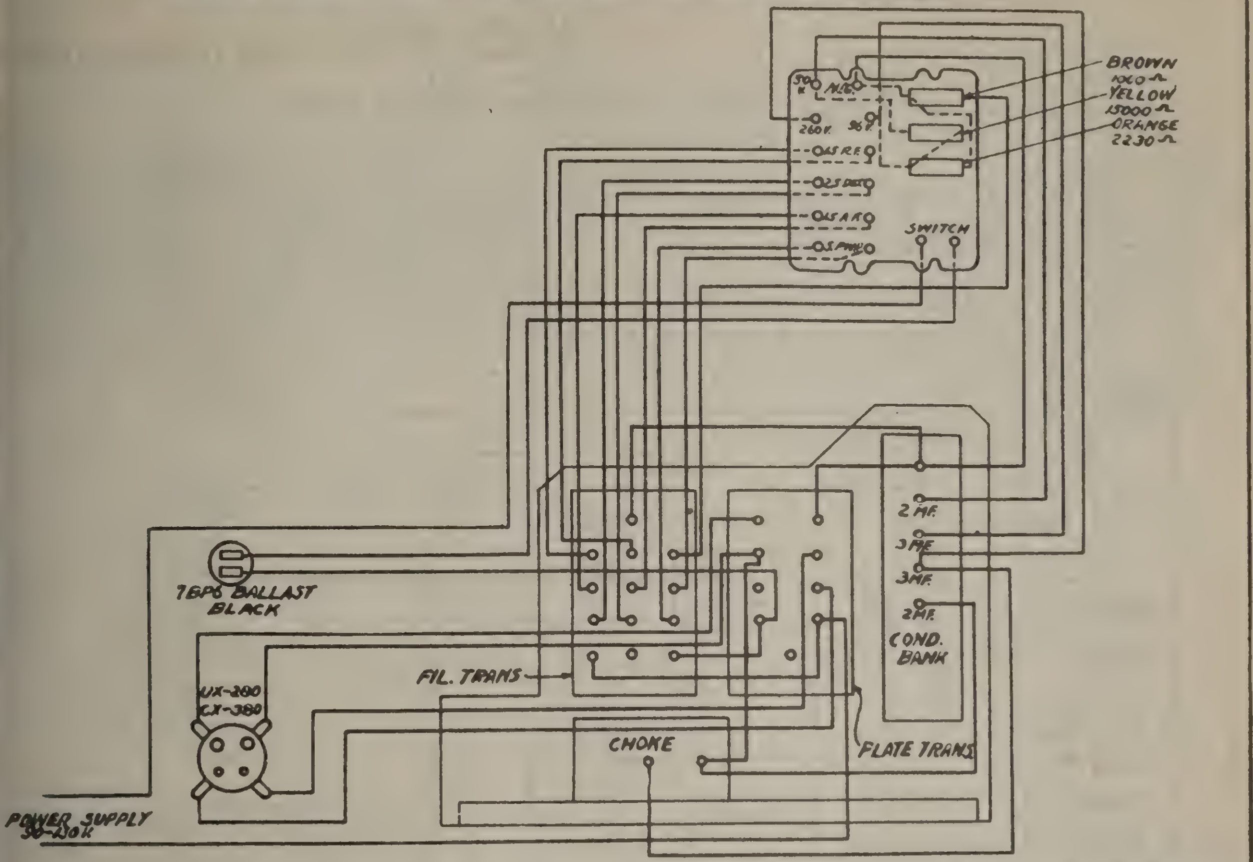
SCHEMATIC DIAGRAM OF 7BP3 POWER UNIT


RES. IN 70B CHASSIS
1000 Ω BROWN
220 V.
SHIELD
5V
CHOKE 400 Ω
RED
+260 V.
2730 Ω
MODEL G-2 SPEAKER
SPEAKER FIELD
3 M.F.
4 M.F.
'80 TUBE
YELLOW
+96 V.
15000 Ω
YELLOW
+50 V.
GREEN
3 M.F.
2230 Ω
ORANGE
3 M.F.
BLACK
1000 Ω
BROWN
-40 V
BROWN
ORANGE
5 V. PWR.
BROWN
BLUE
1.5 V. A.F.
7BP3 BAL-LAST RED
RED
2.5 V. DET.
SW
WHITE
1.5 V. R.F.
90-130 V

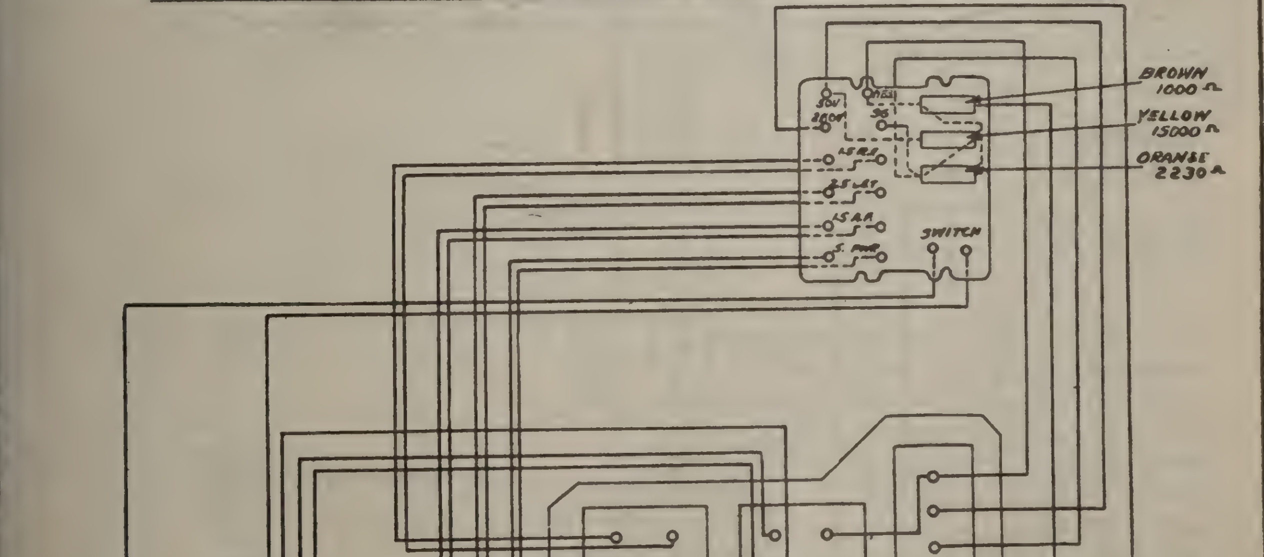
GRIGSBY - GRUNOW CO.

MODEL 7-BP-6,7-BP-3
Wiring Diagram

WIRING DIAGRAM FOR MAJESTIC POWER UNIT - MODEL 7BP6


BROWN
1000 Ω
YELLOW
15000 Ω
ORANGE
2230 Ω
50 V
N.E.
260 V.
96 V.
.045 R.F.
.025 DET.
.045 A.F.
.05 PWR.
SWITCH
2 MF.
3 MF.
3 MF.
2 MF.
COND. BANK
7BP6 BALLAST
BLACK
UX-280
CX-380
FIL. TRANS
CHOKE
FLATE TRANS
POWER SUPPLY
50-60K

WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 7BP3

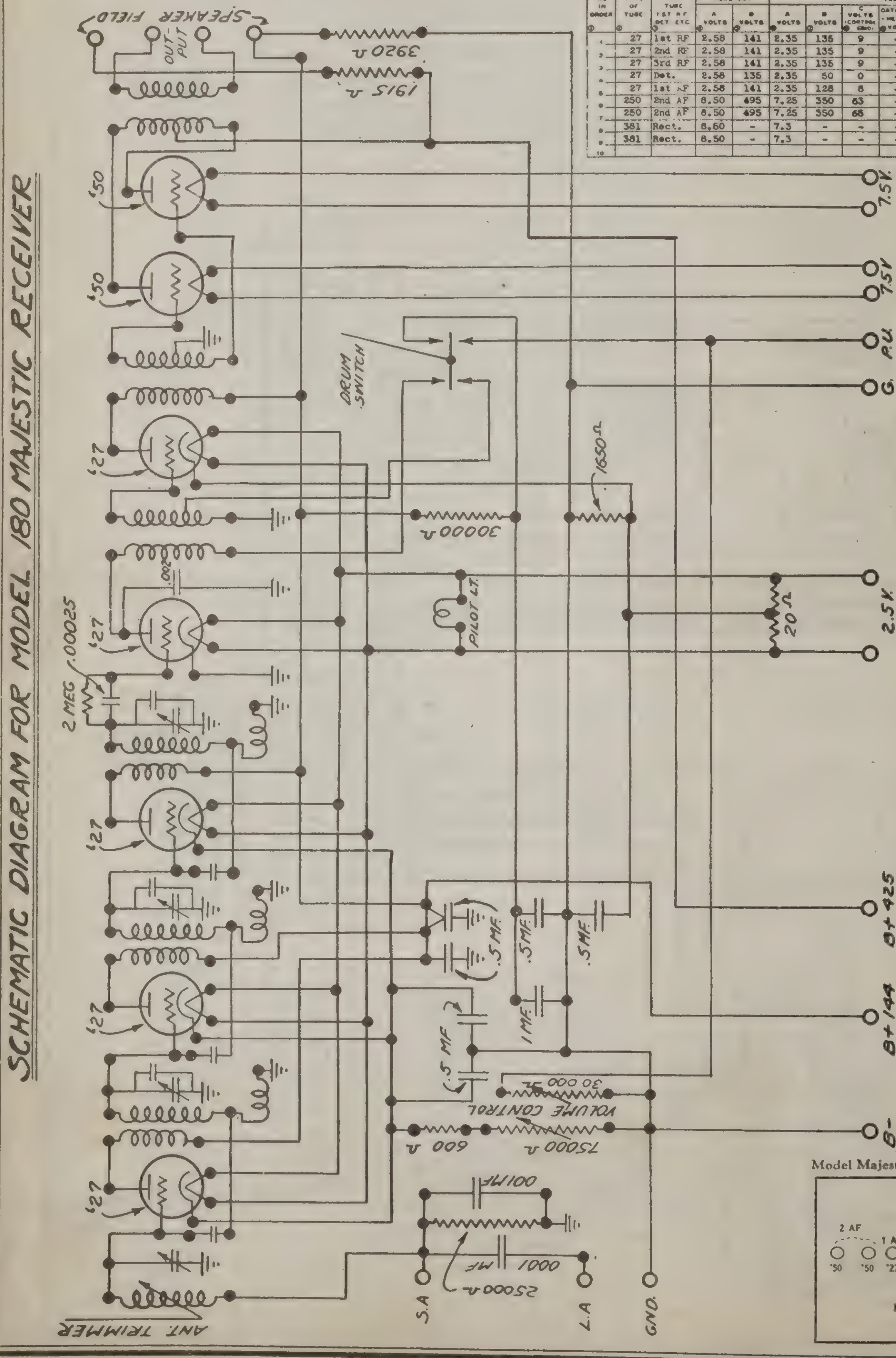

BROWN
1000 Ω
YELLOW
15000 Ω
ORANGE
2230 Ω
50V
260V
N.E.
96
.45 R.F.
.25 DET.
.45 A.F.
.5 PWR.
SWITCH
BALLAST
RED
'80
TRANS.
TRANS.
CHOKE
CONDENSER BANK
POWER
SUPPLY

MODEL 180

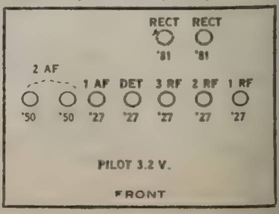
GRIGSBY-GRUNOW CO.

MAJESTIC—Model 181
Line Voltage 112—Set on *Volt Tap—Volume Control Position Full On
***Voltage Regulator Is Used**

Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det etc ③	Readings, plug in socket of set. Tube out: A Volts ④	B Volts ⑤	Tube in tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M A ⑩	Plate M A Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	27	1st RF	2.58	141	2.35	135	9	-	5	8	3	-
2	27	2nd RF	2.58	141	2.35	135	9	-	5	8	3	-
3	27	3rd RF	2.58	141	2.35	135	9	-	5	8	3	-
4	27	Det.	2.58	135	2.35	50	0	-	3	3	-	-
5	27	1st AF	2.58	141	2.35	128	8	-	4	5.3	1.3	-
6	250	2nd AF	8.50	495	7.25	350	63	-	45	47	2	-
7	250	2nd AF	8.50	495	7.25	350	66	-	45	47	2	-
8	381	Rect.	8.60	-	7.3	-	-	-	68	-	-	-
9	381	Rect.	8.50	-	7.3	-	-	-	68	-	-	-
10												


SCHEMATIC DIAGRAM FOR MODEL 180 MAJESTIC RECEIVER
SPEAKER FIELD
OUT-PUT
3920 Ω
1915 Ω
'50
'50
'27
'27
'27
'27
'27
DRUM SWITCH
1650 Ω
30000 Ω
.002
PILOT LT.
20 Ω
2 MEG
.00025
.5 MF.
.5 MF.
.5 MF.
1 MF.
.5 MF
30 000 Ω
VOLUME CONTROL
600 Ω
75000 Ω
.001 MF
.0001 MF
25000 Ω
S.A
L.A
GND.
ANT. TRIMMER
7.5V.
7.5V.
P.U.
G.
2.5V.
B+425
B+144
B-

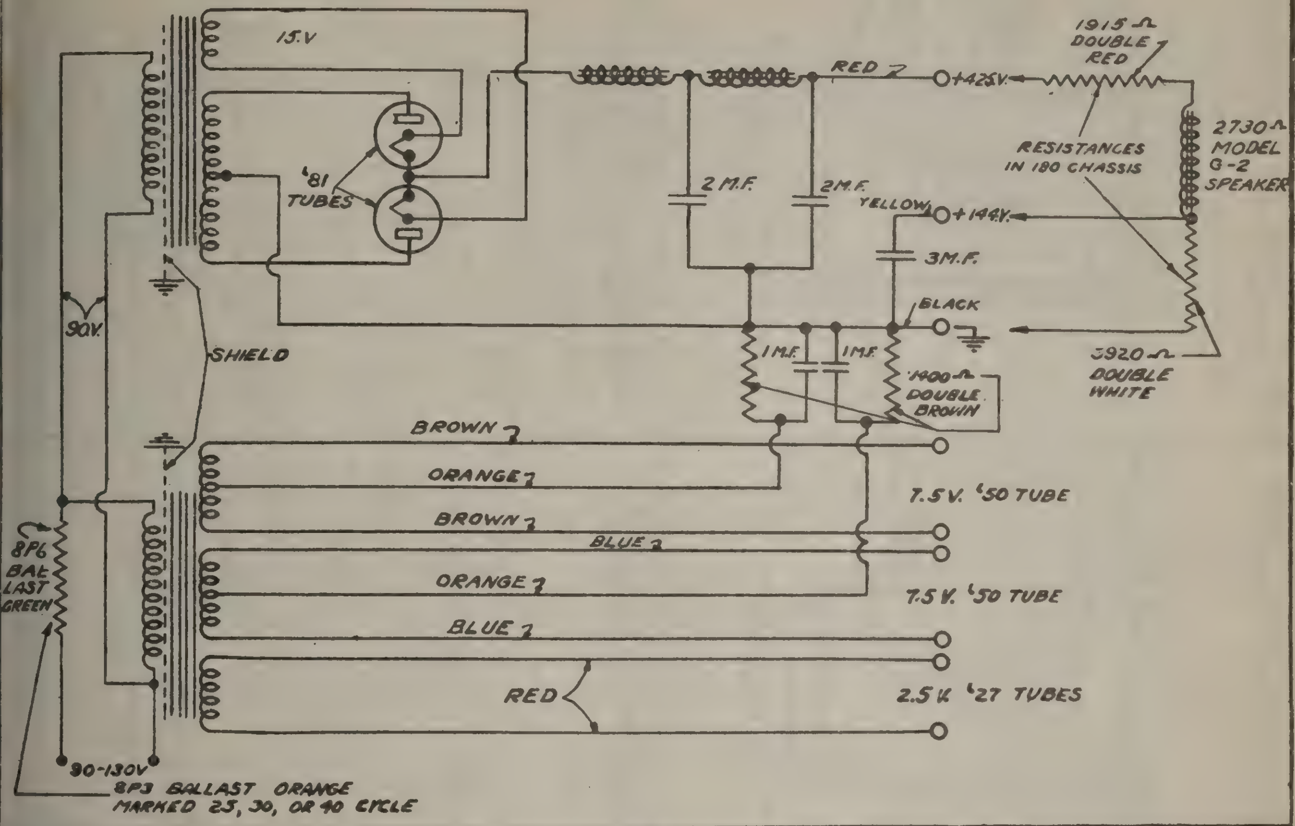
Model Majestic 181 (1928)


RECT
'81
RECT
'81
2 AF
'50
'50
1 AF
'27
DET
'27
3 RF
'27
2 RF
'27
1 RF
'27
PILOT 3.2 V.
FRONT

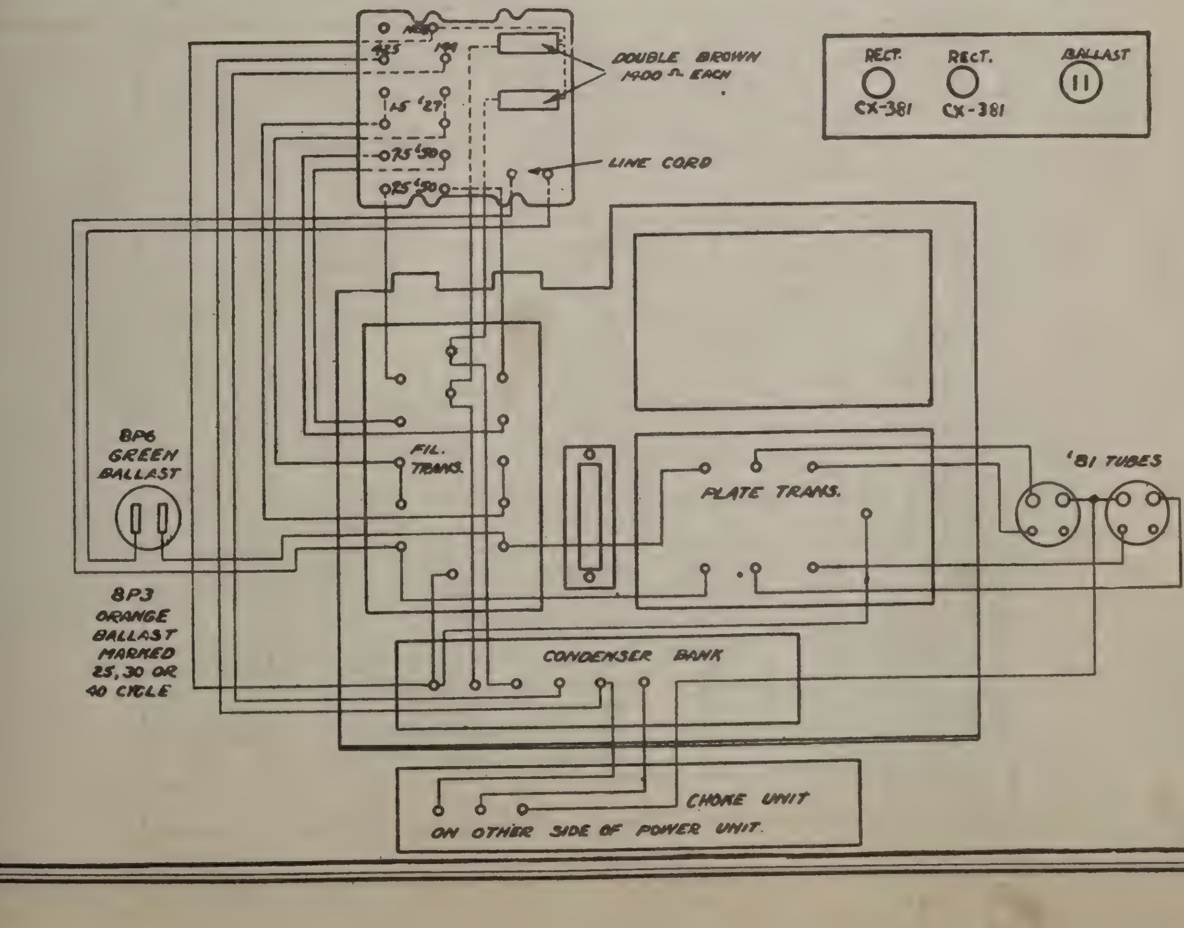
GRIGSBY - GRUNOW CO. MODEL 8-P-6,8-P-3 Schematic, Wiring Diagram

SCHEMATIC DIAGRAM OF 8P6 & 8P3 POWER UNITS

(FOR MODEL 180 CHASSIS)


15.V
'81 TUBES
RED
+425V.
1915 Ω DOUBLE RED
2730 Ω MODEL G-2 SPEAKER
RESISTANCES IN 180 CHASSIS
2 M.F.
2M.F.
YELLOW
+144V.
3M.F.
BLACK
3920 Ω DOUBLE WHITE
90V.
SHIELD
1M.F.
1M.F.
1900 Ω DOUBLE BROWN
BROWN
ORANGE
7.5V. '50 TUBE
BROWN
BLUE
ORANGE
7.5 V. '50 TUBE
BLUE
RED
2.5 V. '27 TUBES
8P6 BALLAST GREEN
90-130V
8P3 BALLAST ORANGE MARKED 25, 30, OR 40 CYCLE

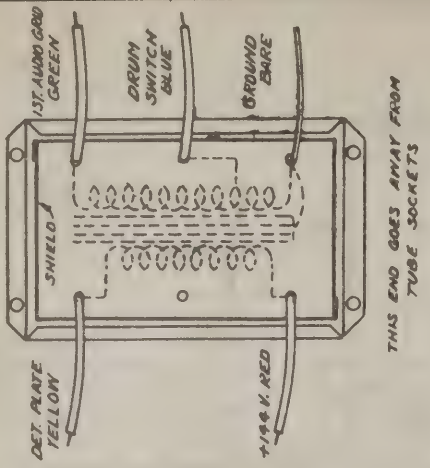
WIRING DIAGRAM FOR MAJESTIC POWER UNIT MODEL 8P6 & 8P3


425
144
2.5 '27
7.5 '50
7.5 '50
DOUBLE BROWN 1900 Ω EACH
LINE CORD
RECT. CX-381
RECT. CX-381
BALLAST
FIL. TRANS.
PLATE TRANS.
'81 TUBES
8P6 GREEN BALLAST
8P3 ORANGE BALLAST MARKED 25,30 OR 40 CYCLE
CONDENSER BANK
CHOKE UNIT
ON OTHER SIDE OF POWER UNIT.

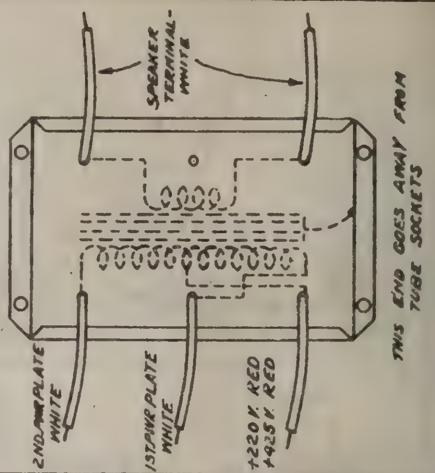
MODELS 70-B,180
Data

GRIGSBY - GRUNOW CO.

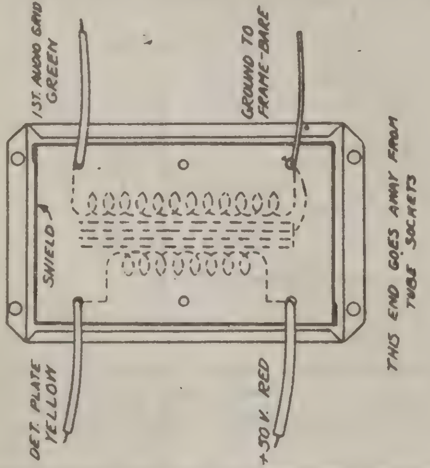
FIRST STAGE AUDIO TRANS 6-28
FOR MODEL 180 CHASSIS
(VIEW LOOKING AT BOTTOM OF CAN)


1ST. AUDIO GRID GREEN
DRUM SWITCH BLUE
GROUND BARE
SHIELD
DET. PLATE YELLOW
+144 V. RED
THIS END GOES AWAY FROM TUBE SOCKETS

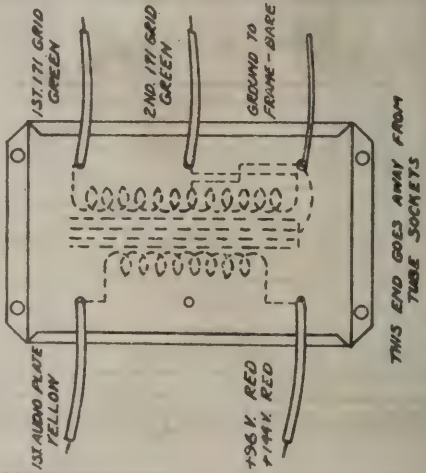
PUSH PULL OUTPUT TRANS 6-4
FOR MODEL 70 B & 180 CHASSIS
(VIEW LOOKING AT BOTTOM OF CAN)


SPEAKER TERMINAL-WHITE
2ND. PWR PLATE WHITE
1ST. PWR PLATE WHITE
+220 V. RED
+425 V. RED
THIS END GOES AWAY FROM TUBE SOCKETS

FIRST STAGE AUDIO TRANS 6-38
FOR MODEL 70 B CHASSIS
(VIEW LOOKING AT BOTTOM OF CAN)


1ST. AUDIO GRID GREEN
GROUND TO FRAME-BARE
SHIELD
DET. PLATE YELLOW
+50 V. RED
THIS END GOES AWAY FROM TUBE SOCKETS

PUSH PULL INPUT TRANS 6-3
FOR MODEL 70B & 180 CHASSIS
(VIEW LOOKING AT BOTTOM OF CAN)


1ST. 171 GRID GREEN
2ND. 171 GRID GREEN
GROUND TO FRAME-BARE
1ST. AUDIO PLATE YELLOW
+96 V. RED
+144 V. RED
THIS END GOES AWAY FROM TUBE SOCKETS

GRIGSBY GRUNOW CO
JAN-1929

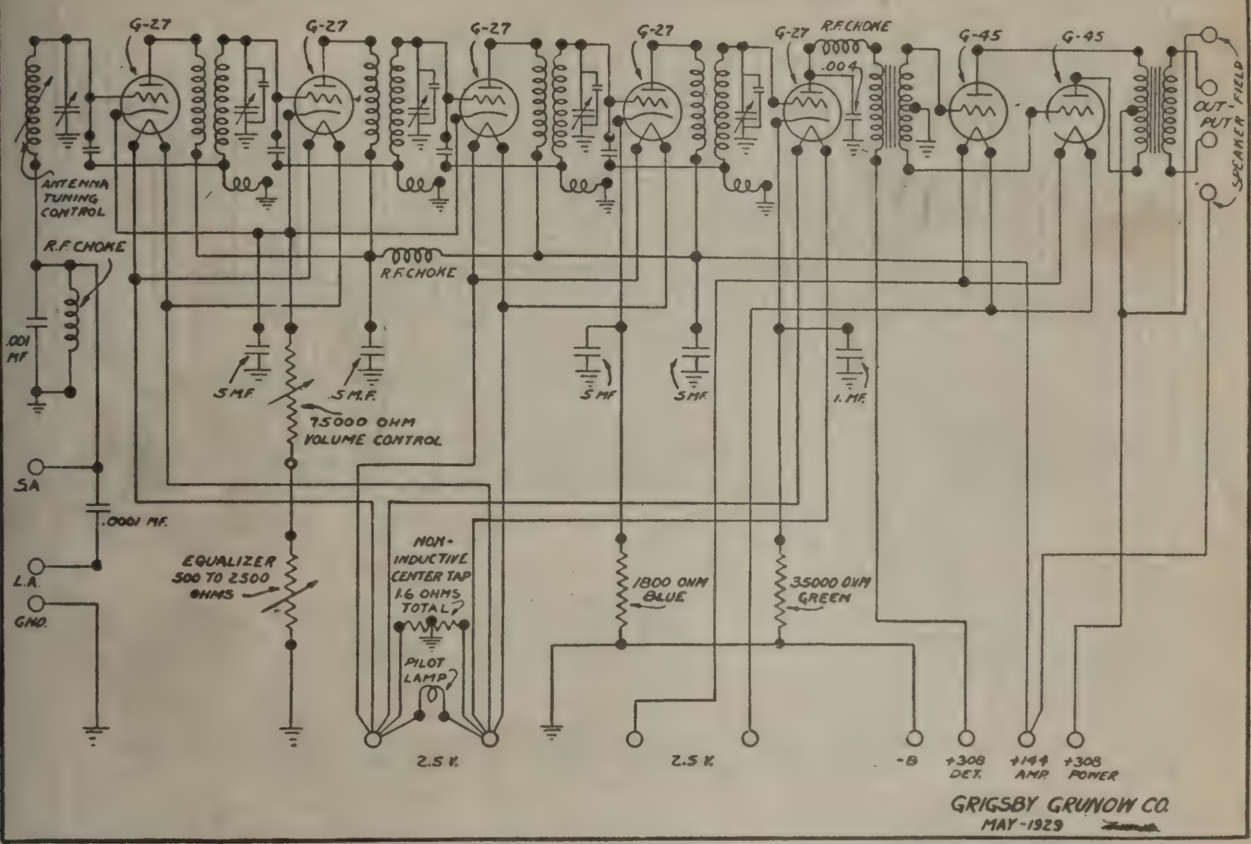
BALLAST SPECIFICATIONS FOR THE VARIOUS TYPES OF MAJESTIC ELECTRIC POWER UNITS

POWER UNIT TYPE	FREQUENCY CYCLES PER SECOND	BALLAST MARKING	BALLAST COLOR	LINE VOLTAGE	PRIMARY VOLTS	
7P6	60	B	BLACK	115	80	
7P3	25-30-40	B	BLACK	115	60	
7BP6	60	7BP6	BLACK	115	80	
7BP6	60	7BP6	BLUE	230	160	
7BP3	25	7BP3 25	RED	115	80	
7BP3	30	7B P3 30	RED	115	80	
7BP3	40	7BP3 40	RED	115	80	
8P6	60	8 P6	GREEN	115	90	
8P6	60	8 P6	YELLOW	230	180	
8P3	25	8P3 25	ORANGE	115	90	
8P3	30	8P3 30	ORANGE	115	90	
8P3	40	8P3 40	ORANGE	115	90	

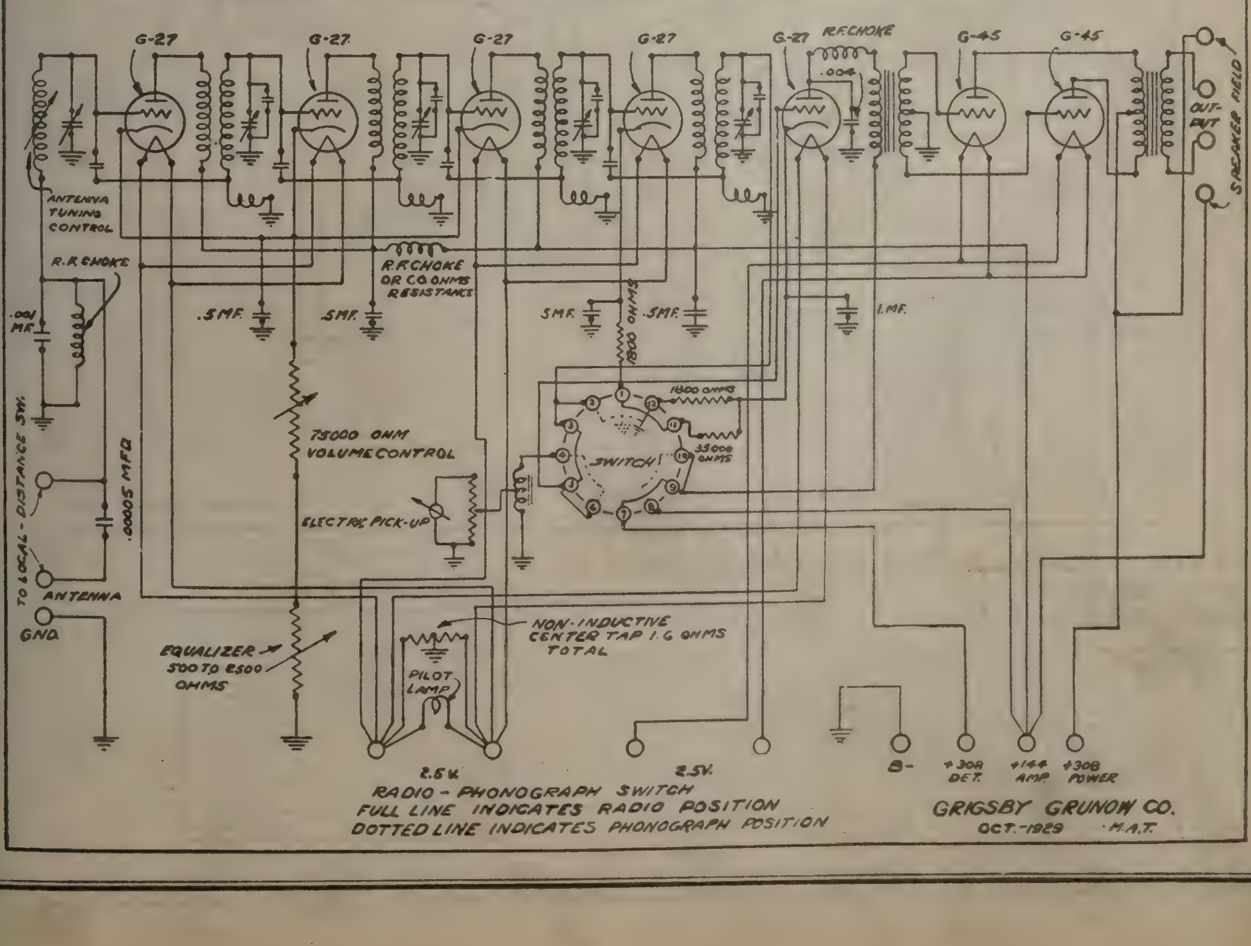
GRIGSBY - GRUNOW CO.

MODEL 90,100
Schematic

SCHEMATIC DIAGRAM FOR MODEL 90 MAJESTIC RECEIVER


G-27
G-27
G-27
G-27
G-27
R.F. CHOKE
.004
G-45
G-45
OUT-PUT
SPEAKER FIELD
ANTENNA TUNING CONTROL
R.F. CHOKE
R.F. CHOKE
.001 MF
.5 MF.
.5 M.F.
.5 MF
.5 MF
1. MF.
75000 OHM VOLUME CONTROL
S.A
.0001 MF.
L.A.
GND.
EQUALIZER 500 TO 2500 OHMS
NON-INDUCTIVE CENTER TAP 1.6 OHMS TOTAL
PILOT LAMP
1800 OHM BLUE
35000 OHM GREEN
2.5 V.
2.5 V.
-B
+308 DET.
+144 AMP.
+308 POWER
GRIGSBY GRUNOW CO.
MAY-1929

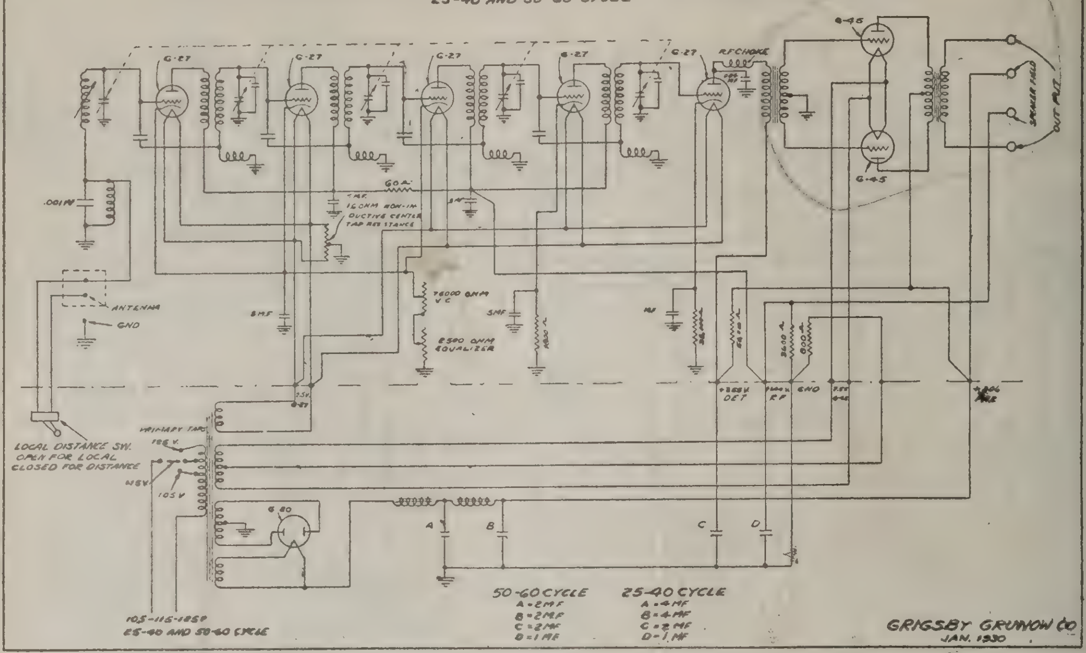
SCHEMATIC DIAGRAM FOR MODEL 100 MAJESTIC RECEIVER


G-27
G-27
G-27
G-27
G-27
R.F. CHOKE
.004
G-45
G-45
OUT-PUT
SPEAKER FIELD
ANTENNA TUNING CONTROL
R.F. CHOKE
R.F. CHOKE OR C.O. OHMS RESISTANCE
.001 MF.
.5 MF.
.5 MF.
.5 MF.
1800 OHMS
.5 MF.
1. MF.
1800 OHMS
35000 OHMS
SWITCH
75000 OHM VOLUME CONTROL
ELECTRIC PICK-UP
TO LOCAL - DISTANCE SW.
.00005 MFD
ANTENNA
GND.
EQUALIZER 500 TO 2500 OHMS
NON-INDUCTIVE CENTER TAP 1.6 OHMS TOTAL
PILOT LAMP
2.5 V.
2.5 V.
B-
+308 DET.
+144 AMP.
+308 POWER
RADIO - PHONOGRAPH SWITCH
FULL LINE INDICATES RADIO POSITION
DOTTED LINE INDICATES PHONOGRAPH POSITION
GRIGSBY GRUNOW CO.
OCT.-1929
M.A.T.

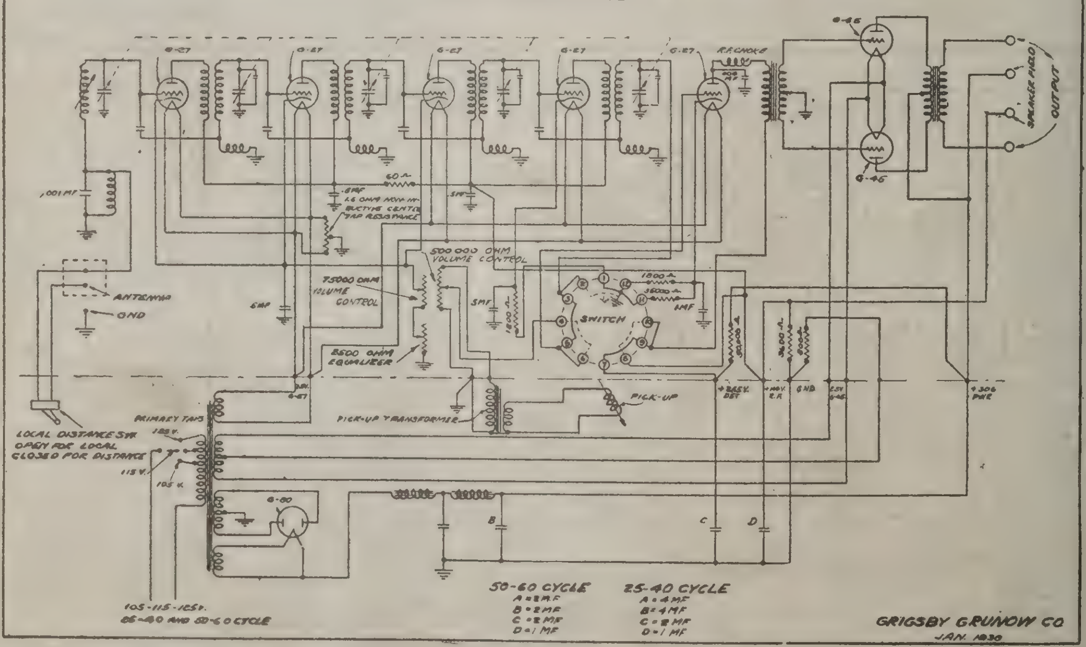
MODEL 90-B
MODEL 100-B

GRIGSBY - GRUNOW CO.

SCHEMATIC DIAGRAM FOR MODEL 90-B MAJESTIC CHASSIS
25-40 AND 50-60 CYCLE


G-27
G-27
G-27
G-27
G-27
R.F. CHOKE
G-45
G-45
SPEAKER FIELD
OUTPUT
.001 MF
60 Ω
1 MF
16 OHM NON-INDUCTIVE CENTER TAP RESISTANCE
75000 OHM V.C.
2500 OHM EQUALIZER
ANTENNA
GND
LOCAL DISTANCE SW. OPEN FOR LOCAL CLOSED FOR DISTANCE
PRIMARY TAPS
125 V.
115 V.
105 V.
G-80
A
B
C
D
+225 V DET
+ RF
GND
2.5 V G-45
+306 PWR
105-115-125 V
25-40 AND 50-60 CYCLE
50-60 CYCLE
A=2MF
B=2MF
C=2MF
D=1MF
25-40 CYCLE
A=4MF
B=4MF
C=2MF
D=1MF
GRIGSBY GRUNOW CO.
JAN. 1930

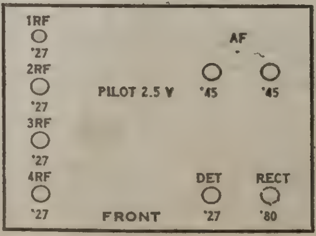
SCHEMATIC DIAGRAM FOR MODEL 100-B MAJESTIC CHASSIS
25-40 AND 50-60 CYCLE


G-27
G-27
G-27
G-27
G-27
R.F. CHOKE
G-45
G-45
SPEAKER FIELD
OUTPUT
.001 MF
60 Ω
1 MF
16 OHM NON-INDUCTIVE CENTER TAP RESISTANCE
500 000 OHM VOLUME CONTROL
75000 OHM VOLUME CONTROL
2500 OHM EQUALIZER
SWITCH
1 MF
PICK-UP
PICK-UP TRANSFORMER
ANTENNA
GND
LOCAL DISTANCE SW. OPEN FOR LOCAL CLOSED FOR DISTANCE
PRIMARY TAPS
125 V.
115 V.
105 V.
G-80
B
C
D
+225 V DET
+ R.F.
GND
2.5 V G-45
+306 PWR
105-115-125 V
25-40 AND 50-60 CYCLE
50-60 CYCLE
A=2MF
B=2MF
C=2MF
D=1MF
25-40 CYCLE
A=4MF
B=4MF
C=2MF
D=1MF
GRIGSBY GRUNOW CO.
JAN. 1930

Line Voltage 112—Set on *Volt Tap—Volume Control Pesition Full On
***Voltage Regulator Is Used**

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST R.F DET. ETC. ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE M.A	⑪ PLATE M.A GRID TEST	⑫ PLATE CHANGE M.A	⑬ SCREEN GRID VOLTS
1	27	1st RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
2	27	2nd RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
3	27	3rd RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
4	27	4th RF	2.58	148	2.35	130	9	9	5	7.2	2.2	-
5	27	Det.	2.58	306	2.35	270	30	30	1	1	1	-
6	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
7	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
8	380	-	-	-	-	-	-	-	100	-	-	-

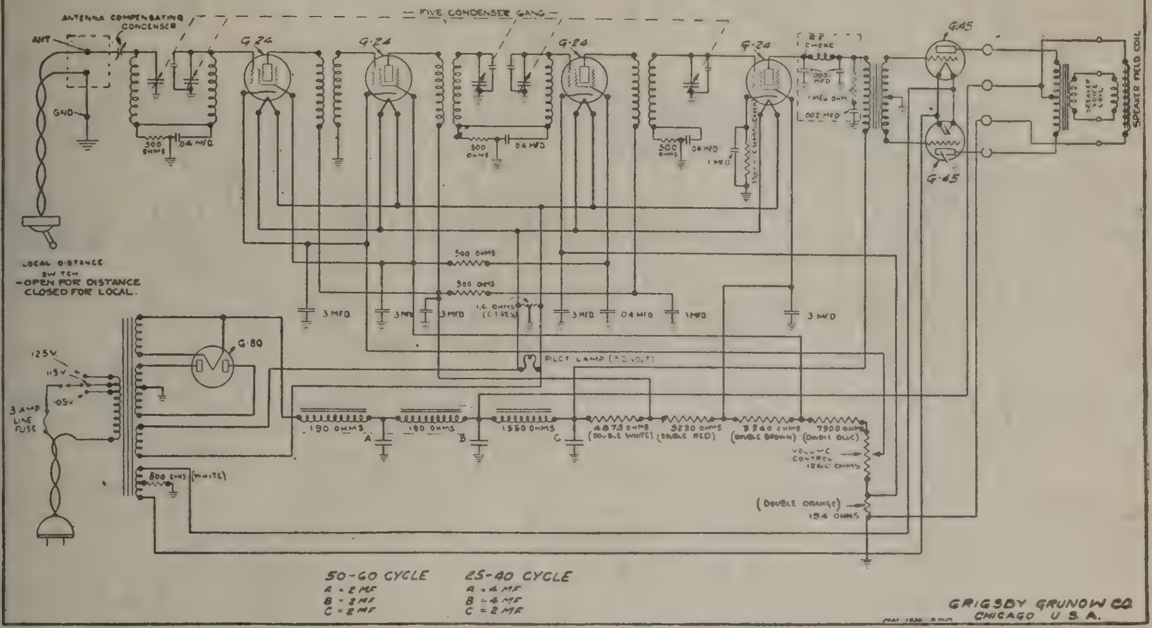
Models Majestics 90, 91, 92, 101 (1929)


1RF
'27
2RF
'27
3RF
'27
4RF
'27
PILOT 2.5 V
AF
'45
'45
DET
'27
RECT
'80
FRONT

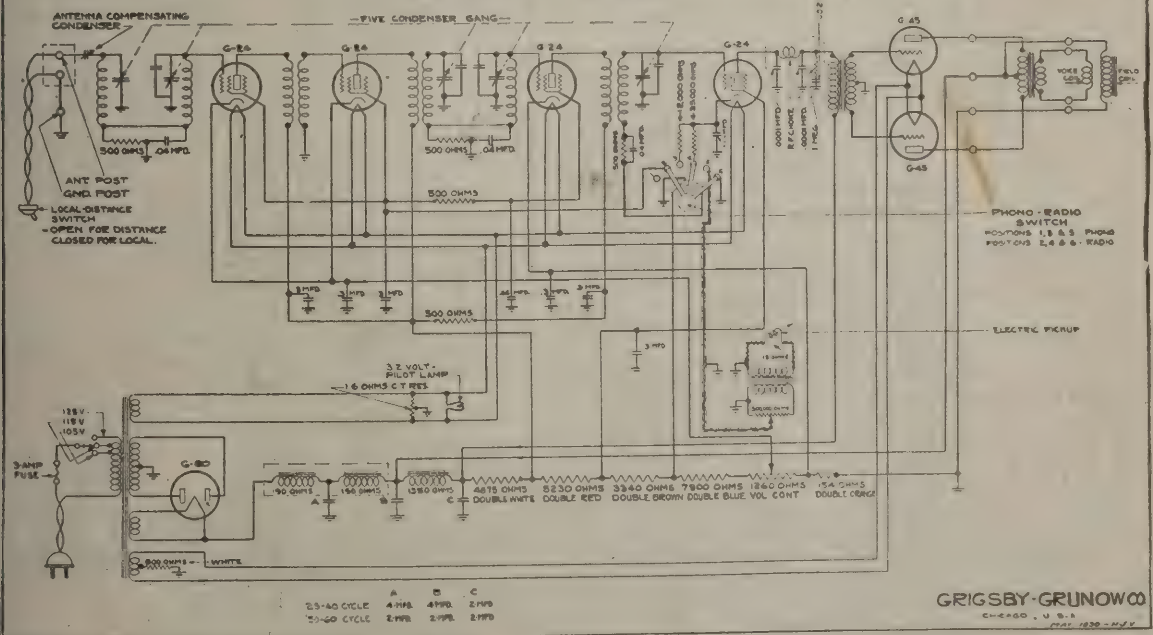
GRIGSBY - GRUNOW CO.

MODEL 130-A
MODEL 230-A

SCHEMATIC DIAGRAM of MAJESTIC SUPER SCREEN GRID RECEIVER
MODEL 130-A CHASSIS 25-40 & 50-60 CYCLE


ANTENNA COMPENSATING CONDENSER
— FIVE CONDENSER GANG —
ANT
GND
G-24
G-24
G-24
G-24
500 OHMS
.04 MFD
RF CHOKE
.0001 MFD
1 MEG OHM
.002 MFD
1 MFD
G-45
G-45
SPEAKER VOICE COIL
SPEAKER FIELD COIL
LOCAL DISTANCE SWITCH
-OPEN FOR DISTANCE CLOSED FOR LOCAL.
500 OHMS
300 OHMS
3 MFD
3 MFD
3 MFD
1.6 OHMS (C T RES)
3 MFD
.04 MFD
3 MFD
3 MFD
G-80
125V
115V
105V
3 AMP LINE FUSE
PILOT LAMP (3.2 VOLT)
190 OHMS
190 OHMS
1550 OHMS
A
B
C
4875 OHMS (DOUBLE WHITE)
5230 OHMS (DOUBLE RED)
3340 OHMS (DOUBLE BROWN)
7900 OHMS (DOUBLE BLUE)
VOLUME CONTROL 1260 OHMS
(DOUBLE ORANGE) 154 OHMS
800 OHMS (WHITE)
50-60 CYCLE
A = 2 MF
B = 2 MF
C = 2 MF
25-40 CYCLE
A = 4 MF
B = 4 MF
C = 2 MF
GRIGSBY GRUNOW CO.
CHICAGO U.S.A.
MAY 1930

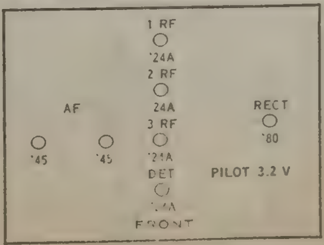
SCHEMATIC DIAGRAM of MAJESTIC SUPER SCREEN GRID RECEIVER
MODEL 230-A CHASSIS
25 - 40 & 50 - 60 CYCLE


ANTENNA COMPENSATING CONDENSER
—FIVE CONDENSER GANG—
G-24
G-24
G 24
G-24
500 OHMS
.04 MFD
500 OHMS
.04 MFD
ANT POST
GND. POST
LOCAL-DISTANCE SWITCH
-OPEN FOR DISTANCE CLOSED FOR LOCAL.
500 OHMS
3 MFD
3 MFD
3 MFD
.04 MFD
3 MFD
3 MFD
500 OHMS
.0001 MFD
R.F. CHOKE
.0001 MFD
1 MEG.
G 45
G-45
VOICE COIL
FIELD COIL
PHONO - RADIO SWITCH
POSITIONS 1, 3 & 5 PHONO
POSITIONS 2, 4 & 6 - RADIO
ELECTRIC PICKUP
3 MFD
3.2 VOLT - PILOT LAMP
1.6 OHMS C T RES
125V
115V
105V
3-AMP FUSE
G-80
190 OHMS
190 OHMS
1350 OHMS
A
B
C
4875 OHMS DOUBLE WHITE
5230 OHMS DOUBLE RED
3340 OHMS DOUBLE BROWN
7900 OHMS DOUBLE BLUE
1260 OHMS VOL CONT
154 OHMS DOUBLE ORANGE
800 OHMS
WHITE
A B C
25-40 CYCLE 4 MFD 4 MFD 2 MFD
50-60 CYCLE 2 MFD 2 MFD 2 MFD
GRIGSBY-GRUNOW CO
CHICAGO, U.S.A.
MAY 1930

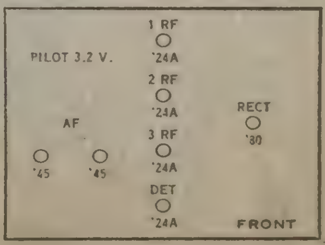
MAJESTIC—Models 130, 131, 132 and 233
ine Voltage 115—Voltage Tap 115
Volume Control Maximum

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE ⑥ 80 +	NORMAL GRID—SCREEN ⑦ 80 +	CATHODE TO HEATER ⑧	SCREEN 80 L H 80 PLATE ⑨	PLATE R H 80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫
1	G-24	1 R.F.	2.35	180	3	90	3	-	3		
2	G-24	2 R.F.	2.35	180	3	90	3	-	3		
3	G-24	3 R.F.	2.35	180	3	90	3	-	3		
4	G-24	Det.	2.35	263	12	125	12	-	5		
5	G-45	PP-AF	2.45	250	-	50	-	-	32		
6	G-45	PP-AF	2.45	250	-	50	-	-	32		
7	G-80	Rect.	4.8	-	-	—	-	45	45		

Models 130A, 230A(1930)


1 RF
'24A
2 RF
24A
3 RF
'24A
DET
'24A
AF
'45
'45
RECT
'80
PILOT 3.2 V
FRONT

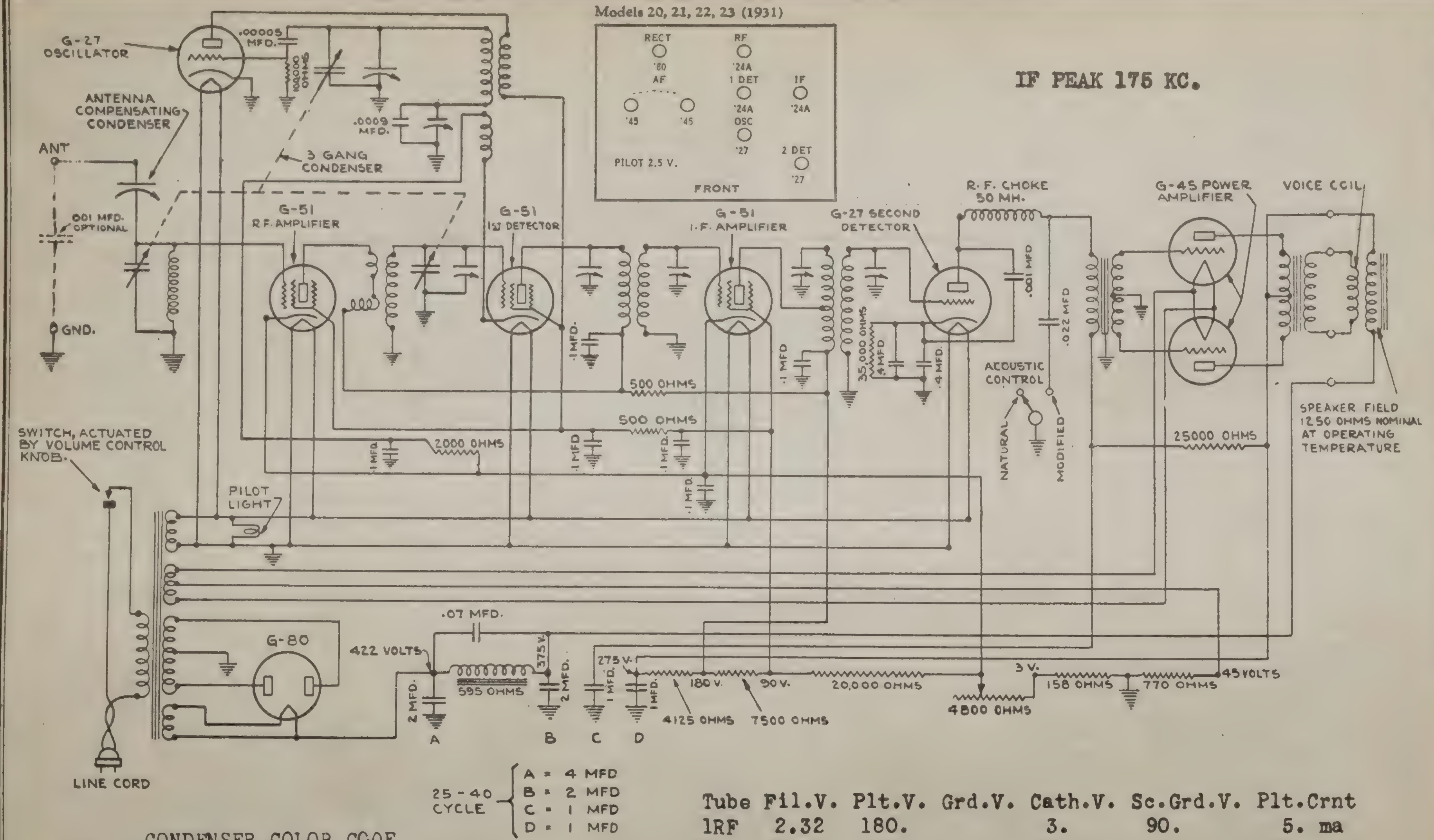
Models Majestics 130, 131, 132, 233 (1930)


PILOT 3.2 V.
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'24A
AF
'45
'45
RECT
'80
FRONT

MODEL 20,21,22,23

GRIGSBY - GRUNOW CO.

IF PEAK 175 KC.


Models 20, 21, 22, 23 (1931)
RECT
'80
AF
'45
'45
RF
'24A
1 DET
'24A
OSC
'27
IF
'24A
2 DET
'27
PILOT 2.5 V.
FRONT
G-27 OSCILLATOR
.00005 MFD.
100000 OHMS
.0009 MFD.
ANTENNA COMPENSATING CONDENSER
ANT
.001 MFD. OPTIONAL
GND.
3 GANG CONDENSER
G-51 RF. AMPLIFIER
G-51 1st DETECTOR
G-51 I.F. AMPLIFIER
G-27 SECOND DETECTOR
R.F. CHOKE 50 MH.
.001 MFD
.022 MFD
35,000 OHMS
.4 MFD.
.4 MFD.
ACOUSTIC CONTROL
NATURAL
MODIFIED
G-45 POWER AMPLIFIER
VOICE COIL
SPEAKER FIELD 1250 OHMS NOMINAL AT OPERATING TEMPERATURE
25000 OHMS
500 OHMS
500 OHMS
2000 OHMS
.1 MFD.
.1 MFD
.1 MFD.
.1 MFD.
.1 MFD
SWITCH, ACTUATED BY VOLUME CONTROL KNOB.
PILOT LIGHT
LINE CORD
G-80
.07 MFD.
422 VOLTS
375 V.
595 OHMS
2 MFD.
2 MFD.
1 MFD.
1 MFD.
275 V.
180 V.
90 V.
20,000 OHMS
4125 OHMS
7500 OHMS
3 V.
4800 OHMS
158 OHMS
770 OHMS
45 VOLTS
A
B
C
D
25-40 CYCLE
A = 4 MFD
B = 2 MFD
C = 1 MFD
D = 1 MFD

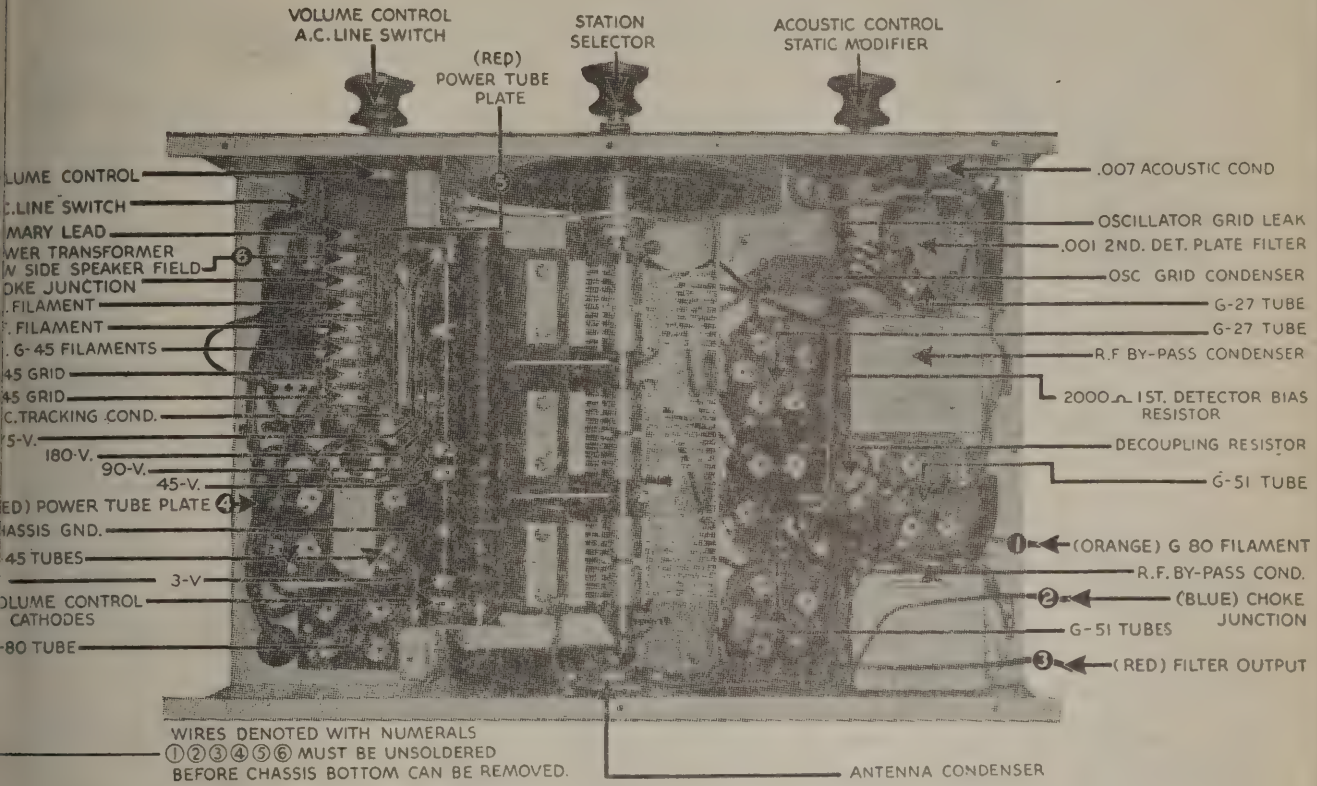
CONDENSER COLOR CODE

2 mfd condenser- Orange, stranded
2 mfd condenser- Blue, stranded
1 mfd condenser- Red, stranded
1 mfd condenser- Green stranded
Condenser common- Black stranded
.07 mfd condenser- White stranded

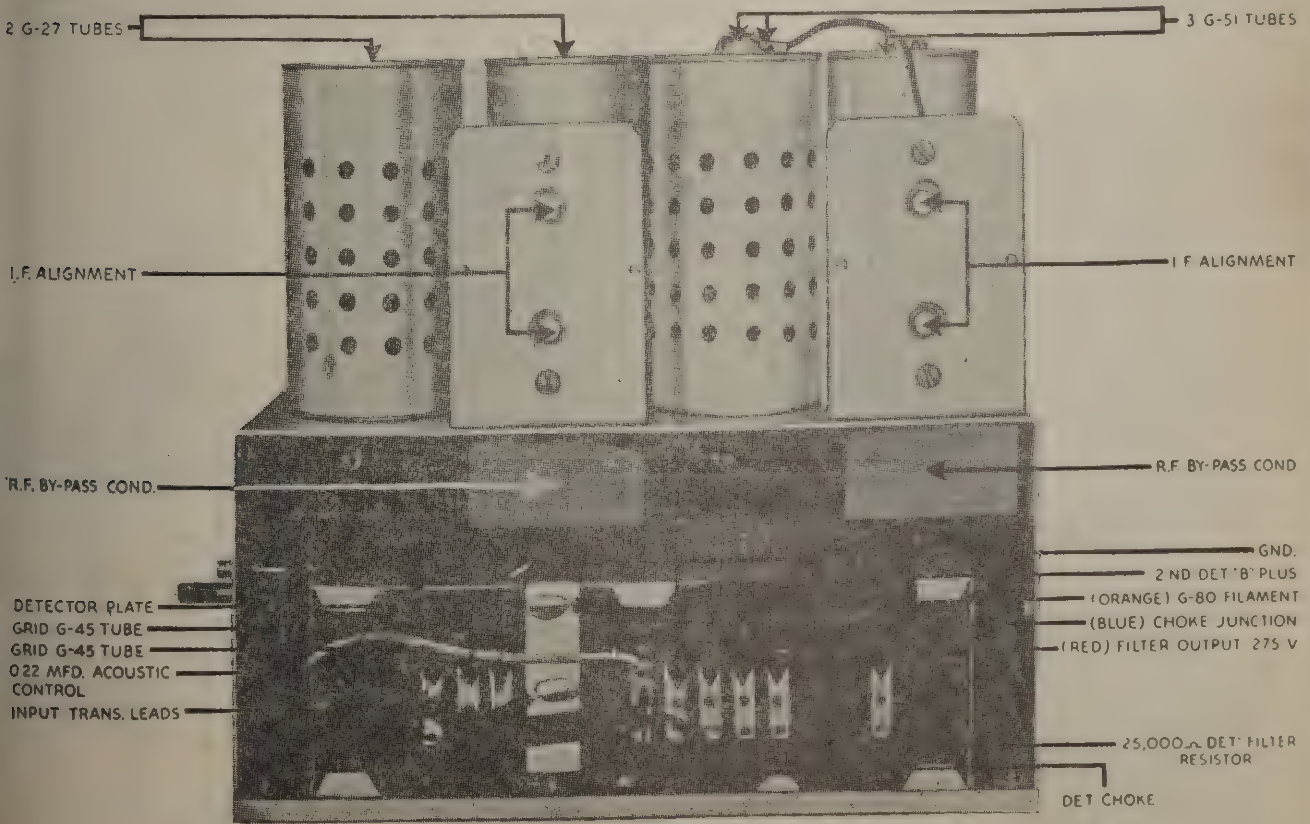
Tube	Fil.V.	Plt.V.	Grd.V.	Cath.V.	Sc.Grd.V.	Plt.Crnt
1RF	2.32	180.		3.	90.	5. ma
Osc.	2.32	90.		0.		4.
1Det.	2.32	180.		8.	90.	1.
1IF	2.32	180.		3.	90.	5.
2Det	2.32	255.		21		8.
PPAF	2.36	275.	45.			28.
PPAF	2.36	275.	45.			28.
Rec.	4.88	410.				80.

GRIGSBY - GRUNOW CO.

MODEL 20
Chassis


VOLUME CONTROL
A.C. LINE SWITCH
STATION SELECTOR
(RED) POWER TUBE PLATE
ACOUSTIC CONTROL
STATIC MODIFIER
LUME CONTROL
C.LINE SWITCH
MARY LEAD
WER TRANSFORMER
W SIDE SPEAKER FIELD ⑥
OKE JUNCTION
. FILAMENT
. FILAMENT
. G-45 FILAMENTS
45 GRID
45 GRID
C.TRACKING COND.
5-V.
180-V.
90-V.
45-V.
ED) POWER TUBE PLATE ④
HASSIS GND.
45 TUBES
3-V
OLUME CONTROL CATHODES
-80 TUBE
WIRES DENOTED WITH NUMERALS ①②③④⑤⑥ MUST BE UNSOLDERED BEFORE CHASSIS BOTTOM CAN BE REMOVED.
ANTENNA CONDENSER
.007 ACOUSTIC COND
OSCILLATOR GRID LEAK
.001 2ND. DET. PLATE FILTER
OSC GRID CONDENSER
G-27 TUBE
G-27 TUBE
R.F BY-PASS CONDENSER
2000Ω 1ST. DETECTOR BIAS RESISTOR
DECOUPLING RESISTOR
G-51 TUBE
① (ORANGE) G 80 FILAMENT
R.F. BY-PASS COND.
② (BLUE) CHOKE JUNCTION
G-51 TUBES
③ (RED) FILTER OUTPUT

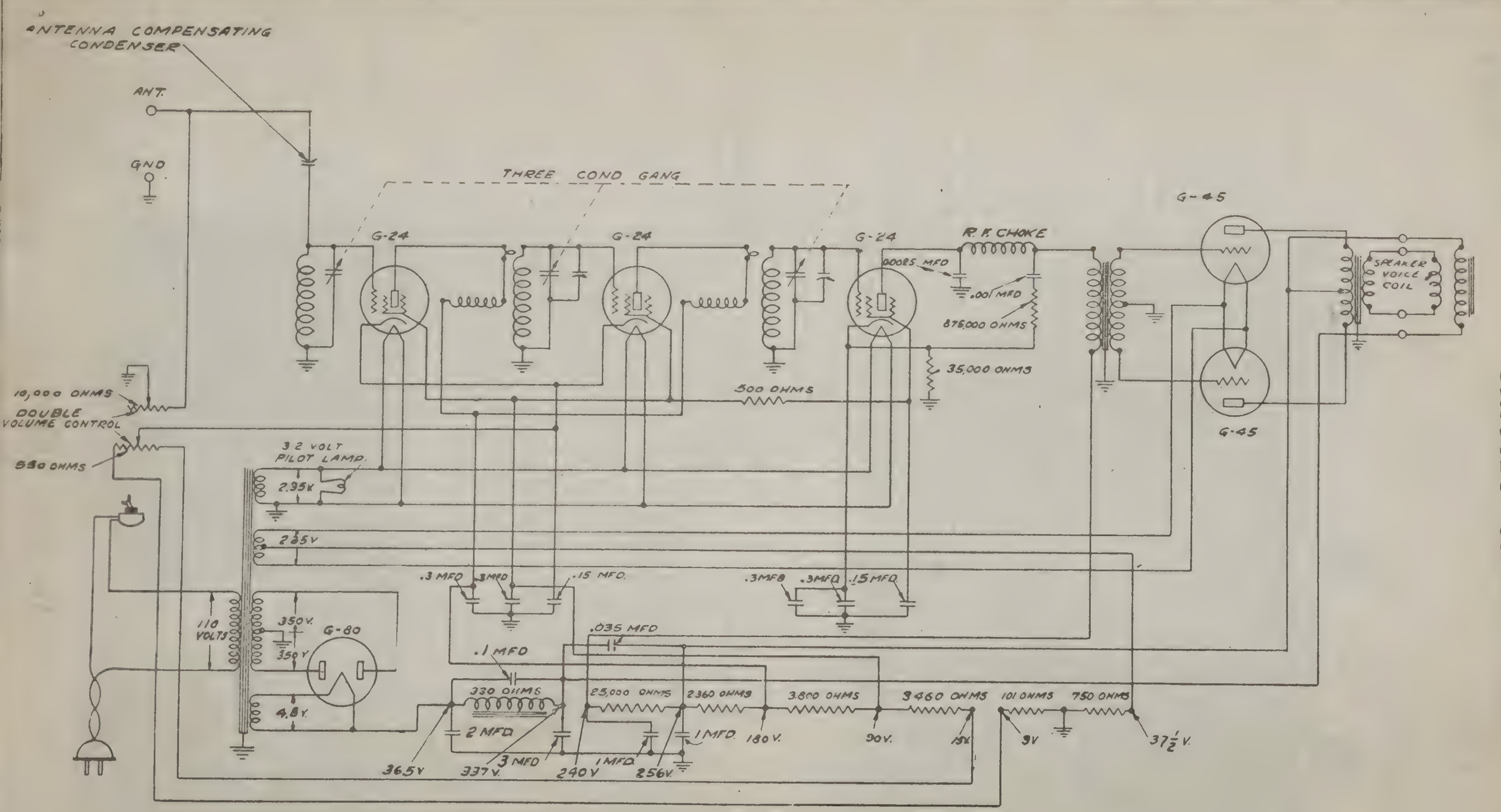
Bottom View of Model 20 Chassis


2 G-27 TUBES
3 G-51 TUBES
I.F. ALIGNMENT
I.F. ALIGNMENT
R.F. BY-PASS COND.
R.F. BY-PASS COND
DETECTOR PLATE
GRID G-45 TUBE
GRID G-45 TUBE
0.22 MFD. ACOUSTIC CONTROL
INPUT TRANS. LEADS
GND.
2 ND DET "B" PLUS
(ORANGE) G-80 FILAMENT
(BLUE) CHOKE JUNCTION
(RED) FILTER OUTPUT 275 V
25,000Ω DET. FILTER RESISTOR
DET CHOKE

End View of Model 20 Chassis

MODEL 30,31

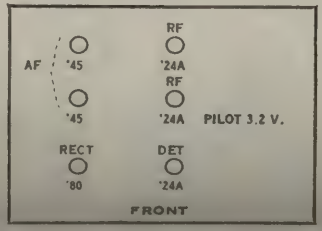
GRIGSBY - GRUNOW CO.


ANTENNA COMPENSATING CONDENSER
ANT.
GND
THREE COND GANG
G-24
G-24
G-24
R.F. CHOKE
.00025 MFD
.001 MFD
876,000 OHMS
35,000 OHMS
500 OHMS
G-45
G-45
SPEAKER VOICE COIL
10,000 OHMS
DOUBLE VOLUME CONTROL
550 OHMS
3.2 VOLT PILOT LAMP
2.95V
2.5V
.3 MFD
.3MFD
.15 MFD.
.3MFD
.3MFD
.15MFD
.035 MFD
.1 MFD
110 VOLTS
350V.
350V
G-80
4.8V.
330 OHMS
2 MFD
3 MFD
25,000 OHMS
2360 OHMS
3800 OHMS
3460 OHMS
101 OHMS
750 OHMS
1 MFD.
1 MFD
365V
337V.
240V
256V.
180V.
90V.
15V
9V
37½V.

COLOR CODE
POWER TRANSFORMER

Brown (Small Solid)	Primary
Brown (Small Solid)	Primary
Blue	Filament (2) G-45
Blue	Filament (2) G-45
Red (Heavy Solid)	Heater (3) G-24
Red (Heavy Solid)	Heater (3) G-24
Red (Small Stranded)	Center Tap G-45
Green	Anode
Bare	C. T. Anode
Green	Anode
Orange	Filament (1) G-80
Orange	Filament (1) G-80

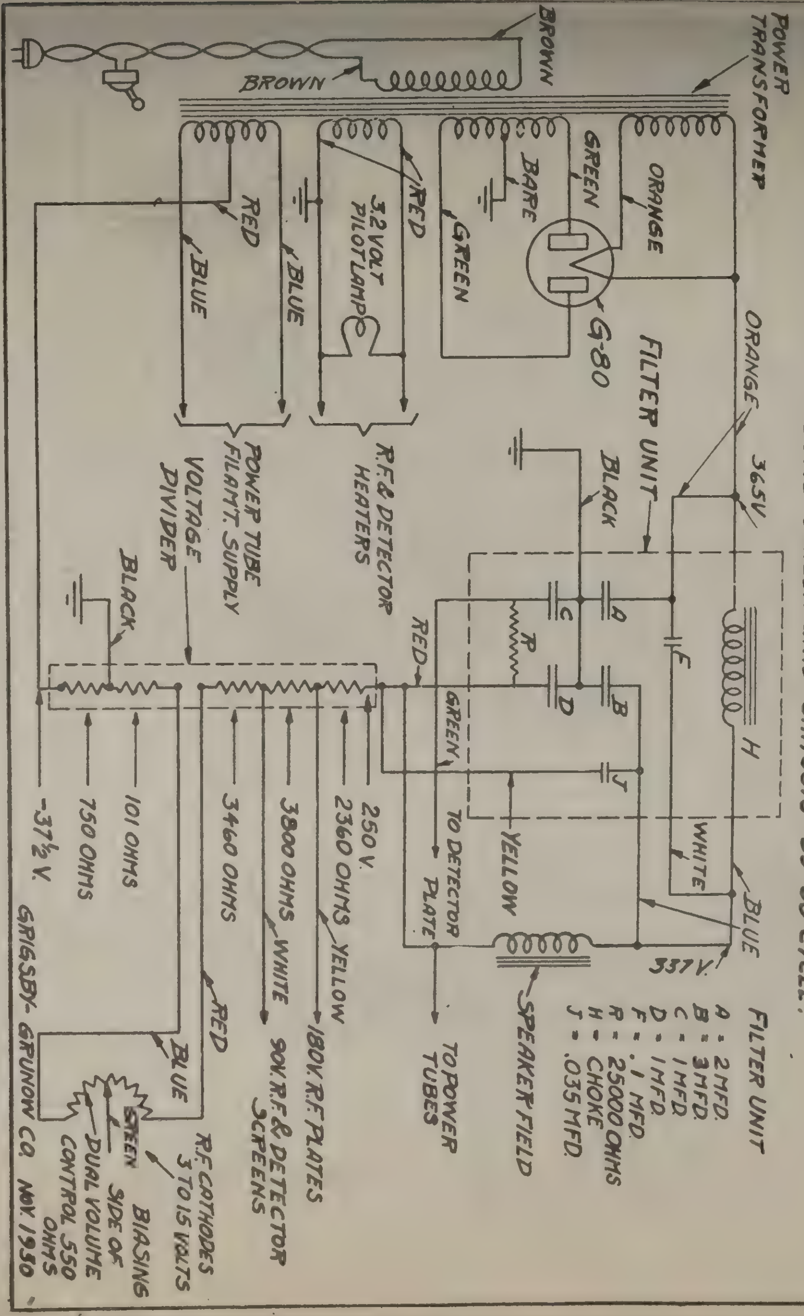
Models 30, 31 (1930)


AF
'45
'45
RF
'24A
RF
'24A
PILOT 3.2 V.
RECT
'80
DET
'24A
FRONT

GRIGSBY - GRUNOW CO.

MODEL 30
Voltage-Data

SCHEMATIC DIAGRAM OF POWER UNIT AND VOLTAGE DIVIDER SYSTEM
MODEL 30 MAJESTIC SCREEN GRID CHASSIS 50-60 CYCLE.


POWER TRANSFORMER
ORANGE
365V
H
BLUE
WHITE
F
337V
FILTER UNIT
A = 2 MFD.
B = 3 MFD.
C = 1 MFD.
D = 1 MFD.
F = .1 MFD.
R = 25000 OHMS
H = CHOKE
J = .035 MFD.
ORANGE
FILTER UNIT
BLACK
A
B
J
C
D
R
GREEN
G-80
BROWN
BARE
GREEN
YELLOW
SPEAKER FIELD
GREEN
TO DETECTOR PLATE
TO POWER TUBES
RED
RED
3.2 VOLT PILOT LAMP
R.F. & DETECTOR HEATERS
250 V.
2360 OHMS
YELLOW
180V. R.F. PLATES
BROWN
BLUE
3800 OHMS
WHITE
90V. R.F. & DETECTOR SCREENS
RED
POWER TUBE FILAM'T. SUPPLY
3460 OHMS
RED
BLUE
VOLTAGE DIVIDER
R.F. CATHODES 3 TO 15 VOLTS
BLUE
BLACK
101 OHMS
GREEN
BIASING SIDE OF DUAL VOLUME CONTROL 550 OHMS
750 OHMS
-37½ V.
GRIGSBY-GRUNOW CO. NOV. 1930

FILTER UNIT

	From: Condenser	Connect to:
Orange	2 mfd. condenser	G-80 Socket (Filament)
Blue	3 mfd. condenser	Junction of Speaker Field and Choke
Green	1 mfd. condenser	Start of Primary of Input Transformer
Red	1 mfd. condenser	Free end of 2360 ohm resistor
Yellow	.035 mfd. condenser	Free end of 2360 ohm resistor
White	.10 mfd. condenser	Junction of Speaker Field and Choke
Black	condenser common	Ground
	Choke	
Orange		G-80 socket (Filament)
Blue		Junction of speaker field and choke

Caution

Under no condition, attempt to use a ground connection on the antenna binding posts. Be certain that the antenna and ground wires are on their respective posts.

Under no circumstances should a gas pipe be used for a ground.

Model G-6 Dynamic Speaker

The Model G-6 Dynamic Speaker used on the Model 30 receiver is a highly efficient speaker. The field construction is of the improved "U" Type. The field coil is treated in an impregnating compound that keeps it weatherproof and allows air cooling. The field coil resistance is 1,000 ohms. The G-6 speaker uses a nine inch cone of waterproof lacquered buckram made by the same process as the Super-Colotura G-5 cone. The G-6 Dynamic Speaker has been designed to give a uniform response over the audio frequency range. The cone coil is the same as used on Model G-5 Speaker.

Speaker Cables

During the periods of production of the G-6 Speaker, different colored wires will be used for the field and voice coil leads, in the cable. So that the service man may easily check the circuits, we are listing below the three groups which will be used:

Standard Cable	Revamped Cable	Revamped Cable	Chassis Connections	Speaker Terminal Connections	
Blue	Red	White	Secondary of Output Transformer	White	Voice Coil Leads
Blue	Red	White		White	
Red	Yellow	Red	"B" Maximum on Multiple Resistor	Red	Field Coil Leads
Black	Green	Blue	Speaker Field and Choke Junction	Blue	

For example you may be called upon to check a Receiver and Speaker, and upon examination you find that the leads are two White wires, and a Red and a Blue wire. Reference to the group above will eliminate any trouble you might experience in determining whether the leads in question are voice coil or field coil leads.

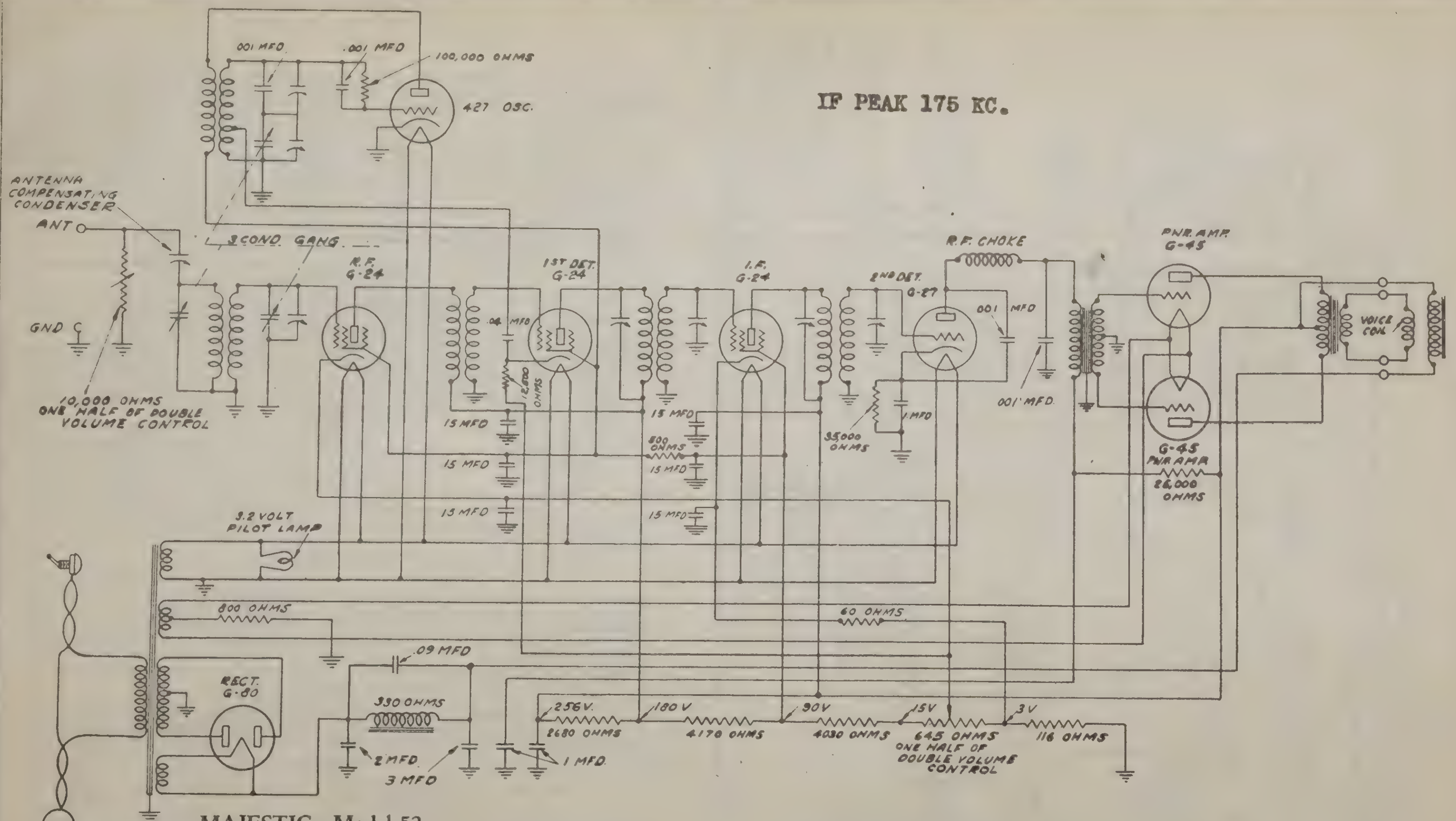
Table of Voltages

Stage	Tube	Fil. Volts	Plate Volts	Grid Volts	Cath. Volts	Normal Plate M. A.	Screen Volts
1st R. F.	G-24	2.35	180	3	3	3	90
2nd R. F.	G-24	2.35	180	3	3	3	90
Detector	G-24	2.35	225	10	10	.3	90
1st Pwr.	G-45	2.35	250	37.5		25	
2nd Pwr.	G-45	2.35	250	37.5		25	
Rect.	G-80	4.80	358			40	

NOTE: All Plate, Screen Grid, Control Grid, and Cathode Voltages are measured from Ground (chassis) with a standard 1,000 ohm per volt, voltmeter.

MODEL 50,52

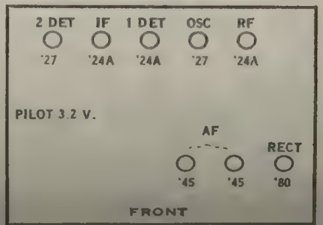
GRIGSBY - GRUNOW CO.


IF PEAK 175 KC.
001 MFD
.001 MFD
100,000 OHMS
427 OSC.
ANTENNA COMPENSATING CONDENSER
ANT
3 COND. GANG
GND
10,000 OHMS ONE HALF OF DOUBLE VOLUME CONTROL
R.F. G-24
1ST DET. G-24
.04 MFD
12,000 OHMS
15 MFD
15 MFD
15 MFD
I.F. G-24
15 MFD
800 OHMS
15 MFD
15 MFD
2ND DET. G-27
R.F. CHOKE
001 MFD
001' MFD.
1 MFD
35000 OHMS
PWR. AMP. G-45
G-45 PWR. AMP.
26,000 OHMS
VOICE COIL
3.2 VOLT PILOT LAMP
800 OHMS
60 OHMS
.09 MFD
330 OHMS
RECT. G-80
2 MFD.
3 MFD
256V.
2680 OHMS
1 MFD.
180 V
4170 OHMS
90V
4030 OHMS
15V
645 OHMS ONE HALF OF DOUBLE VOLUME CONTROL
3V
116 OHMS
LINE CORD

MAJESTIC—Model 52
Line Voltage 110+=Volume Control Full On

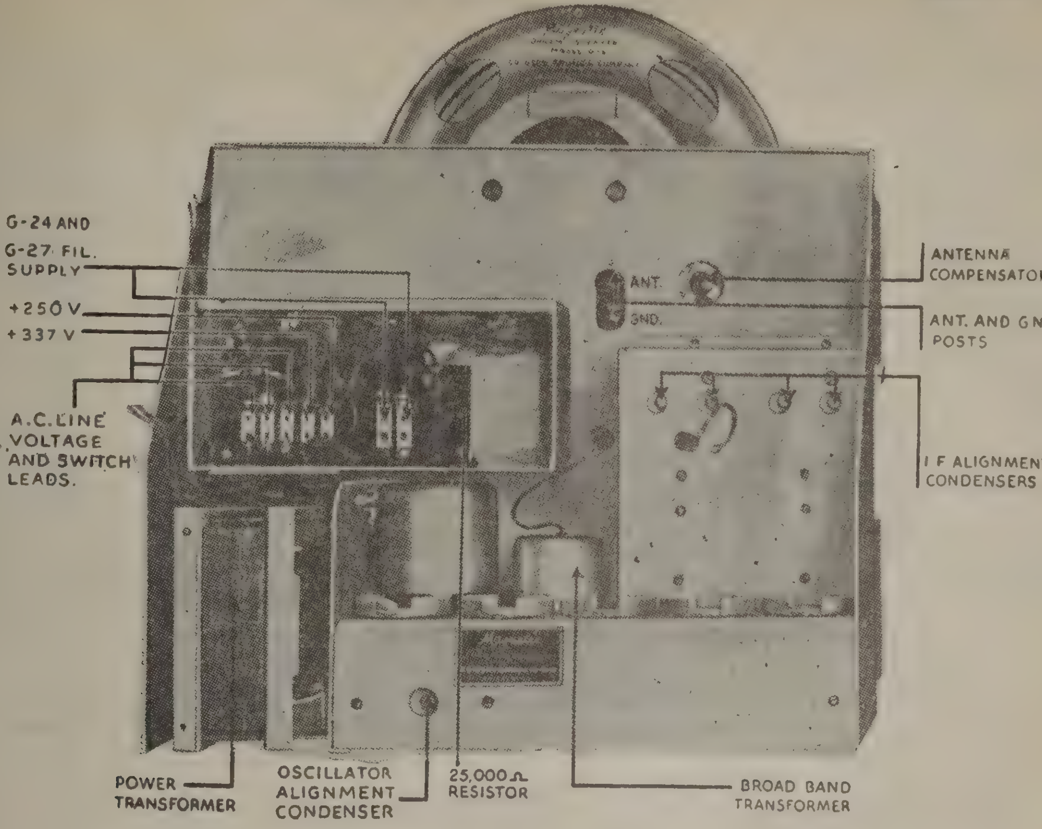
TUBE NO. IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GD+	⑦ NORMAL GRID—SCREEN GD+	⑧ CATHODE TO HEATER	⑨ SCREEN GD L. H. '80 PLATE	⑩ PLATE R. H. '80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	G 24	1 R.F.	2.35	180	3	90	-	.6	3	5.5	2.5
2	G 27	Osc.	2.35	90	-	-	0	-	7.3	7.8	.5
3	G 24	1 Det.	2.35	180	6.5	90	-	.1	.3	.5	.2
4	G 24	I.F.	2.35	255	4.0	90	-	2.35	7.0	8.8	1.2
5	G 27	2 Det.	2.35	225	-	22	22	-	.6	.8	.2
6	G 45	PP-AF	2.35	210	-	38	-	-	25.0	30.0	5.0
7	G 45	PP-AF	2.35	210	-	38	-	-	25.0	30.0	5.0

Models 50, 52 (1930)

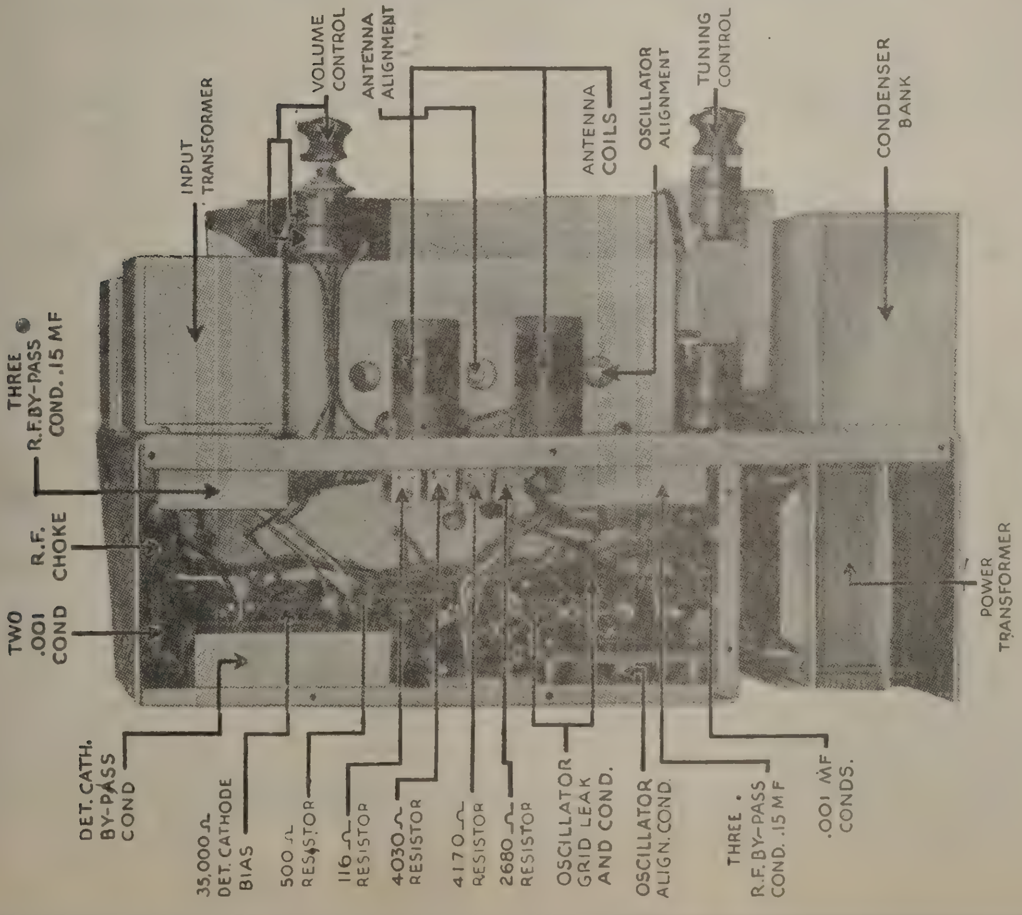

2 DET
'27
IF
'24A
1 DET
'24A
OSC
'27
RF
'24A
PILOT 3.2 V.
AF
'45
'45
RECT
'80
FRONT

GRIGSBY - GRUNOW CO.

MODEL 50
Chassis Views


G-24 AND
G-27 FIL.
SUPPLY
+250 V
+337 V
A.C. LINE
VOLTAGE
AND SWITCH
LEADS.
ANT.
GND.
ANTENNA
COMPENSATOR
ANT. AND GND
POSTS
I F ALIGNMENT
CONDENSERS
POWER
TRANSFORMER
OSCILLATOR
ALIGNMENT
CONDENSER
25,000 Ω
RESISTOR
BROAD BAND
TRANSFORMER

Rear View of Model 50 Chassis, Showing Voltage Taps, Etc.

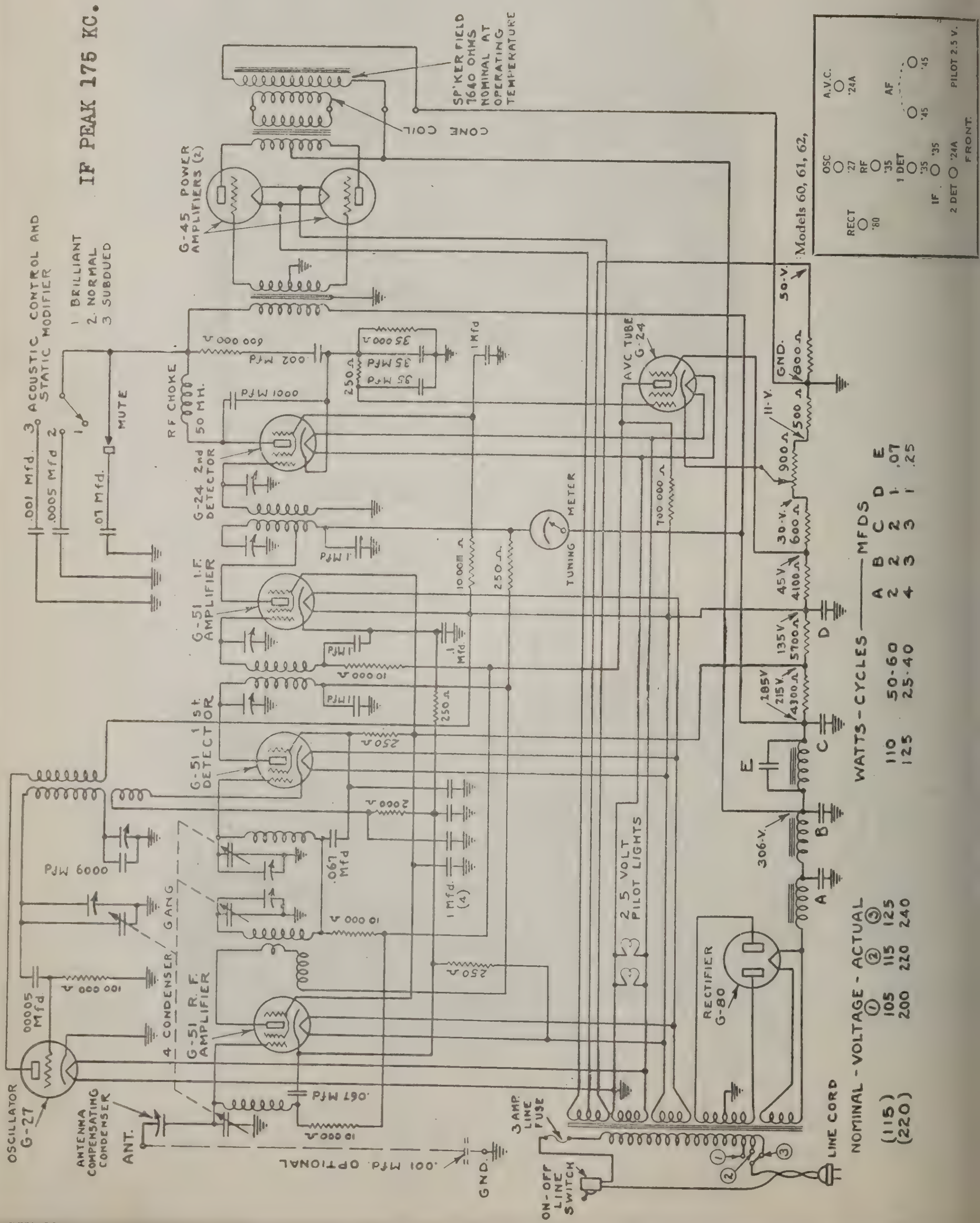

VOLUME
CONTROL
ANTENNA
ALIGNMENT
INPUT
TRANSFORMER
ANTENNA
COILS
OSCILLATOR
ALIGNMENT
TUNING
CONTROL
CONDENSER
BANK
THREE
R.F. BY-PASS
COND. .15 MF
R.F.
CHOKE
TWO
.001
COND
POWER
TRANSFORMER
DET. CATH.
BY-PASS
COND
35,000 Ω
DET. CATHODE
BIAS
500 Ω
RESISTOR
116 Ω
RESISTOR
4030 Ω
RESISTOR
4170 Ω
RESISTOR
2680 Ω
RESISTOR
OSCILLATOR
GRID LEAK
AND COND.
OSCILLATOR
ALIGN. COND.
THREE
R.F. BY-PASS
COND. .15 MF
.001 MF
CONDS.

Bottom View of Model 50 Chassis

MODEL 60,61,62
Schematic

GRIGSBY - GRUNOW CO.

Additional data on pages following


IF PEAK 175 KC.
ACOUSTIC CONTROL AND STATIC MODIFIER
1 BRILLIANT
2. NORMAL
3 SUBDUED
.001 Mfd. 3
.0005 Mfd 2
1
.07 Mfd.
MUTE
SP'KER FIELD 1640 OHMS NOMINAL AT OPERATING TEMPERATURE
CONE COIL
G-45 POWER AMPLIFIERS (2)
RF CHOKE 50 MH.
600 000 Ω
.002 Mfd
35 000 Ω
.35 Mfd
.35 Mfd
250 Ω
1 Mfd
.0001 Mfd
G-24 2nd DETECTOR
AVC TUBE G-24
GND.
50-V.
800 Ω
11-V.
500 Ω
900 Ω
30-V.
600 Ω
45V
4100 Ω
135V
5700 Ω
185V
215V
4300 Ω
306-V.
A
B
C
D
E
700 000 Ω
METER
TUNING
1000 000 Ω
250 Ω
.1 Mfd
G-51 I.F. AMPLIFIER
.1 Mfd
.1 Mfd
10 000 Ω
.1 Mfd
250 Ω
G-51 1st DETECTOR
250 Ω
2000 Ω
.067 Mfd
1 Mfd. (4)
10 000 Ω
250 Ω
2.5 VOLT PILOT LIGHTS
PJW 6000
GANG
4 CONDENSER
.00005 Mfd
100 000 Ω
G-51 R.F. AMPLIFIER
.067 Mfd
10 000 Ω
OSCILLATOR G-27
ANTENNA COMPENSATING CONDENSER
ANT.
.001 Mfd. OPTIONAL
GND.
3 AMP. LINE FUSE
ON-OFF LINE SWITCH
RECTIFIER G-80
LINE CORD
① ② ③
WATTS - CYCLES —— MFDS
A B C D E
110 50-60 2 2 2 1 .07
125 25-40 4 3 3 1 .25
NOMINAL - VOLTAGE - ACTUAL
① ② ③
(115) 105 115 125
(220) 200 220 240
Models 60, 61, 62,
RECT '80
OSC '27
RF '35
1 DET '35
IF '35
2 DET '24A
A.V.C. '24A
AF '45
'45
PILOT 2.5 V.
FRONT

GRIGSBY GRUNOW CO.

MODEL 60,61,62
MODEL 160,163
Data

OPERATING VOLTAGES FOR MODEL 60 and 160 CHASSIS OR 61,62,163 Receivers

		Fil.	Plate.	Screen.	Con.Grd.	Cathode	Plate Crnt.
1st RF	G-51	2.35	285	215		3	4.5 ma
Osc.	G-27	2.35	135				4.0
1st Det	G-51	2.35	285	215		8	4.5
IF Amp	G-51	2.35	285	215		3	4.5
2nd Det	G-24	2.35	275	135		12	.25
1st PA	G-45	2.4	300		50.		32.5
2nd PA	G-45	2.4	300		50		32.5
AVC	G-24	2.35	+	45		11	0.
Rect	G-80	4.88	490				90. Per anode

+ Readings of the automatic volume control tube plate terminal will be erratic because of the 700000 ohm resistance which is in series with the plate supply lead.

Note.. All plate, screen grid, control and cathode voltages are measured from Ground (chassis) with a standard 1000 ohms per volt meter. Voltage readings with volume control setting at maximum.

COLOR CODING DATA

Power Transformer. Start of winding of primary Red
105 volts Red and white
115 volts Yellow
125 volts Green

Filament 45 Blue. Centre tap 45 Red
Filament 80 Brown. Rectifier anodes Green. Centre tap anodes Bare
Heater 2nd Det.,AVC, and Osc. Red
Heater white (135 volts above ground)

Filter Unit.
2 mfd condenser Green. 2 mfd condenser Red. 2 mfd condenser Blue. 1 mfd condenser Yellow. .07 mfd condenser White. Condenser common Black.

Choke
Filter output Red. Detector choke low side Green. Junction ofchokes Blue.

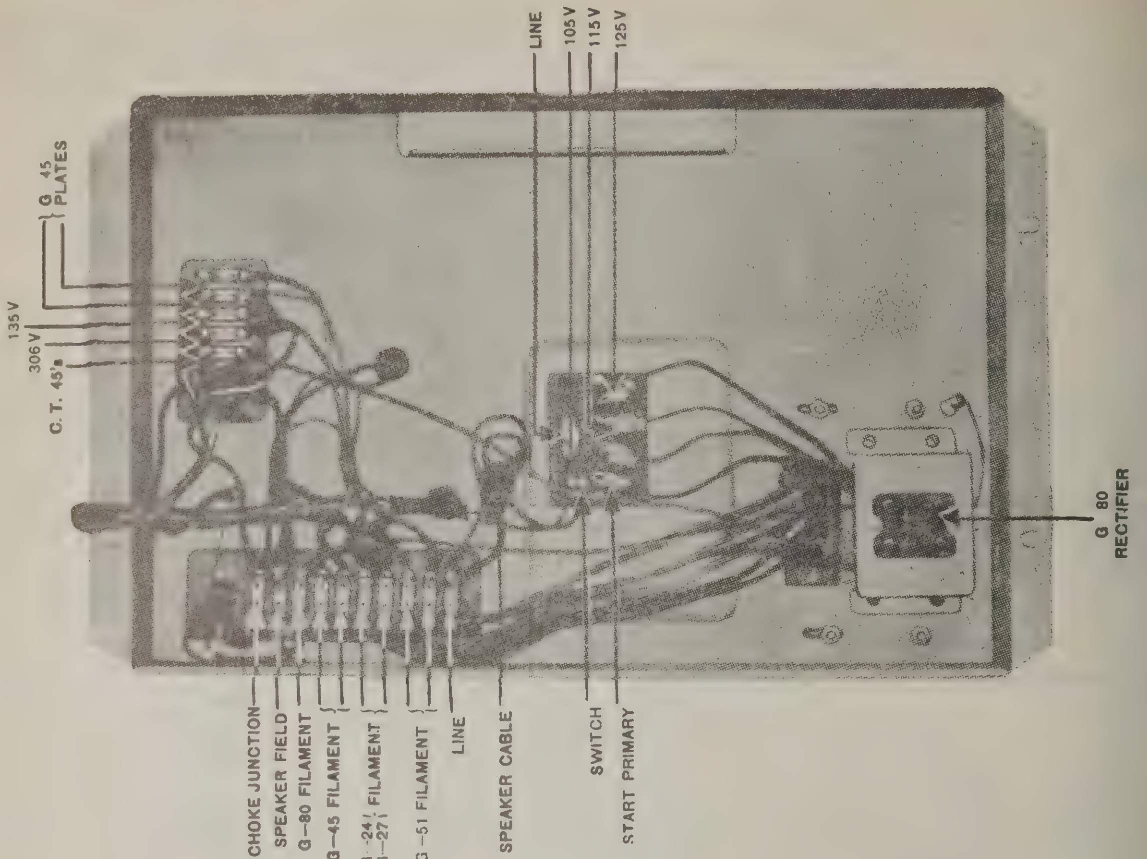
General
The antenna compensator control islocated adjacent to the antenna terminal. A 3 ampere fuse is used.

Resistances.
100000 ohm oscillator grid leak - Orange. 600000 ohm Acoustic control- Red. 700000 ohm AVC plate resistor - Yellow. 35000 ohm 2nd detector cathode bias- Gr 5700 ohm section of voltage divider- Blue. 10000 ohm 2nd detector screen decoupler- Orange. 250 ohm 1st detector screen, 1st detector plate, 2nd detector cathode,AVC grid, RF and 1st detector decoupler- Green. 250 ohm RF,1st detector, IF auto bias- Yellow.2000 ohm 1st detector auto bias-Blue.

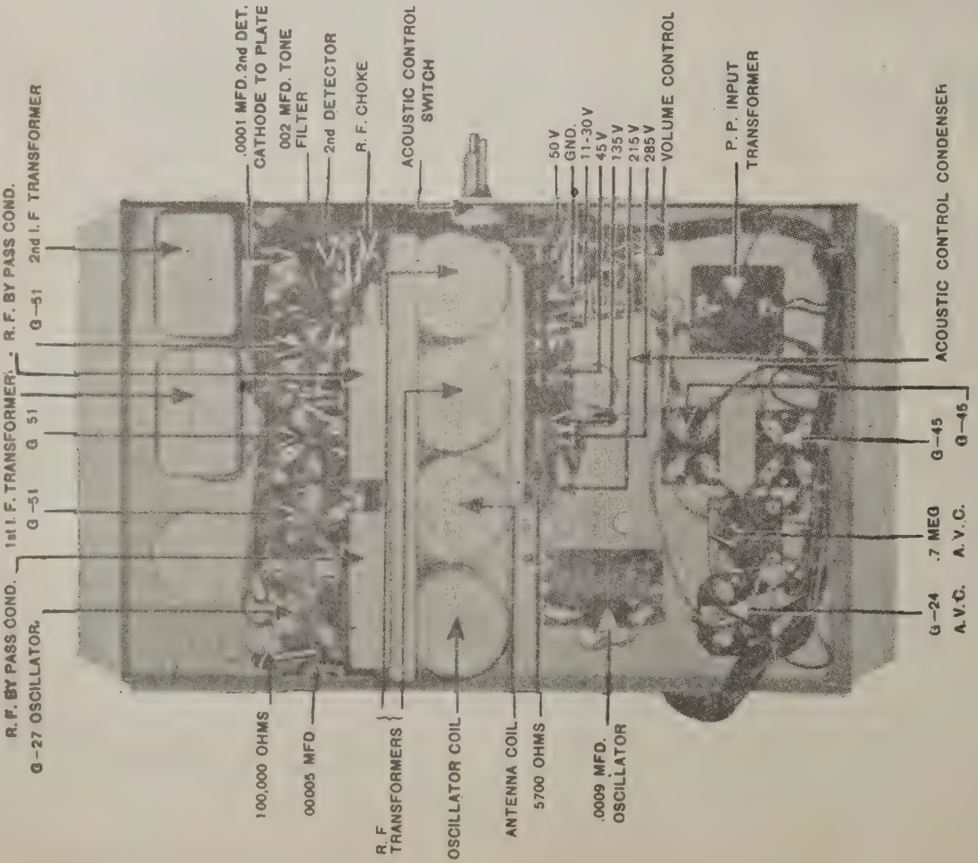
Model - 163
The radio circuit and performance of the model 163 is identical to that of the model 60 chassis. The front panel controls of the 163 combination are radio controls only, and are the same as that of the model 61 and 62 radio receivers. The second detector tube grid comprises the audio frequency input circuit, that is when the phono switch is in phono position. The second detector tube becomes and audio amplifier, the grid bias and input circuit being changed accordingly.

MODEL 60,61
Chassis Views

GRIGSBY - GRUNOW CO.


G 45 PLATES
135 V
306 V
C. T. 45's
LINE
105 V
115 V
125 V
CHOKE JUNCTION
SPEAKER FIELD
G-80 FILAMENT
G-45 FILAMENT
G-24 / G-27 FILAMENT
G-51 FILAMENT
LINE
SPEAKER CABLE
SWITCH
START PRIMARY
G 80 RECTIFIER

View Showing Power Supply Circuit Model 60 Chassis

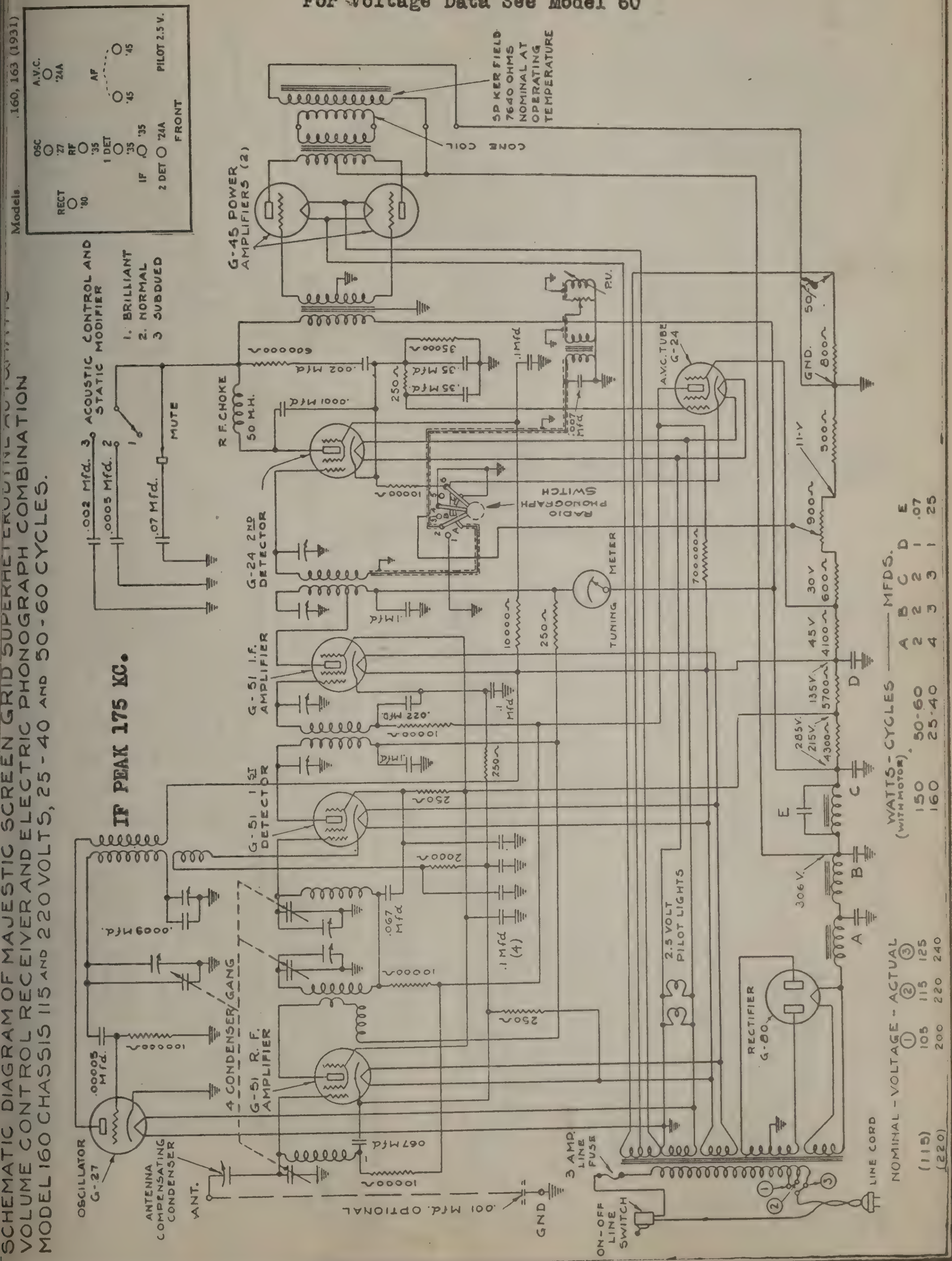

R.F. BY PASS COND.
G-27 OSCILLATOR
1st I.F. TRANSFORMER
G-51
G 51
R.F. BY PASS COND.
G-51
2nd I.F TRANSFORMER
.0001 MFD. 2nd DET. CATHODE TO PLATE
.002 MFD. TONE FILTER
2nd DETECTOR
R.F. CHOKE
ACOUSTIC CONTROL SWITCH
50 V
GND.
11-30 V
45 V
135 V
215 V
285 V
VOLUME CONTROL
P. P. INPUT TRANSFORMER
ACOUSTIC CONTROL CONDENSER
G-45
G-45
.7 MEG A. V. C.
G-24 A. V. C.
100,000 OHMS
.00005 MFD.
R. F. TRANSFORMERS
OSCILLATOR COIL
ANTENNA COIL
5700 OHMS
.0009 MFD. OSCILLATOR

Interior View Model 60 Chassis

GRIGSBY - GRUNOW CO.

MODEL 160,163
Schematic

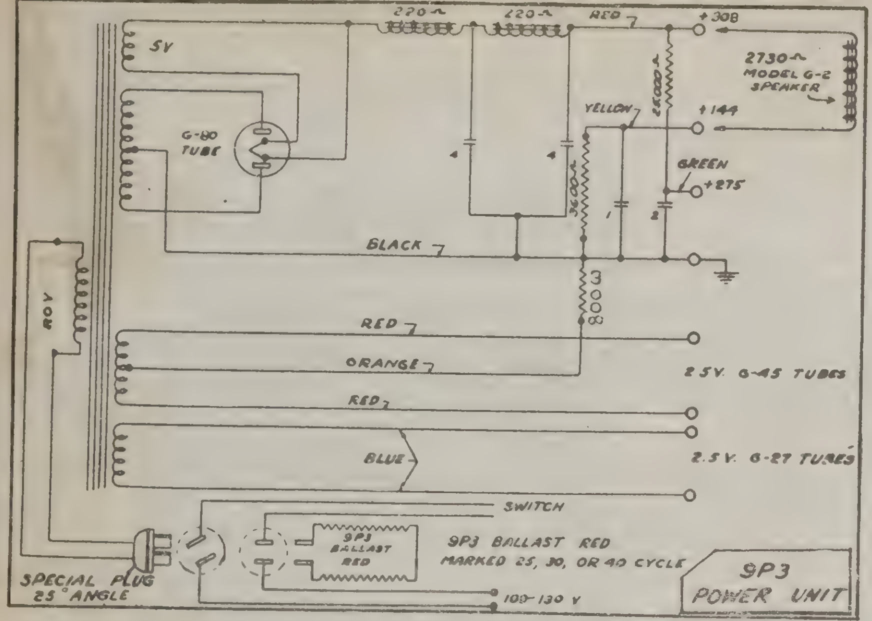
For Voltage Data See Model 60

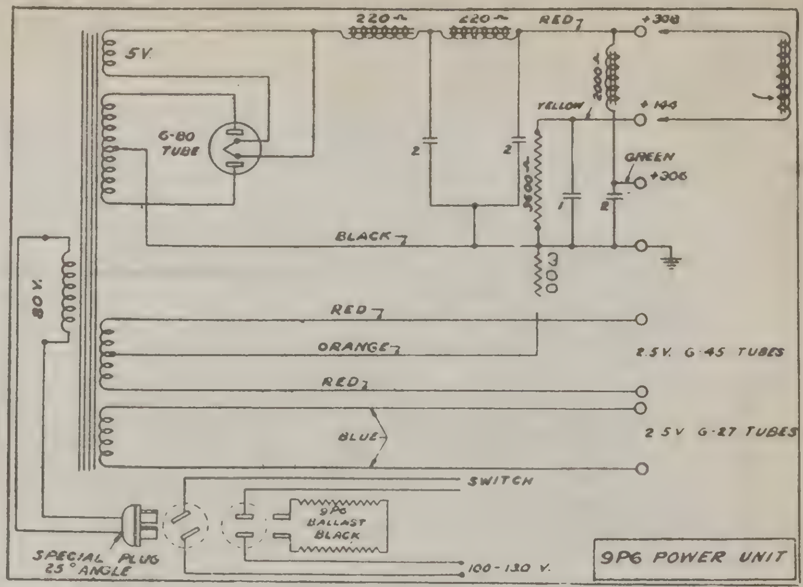


SCHEMATIC DIAGRAM OF MAJESTIC SCREEN GRID SUPERHETERODYNE AUTOMATIC VOLUME CONTROL RECEIVER AND ELECTRIC PHONOGRAPH COMBINATION MODEL 160 CHASSIS 115 AND 220 VOLTS, 25-40 AND 50-60 CYCLES.

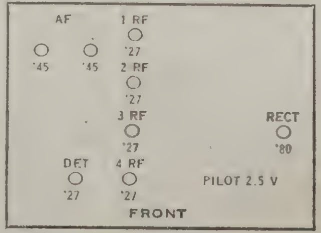
Models .160, 163 (1931)
RECT '80
OSC '27
RF '35
1 DET '35
IF '35
2 DET '24A
A.V.C. '24A
AF '45 '45
PILOT 2.5 V.
FRONT
IF PEAK 175 KC.
ACOUSTIC CONTROL AND STATIC MODIFIER
1. BRILLIANT
2. NORMAL
3 SUBDUED
.002 Mfd. 3
.0005 Mfd. 2
.07 Mfd.
MUTE
G-45 POWER AMPLIFIERS (2)
SPKER FIELD 7640 OHMS NOMINAL AT OPERATING TEMPERATURE
CONE COIL
P.U.
600000∧
.002 Mfd
35000∧
.35 Mfd
.35 Mfd
250∧
.1 Mfd
.001 Mfd
.007 Mfd
R.F. CHOKE 50 M.H.
A.V.C. TUBE G-24
GND. 800∧
50∧
500∧
11 V
900∧
10000∧
RADIO PHONOGRAPH SWITCH
G-24 2ND DETECTOR
TUNING METER
.1 Mfd
10000∧
250∧
700000∧
30 V 600∧
45 V 4100∧
135 V 5700∧
285 V 215 V 4300∧
306 V.
D
C
B
A
E
G-51 I.F. AMPLIFIER
.022 Mfd.
.1 Mfd
10000∧
250∧
.1 Mfd
G-51 1ST DETECTOR
250∧
2000∧
.0009 Mfd.
.067 Mfd
.1 Mfd (4)
10000∧
250∧
4 CONDENSER GANG
2.5 VOLT PILOT LIGHTS
RECTIFIER G-80
.00005 Mfd.
100000∧
G-51 R.F. AMPLIFIER
OSCILLATOR G-27
.067 Mfd
10000∧
ANTENNA COMPENSATING CONDENSER
ANT.
.001 Mfd. OPTIONAL
GND
3 AMP. LINE FUSE
ON-OFF LINE SWITCH
LINE CORD
① ② ③
WATTS - CYCLES (WITH MOTOR)
150 50-60
160 25-40
MFDS.
A B C D E
2 2 2 1 .07
4 3 3 1 25
NOMINAL - VOLTAGE - ACTUAL
① ② ③
(115) 105 115 125
(220) 200 220 240

MODEL 9-P-3,9-P-6
Schematic,Data


5V
G-80 TUBE
220∿
220∿
RED
+308
2730∿ MODEL G-2 SPEAKER
25000∿
YELLOW
+144
4
4
3600∿
1
2
GREEN
+275
BLACK
300
80V
RED
ORANGE
2.5V. G-45 TUBES
RED
BLUE
2.5V. G-27 TUBES
SWITCH
9P3 BALLAST RED
9P3 BALLAST RED MARKED 25, 30, OR 40 CYCLE
SPECIAL PLUG 25° ANGLE
100-130 V
9P3 POWER UNIT


5V.
G-80 TUBE
220∿
220∿
RED
+308
10000∿
YELLOW
+144
2
2
1
2
GREEN
+306
BLACK
300
80V.
RED
ORANGE
2.5V. G-45 TUBES
RED
BLUE
2.5V. G-27 TUBES
SWITCH
9P6 BALLAST BLACK
SPECIAL PLUG 25° ANGLE
100-130 V.
9P6 POWER UNIT

Models 90B, 91, 92, 93, 100B, 102, 103 (1930)


AF
'45
'45
1 RF
'27
2 RF
'27
3 RF
'27
4 RF
'27
DET
'27
RECT
'80
PILOT 2.5 V
FRONT

MAJESTIC—Model 91 and 92
Line Voltage 112—Set on *Volt Tap—Volume Control Position Full On
*Voltage Regulator Is Used

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET., ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREEN GRID VOLTS ⑬
1	27	1st RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
2	27	2nd RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
3	27	3rd RF	2.58	148	2.35	130	8	8	5.5	7.8	2.3	-
4	27	4th RF	2.58	148	2.35	130	9	9	5	7.2	2.2	-
5	27	Det.	2.58	306	2.35	270	30	30	1	1	1	-
6	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
7	245	Power	2.65	275	2.45	250	50	-	32	37	5	-
8	380	-	-	-	-	-	-	-	100	-	-	-
9												
10												

Coding of 1928 and 1929 Models

1. Parts with like part number in different assemblies and models are interchangeable othersare not.

2. The following prefixes and model numbers are for 1928 apparatus assemblies:

GA	G1—Power Speaker for 7-A Chassis only
70-A	7-A—Chassis for 1928 No. 71 and No. 72 models only
60-A	6-A—Chassis for 1928 No. 61 and No. 62 models only
7P-6	Power Pack, 60 cycle for No. 7-A Chassis only
7P-3	Power Pack, 30 cycle for No. 7-A Chassis only
6P-6	Power Pack, 60 cycle for No. 6-A Chassis only
6P-3	Power Pack, 30 cycle for No. 6-A Chassis only.

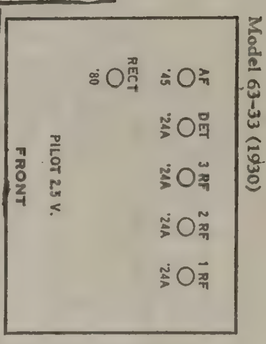
The following prefixes and model numbers are for 1929 apparatus assemblies.

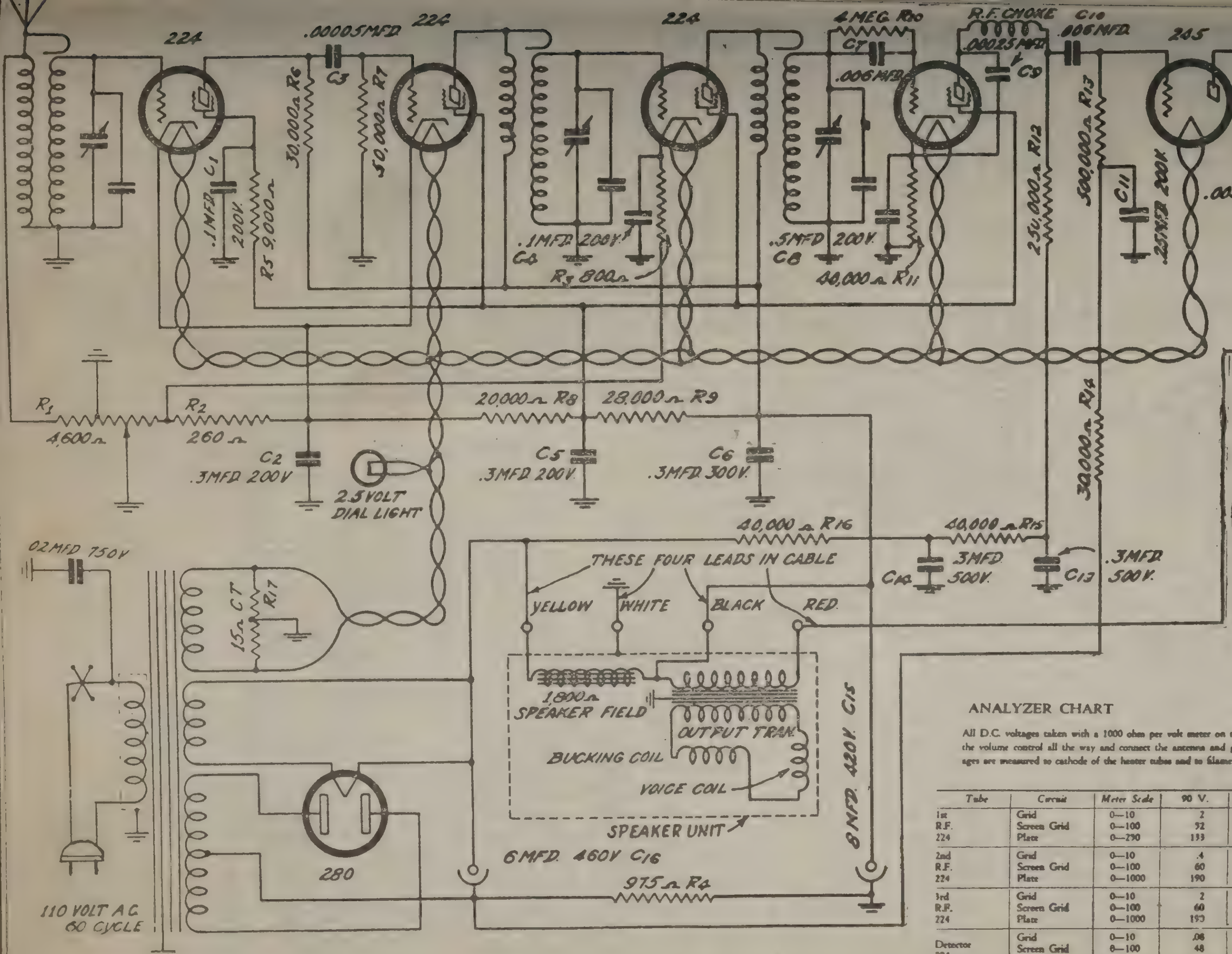
GB	G2—Super Dynamic Speaker for 7-B Chassis and 180 Chassis
70B	7-B—Chassis for 1929 No. 71 and No. 72 models only
180	180—Chassis for 1929 No. 181 radio and phonograph combination
7-BP-6	Power Pack, 60 cycle for 7-B Chassis only
7-BP-3	Power Pack, 30 cycle for 7-B Chassis only
8-P-6	Power Pack, 60 cycle for 180 Chassis only
8-P-3	Power Pack, 25, 30, 40 cycle for 180 Chassis only

MODEL 60, 63
Schematic
Voltage

GULBRANSEN CO.

Model 63-33 (1930)


AF
'45
DET
'24A
3 RF
'24A
2 RF
'24A
1 RF
'24A
RECT
'80
PILOT 2.5 V.
FRONT


224
224
224
245
280
.0005MFD
C3
30,000Ω R6
50,000Ω R7
.1MFD C1
200V.
R5 9,000Ω
.1MFD 200V.
C4
R3 800Ω
4 MEG. R10
C7
.006 MFD
.5MFD 200V.
C8
40,000Ω R11
R.F. CHOKE
.00025 MFD
C9
C10
.006 MFD
250,000Ω R12
500,000Ω R13
C11
.25MFD 200K
.003 MFD C12
R1
4,600Ω
R2
260Ω
C2
.3MFD 200V
2.5 VOLT
DIAL LIGHT
20,000Ω R8
28,000Ω R9
C5
.3MFD 200V.
C6
.3MFD 300V.
30,000Ω R14
40,000Ω R16
40,000Ω R15
C14
.3MFD
500V.
C13
.3MFD
500V.
THESE FOUR LEADS IN CABLE
YELLOW
WHITE
BLACK
RED
.02 MFD 750V
15Ω CT
R17
1,800Ω
SPEAKER FIELD
OUTPUT TRAN.
BUCKING COIL
VOICE COIL
SPEAKER UNIT
8 MFD. 420V. C15
6 MFD. 460V C16
975Ω R4
110 VOLT A.C.
60 CYCLE

MODEL 60 & 63 SCHEMATIC WIRING DIAGRAM

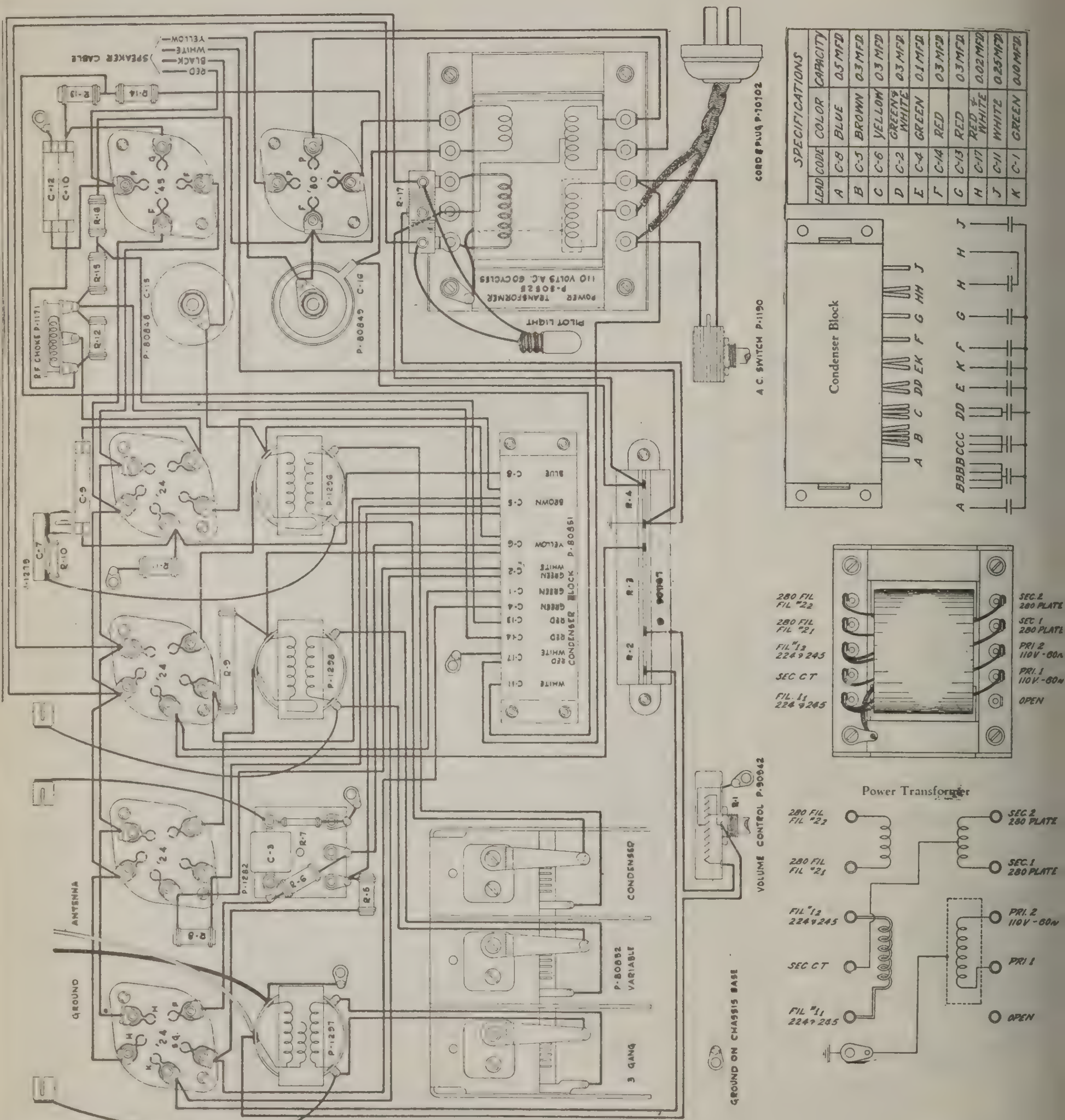
ANALYZER CHART

All D.C. voltages taken with a 1000 ohm per volt meter on the scale indicated in column headed "Meter Scale." Turn on the volume control all the way and connect the antenna and ground leads together. The grid, plate, and screen grid voltages are measured to cathode of the heater tubes and to filament of the 245 tube.

Tube	Circuit	Meter Scale	90 V.	100 V.	110 V.	120 V.	130 V.
1st R.F. 224	Grid Screen Grid Plate	0—10 0—100 0—250	2 52 133	2.3 58 142	2.6 63 155	3 68 167	3.3 73 178
2nd R.F. 224	Grid Screen Grid Plate	0—10 0—100 0—1000	.4 60 190	.5 67 210	.6 72 230	.7 78 250	.8 83 278
3rd R.F. 224	Grid Screen Grid Plate	0—10 0—100 0—1000	2 60 193	2.3 67 210	2.6 72 230	3 78 250	3.3 83 278
Detector 224	Grid Screen Grid Plate	0—10 0—100 0—100	.08 48 58	.09 54 66	.1 59 72	.11 63 78	.12 67 87
Audio 245	Grid Plate	0—100 0—1000	23 202	27 222	31 242	35 262	40 282
280 Rectifier	Plate Current	0—100	40 mils.	45 mils.	50 mils.	56 mils.	64 mils.
280 Rectifier	Filament to Ground	0—1000	265	298	330	358	392

MODEL 60, 63
Chassis

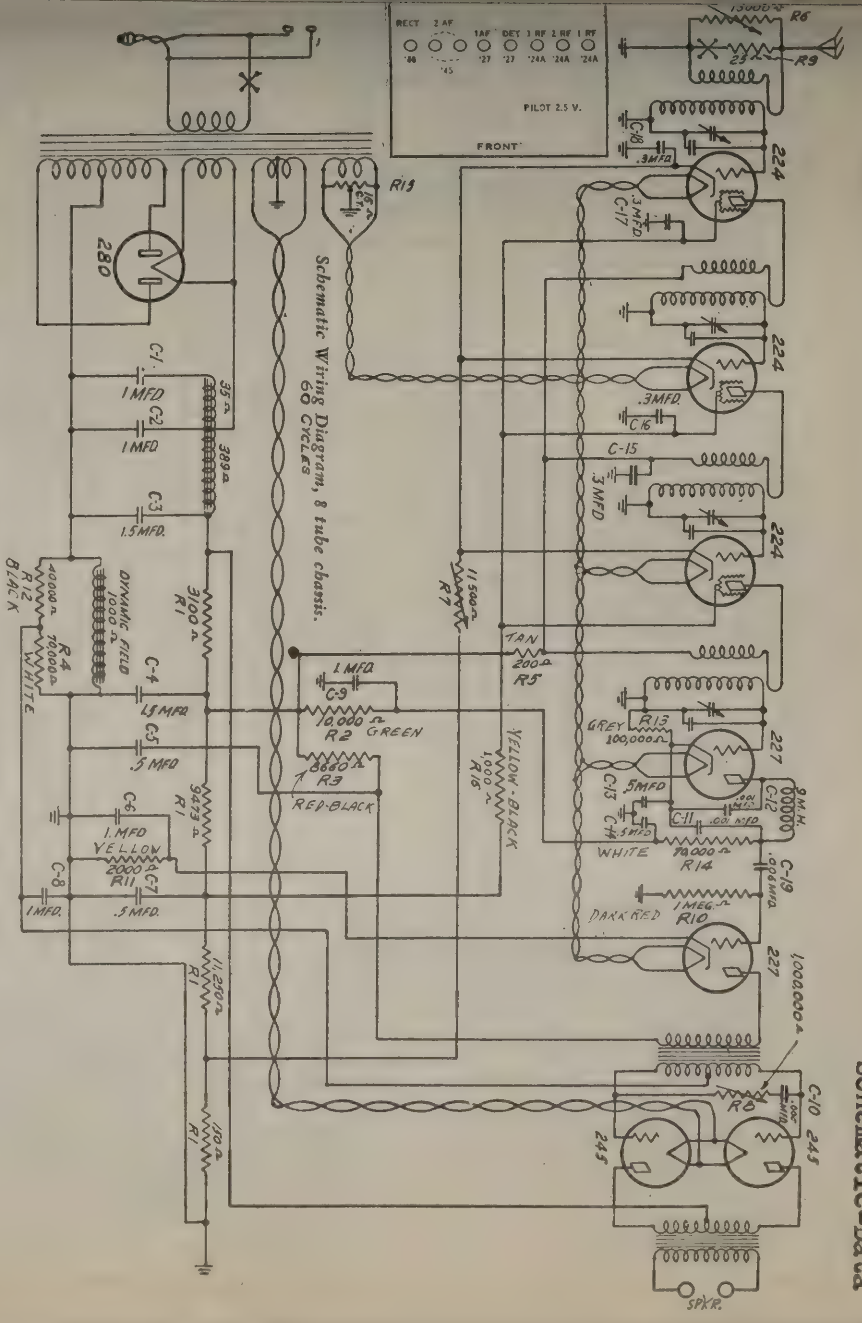
GULBRANSEN CO.


SPEAKER CABLE
YELLOW
WHITE
BLACK
RED
R-13
R-14
C-12
C-10
R-18
'45
'80
R-15
R-12
RF CHOKE P-1171
C-15
P-80848
C-16
P-80849
R-17
POWER TRANSFORMER
P-80828
110 VOLTS A.C. 60 CYCLES
PILOT LIGHT
CORD & PLUG P-70102
A.C. SWITCH P-1190
'24
P-1296
C-9
C-7
R-10
R-11
P-1298
R-9
BLUE C-8
BROWN C-5
YELLOW C-6
GREEN WHITE C-2
GREEN C-1
GREEN C-4
RED C-13
RED C-14
RED WHITE C-17
WHITE C-11
CONDENSER BLOCK P-80851
R-4
R-3
R-2
P-1282
C-3
R-7
R-6
R-5
R-8
P-1297
ANTENNA
GROUND
CONDENSER
P-80852 VARIABLE
3 GANG
VOLUME CONTROL P-90642
R-1
GROUND ON CHASSIS BASE
Condenser Block
A B C DD EK F G HH J
A BBBCCC DD E K F G H H J
280 FIL FIL #22
280 FIL FIL #21
FIL #12 224 & 245
SEC C.T
FIL #11 224 & 245
SEC 2 280 PLATE
SEC 1 280 PLATE
PRI 2 110V-60
PRI 1 110V-60
OPEN
Power Transformer

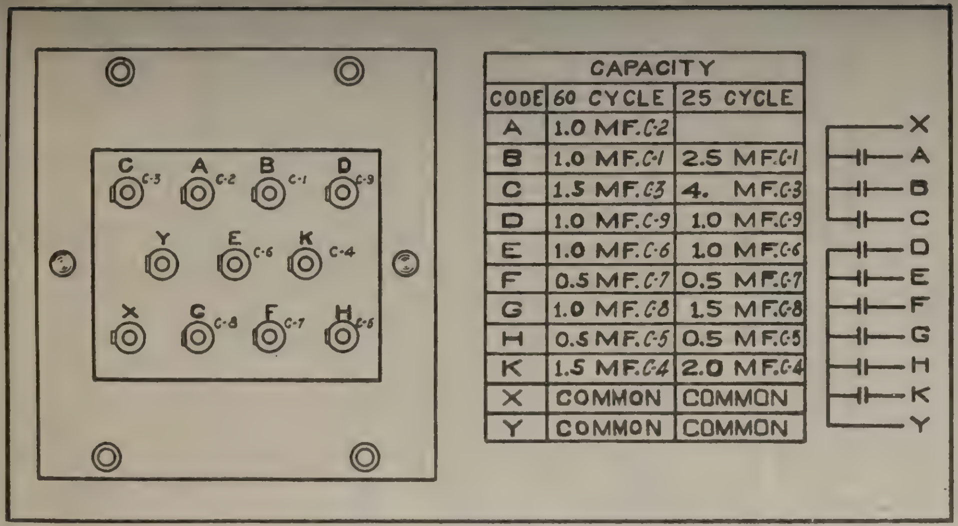
SPECIFICATIONS			
LEAD	CODE	COLOR	CAPACITY
A	C-8	BLUE	0.5 MFD.
B	C-5	BROWN	0.3 MFD.
C	C-6	YELLOW	0.3 MFD.
D	C-2	GREEN & WHITE	0.3 MFD.
E	C-4	GREEN	0.1 MFD.
F	C-14	RED	0.3 MFD.
G	C-13	RED	0.3 MFD.
H	C-17	RED & WHITE	0.02 MFD.
J	C-11	WHITE	0.25 MFD.
K	C-1	GREEN	0.10 MFD.

GULBRANSEN CO.

MODEL 160, 161
60 Cycles
Schematic-Data


224
224
224
227
227
245
245
280
R6
R9
R19
R13 GREY 100,000 Ω
R14 70,000 Ω WHITE
R10 1 MEG. Ω DARK RED
1,000,000 Ω
R8
C-10 .006 MFD
C-19 .006 MFD
9 M.H.
C-12
C-11 .001 MFD
C-13
C-14
.5 MFD
C-15
C-16
.3 MFD
C-17
C-18
TAN 200 Ω R5
YELLOW-BLACK 1,000 Ω R16
11500 Ω R7
1 MFD C-9
10,000 Ω R2 GREEN
8660 Ω R3 RED-BLACK
35 Ω
389 Ω
3100 Ω R1
9473 Ω R1
11,250 Ω R1
150 Ω R1
C-1 1 MFD
C-2 1 MFD
C-3 1.5 MFD
C-4 1.5 MFD
C-5 .5 MFD
C-6 1 MFD
YELLOW 2000 Ω R11
C-7 .5 MFD
C-8 1 MFD
DYNAMIC FIELD 1000 Ω
R4 70,000 Ω WHITE
R12 40000 Ω BLACK
SPKR.
RECT 2 AF 1AF DET 3 RF 2 RF 1 RF
'80 '45 '27 '27 '24A '24A '24A
PILOT 2.5 V.
FRONT

Schematic Wiring Diagram, 8 tube chassis.
60 Cycles


C
A
B
D
Y
E
K
X
G
F
H
C-3
C-2
C-1
C-9
C-6
C-4
C-8
C-7
C-5
X
A
B
C
D
E
F
G
H
K
Y

	CAPACITY	
CODE	60 CYCLE	25 CYCLE
A	1.0 MF. C-2	
B	1.0 MF. C-1	2.5 MF. C-1
C	1.5 MF. C-3	4. MF. C-3
D	1.0 MF. C-9	1.0 MF. C-9
E	1.0 MF. C-6	1.0 MF. C-6
F	0.5 MF. C-7	0.5 MF. C-7
G	1.0 MF. C-8	1.5 MF. C-8
H	0.5 MF. C-5	0.5 MF. C-5
K	1.5 MF. C-4	2.0 MF. C-4
X	COMMON	COMMON
Y	COMMON	COMMON

Filter Condenser (60 and 25 cycle receivers).

FIXED CONDENSERS

Condensers C1 to C9 inclusive are in the filter block. C1, C2, C3, C4, and C7 are in the main filter circuits. C5 bypasses R3, which is the 8,660 ohm resistor in the first audio plate circuit. C6 by-passes R11, the cathode bias resistor on the first audio stage. C8 by-passes the grid bias on the 245 tubes, (obtained through R4 and R12) and C9 bypasses the 10,000 ohm resistor R2 in the detector plate circuit.

C10 and C19 are located on the resistor-condenser terminal strip (See Fig. 4) and are both .006 mfd. moulded condensers. C10 is in the tone control circuit, while C19 is the coupling condenser in the resistance coupled amplifier.

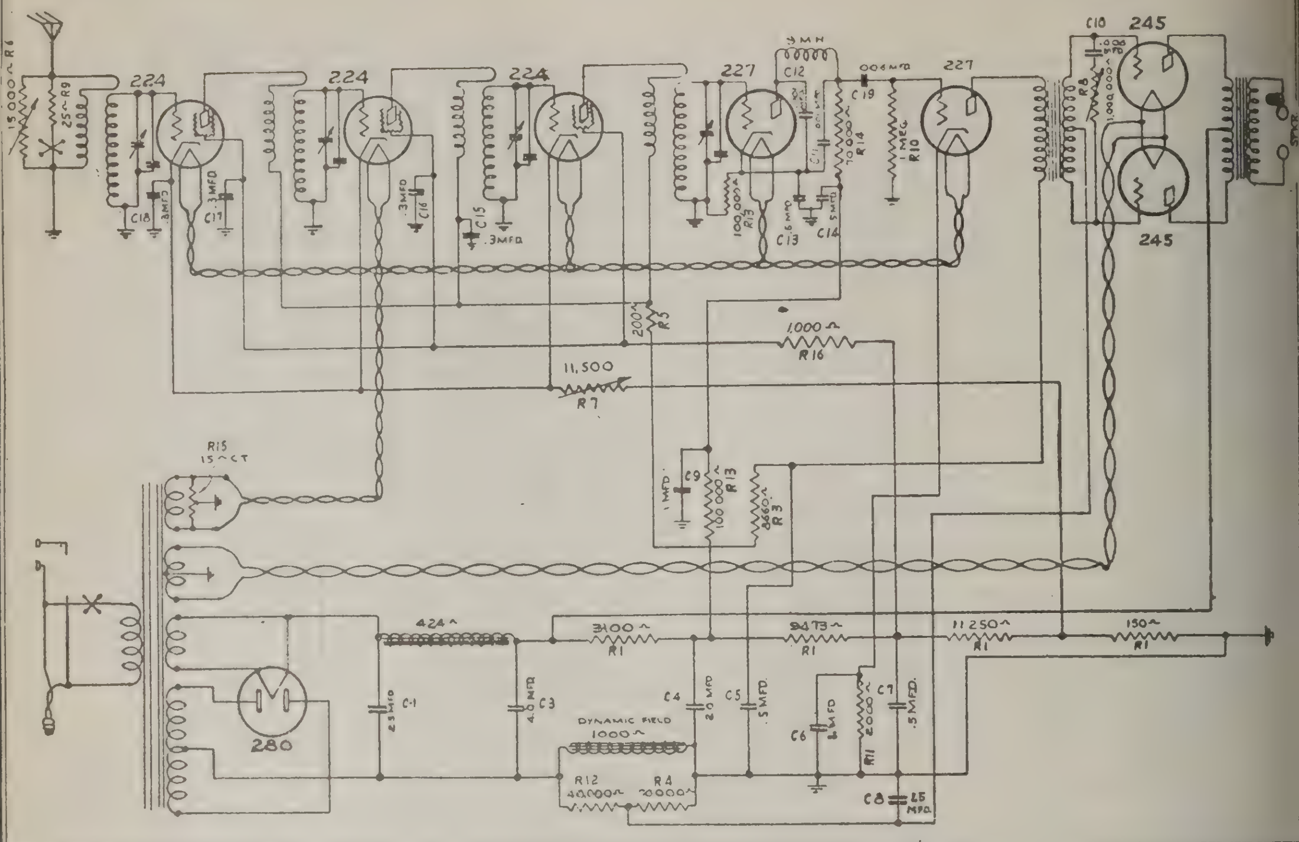
C11 and C12 are .001 mfd. moulded condensers, and are used in the detector plate circuit filter. C13 and C14 are the two units in the dual ½ mfd. by-pass condenser.

C15, C16 and C18 are located in the triple 3 mfd. condenser case. C17 is a single .3 mfd. condenser, and is mounted alongside of the triple .3 mfd. condenser case.

Code Fig. 1	Stock No.	Capacity
C1 to C9 inclusive	80818	9 Mfds. total. Filter block.
C10 and C19	80822	.006 Mfd. White paint spot.
C11 and C12	80821	.001 Mfd. Grey paint spot.
C13 and C14	80826	Dual .5 Mfd. Metal case.
C15, C16, C18	80817	Triple .3 Mfd. Metal case.
C17	80820	.3 Mfd. Metal case.

GULBRANSEN CO.

MODEL 160, 161
25 Cycles
Schematic
Voltage


15,000 ~ R6
25 ~ R9
224
C18
.3MFD
C17
.3MFD
224
.3MFD
C16
224
C15
.3MFD
9 MH
C12
227
.004 MFD
C19
227
70000 ~ R14
1 MEG R10
100,000 ~ R13
C13
.6 MFD
C14
.5 MFD
C11
C10
245
R8
1,000,000 ~
245
SPKR
200 ~ R5
1,000 ~
R16
11,500
R7
R15
15 ~ CT
1 MFD
C9
100,000 ~ R13
8660 ~ R3
424 ~
3100 ~ R1
9473 ~ R1
11250 ~ R1
150 ~ R1
2.5 MFD C-1
4.0 MFD C3
C4 2.0 MFD
C5 .5 MFD
C6 1.6 MFD
R11 2000 ~
C7 .5 MFD
DYNAMIC FIELD 1000 ~
R12 40,000 ~
R4 20000 ~
C8 1.5 MFD
280

Schematic Wiring Diagram, 25 Cycle Model.

The filter system of the 25-cycle chassis shown above is somewhat different than that in the 60-cycle chassis, and the detector plate circuit resistor has been changed from 10,000 ohms to 100,000 ohms.

All servicing data, with the exception of the tube voltages, is the same for both the 25 and 60-cycle chassis.

APPROXIMATE OPERATING VOLTAGES

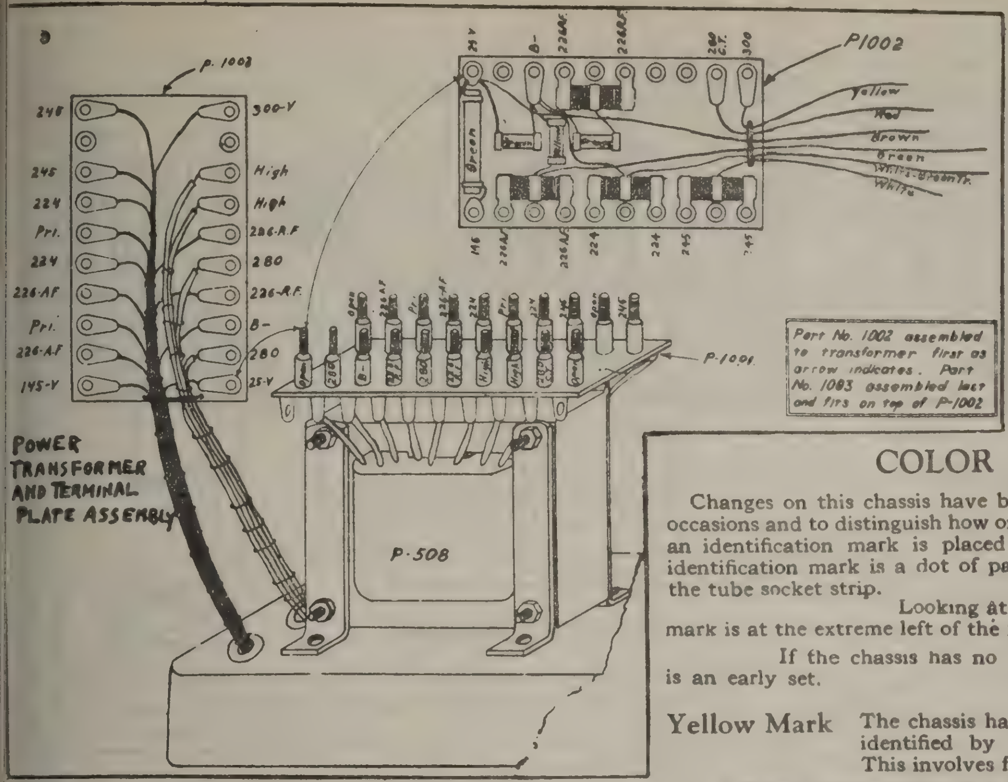
A. C. LINE VOLTAGE—117. VOLUME CONTROL FULL ON

Tube	*Position*	*Filament*	*Plate*	*Screen*	*Grid**	*Cathode*
224	1st R.F.	2.3	178	90	— 3.0*	3.0
224	2nd R.F.	2.3	178	90	— 3.0*	3.0
224	3rd R.F.	2.3	178	90	— 3.0*	3.0
227	Detector	2.3	100		—10.5*	10.5
227	1st Audio	2.3	130			9.0
245	2nd Audio	2.4	250		51.0	
245	2nd Audio	2.4	250		51.0	
280	Rectifier	4.7				

* Grid voltages on the 224 R.F. and 227 detector tubes are taken from grid to cathode and not from grid to ground. The grid voltage on the first audio tube is measured from cathode to ground.

GULBRANSEN CO.

**MODEL 200, 291,292
295, 9950
Voltage
Data**



Part No. 1002 assembled to transformer first as arrow indicates. Part No. 1003 assembled last and fits on top of P-1002

OPERATING VOLTAGES

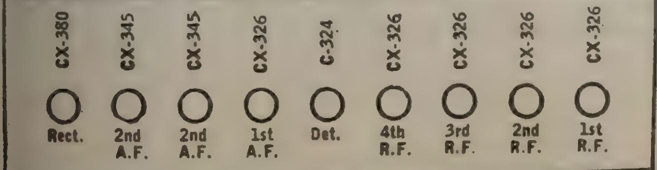
Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
226	1st R:F.	1.35	116	8.5				4.7	8.7
226	2nd R.F.	1.35	116	8.5				4.7	8.7
226	3rd R.F.	1.35	,116	8.5				4.7	8.7
226	4th R.F.	1.35	116	8.5				4.7	8.7
224	Det.	2.2	80	1.3	15		—	—	—
226	1st A.F.	1.4	110	1.0 ← READING LOW DUE TO RESISTANCE COUPLING				4.0	5.0
245	2nd A.F.	2.2	232	42				27	32
245	2nd A.F.	2.2	232	42				27	32
280	Rect.	4.6						84	

Line Voltage During Test—115 Volts

REVISION OF OPERATING VOLTAGES

Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
224	Det.	2.2	75	1.3	15				
226	1st A.F.	1.4	77	1.0				4	5

200, 291, 292, 9950 (A.C.)



COLOR CODE

Changes on this chassis have been made on several different occasions and to distinguish how one chassis differs from another, an identification mark is placed on each one changed. This identification mark is a dot of paint found on the end rivet of the tube socket strip.

Looking at the chassis from the back the mark is at the extreme left of the 226 tube socket

If the chassis has no mark it is understood that it is an early set.

Yellow Mark The chassis having the first changes may be identified by the yellow indicating mark. This involves four changes.

1. A "dual volume control" in place of the single type. The new volume control is made in two sections, with five lugs. The section nearest the chassis, having two lugs, operates exactly the same as the single volume control. The section behind the first, having three lugs, is placed in the first audio circuit to reduce the audio amplification and operates in tandem with the antenna volume control.

2. An interchange of position of the two audio transformers The re-arrangement of the audio transformers has not altered their connections in the circuit.

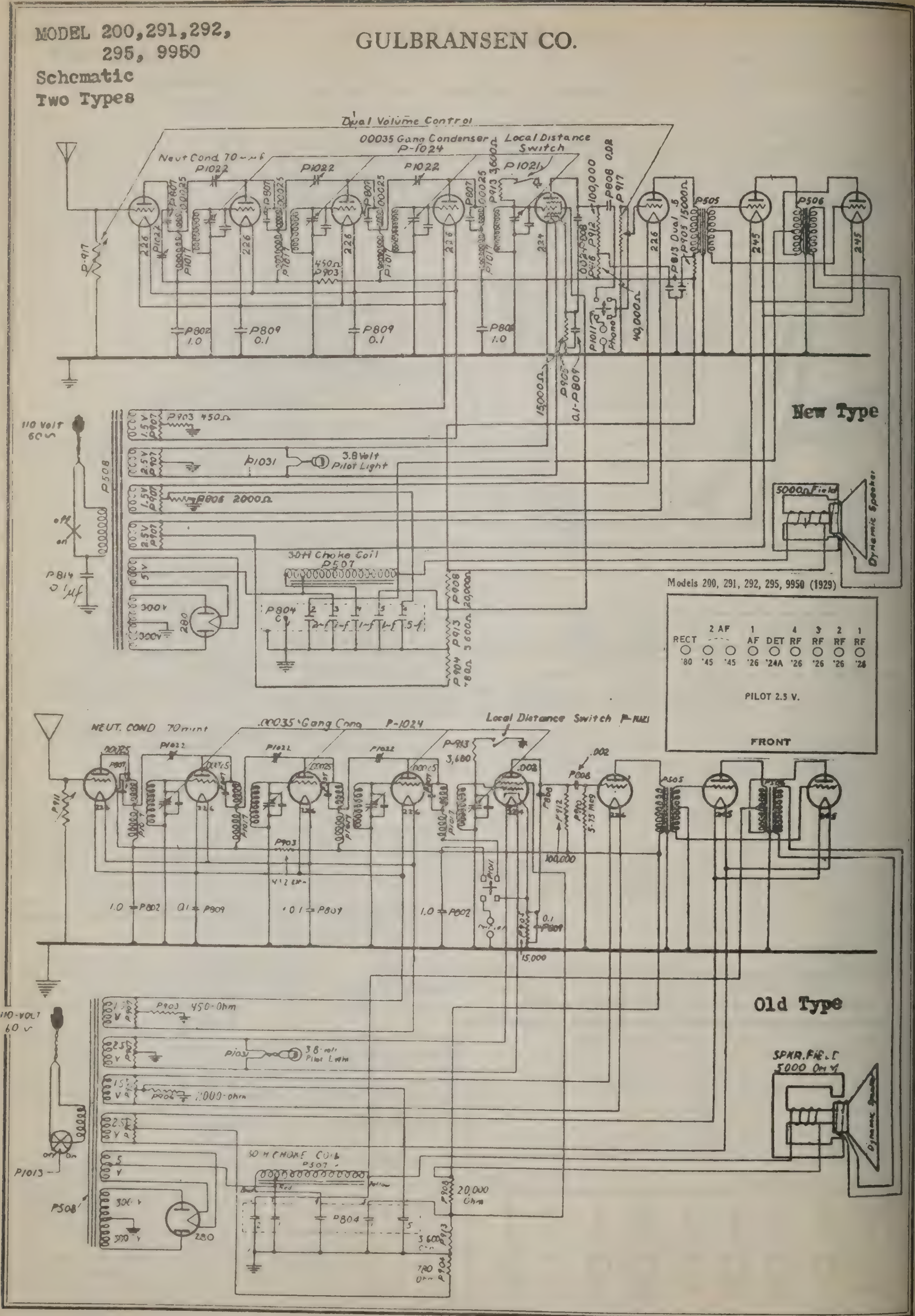
3. An addition of a "dual half microfarad condenser" and two carbon resistors in the "B" circuit of the detector and first audio tubes. The 40,000 ohm black resistor with one section of the dual condenser is placed in the detector circuit (224) and the 15,000 ohm blue resistor with the other section of the dual condenser is placed in the first audio circuit (226). You will note that the yellow and blue leads in the cable connecting to the terminal strip have been interchanged.

4. A change in the location of the grounding of No. 1 lug on the condenser block. This lug is now grounded to the condenser case with a short piece of bare wire.

Red Mark (Serial Number 39,000-42,999) All chassis having a red mark on the rivet of the tube socket strip have all of the changes mentioned above and in addition, have a one-tenth microfarad condenser connected from ground to one side of the 110 volt line A peculiarity that may be experienced by the addition of this condenser is a loud hum on every station tuned in only when the antenna wire coming from the set is connected to ground. This can be eliminated by reversing the plug in the socket. Also be sure your antenna is not grounded, either by some other set being connected to your aerial or through any other means.

Green Mark (Serial Number 43,000 and up) All Chassis with a green mark on the rivet of the tube socket strip contain the above changes and in addition have a change in the "combination phonograph switch" circuit. This changed circuit makes use of only the audio system of the set for phonograph reproduction, whereas the original circuit included the detector tube

The Phonograph, Radio, On, and Off positions of the switch are the same as in the early sets. To obtain maximum volume and best tone quality a pick-up coupling transformer should be used to match the pick-up used.



MODEL 200,291,292, 295, 9950

Schematic

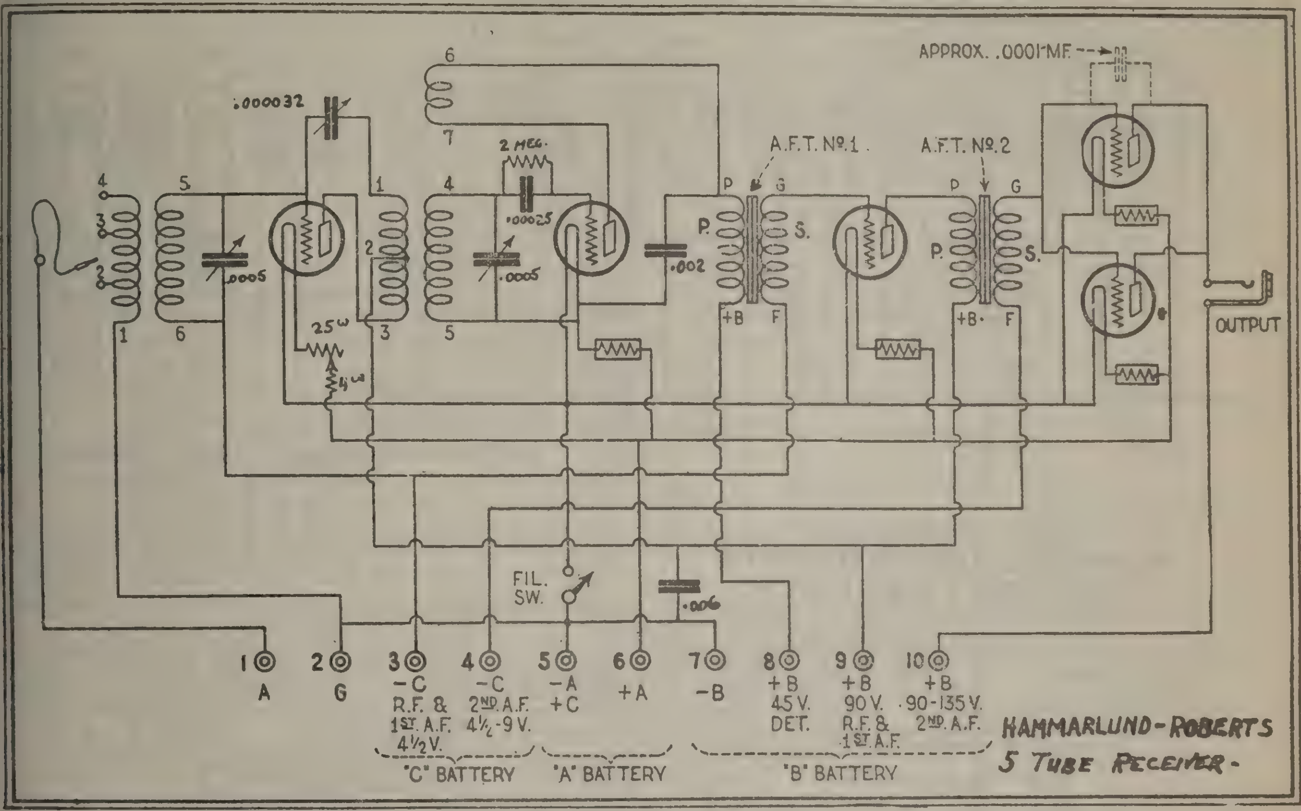
Two Types

GULBRANSEN CO.

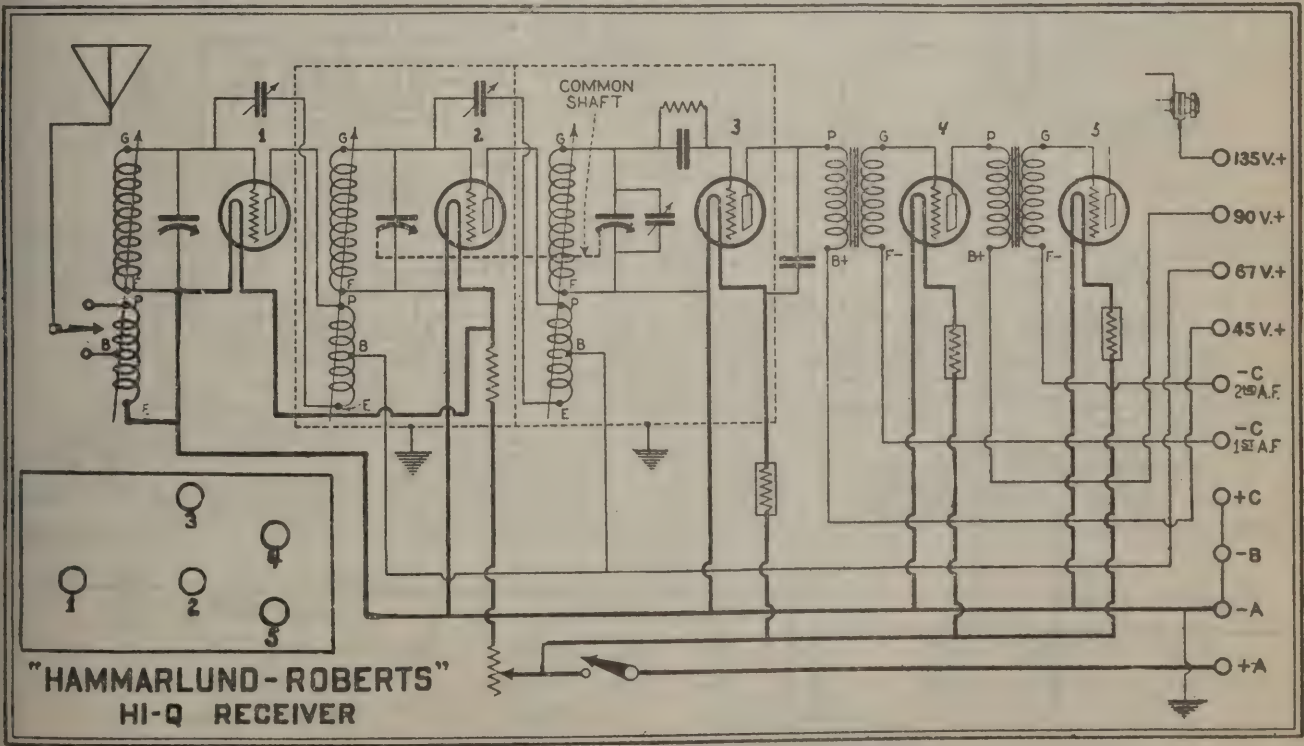
Dual Volume Control
00035 Gang Condenser P-1024
Local Distance Switch
Neut Cond 70 ~ µf
P1022
P1021
P917
P807 .00025
P101
P802 1.0
P809 0.1
P809 0.1
P808 1.0
P903 450Ω
P913 3600Ω
P1017
226
226
226
226
224
226
245
245
100,000
P808 0.02
P912
P905 15000Ω
P913 Dual .5
P505
P506
40,000Ω
P1011
Phono
15000Ω
P905
0.1-P809
New Type
110 Volt 60 ~
P508
P903 450Ω
1.5V P907
2.5V P907
P1031
3.8 Volt Pilot Light
P806 2000Ω
5V
300V
280
P814 0.1 µf
on
off
30H Choke Coil P507
P804
2-f
1-f
1-f
1-f
.5-f
P908 20,000Ω
P913 3600Ω
P904 780Ω
5000Ω Field
Dynamic Speaker
Models 200, 291, 292, 295, 9950 (1929)
2 AF
RECT '80
'45
'45
1 AF '26
DET '24A
4 RF '26
3 RF '26
2 RF '26
1 RF '26
PILOT 2.5 V.
FRONT
NEUT. COND 70 mmf
.00035 Gang Cond P-1024
Local Distance Switch P-1021
P1022
P913 3,600
.002
P808
P911
P912
P910 5-7.5 Meg
100,000
P903 4½ ohm
1.0 P802
.01 P809
.01 P809
1.0 P802
0.1 P809
15,000
P505
Old Type
110-VOLT 60 ~
P1013
P508
P903 450-Ohm
P1031
3.8 Volt Pilot Lamp
P906 2000-ohm
300 V
280
30 H CHOKE COIL P507
Yellow
Red
Black
P804
P908 20,000 Ohm
P913 3,600 Ohm
P904 780 Ohm
SPKR. FIELD 5000 OHM
Dynamic Speaker

HAMMARLUND-ROBERTS, INC.

MODEL H-R 5 Tube
MODEL H-R "HI-Q"


.000032
6
7
2 MEG.
.00025
.0005
.0005
.002
4
3
2
1
5
6
1
2
3
4
5
25 ω
4 ω
A.F.T. No. 1
A.F.T. No. 2
P
G
P.
S.
+B
F
APPROX. .0001 MF.
OUTPUT
FIL. SW.
.006
1 A
2 G
3 −C R.F. & 1ST A.F. 4½ V.
4 −C 2ND A.F. 4½-9 V.
5 −A +C
6 +A
7 −B
8 +B 45 V. DET.
9 +B 90 V. R.F. & 1ST A.F.
10 +B 90-135 V. 2ND A.F.
"C" BATTERY
"A" BATTERY
"B" BATTERY

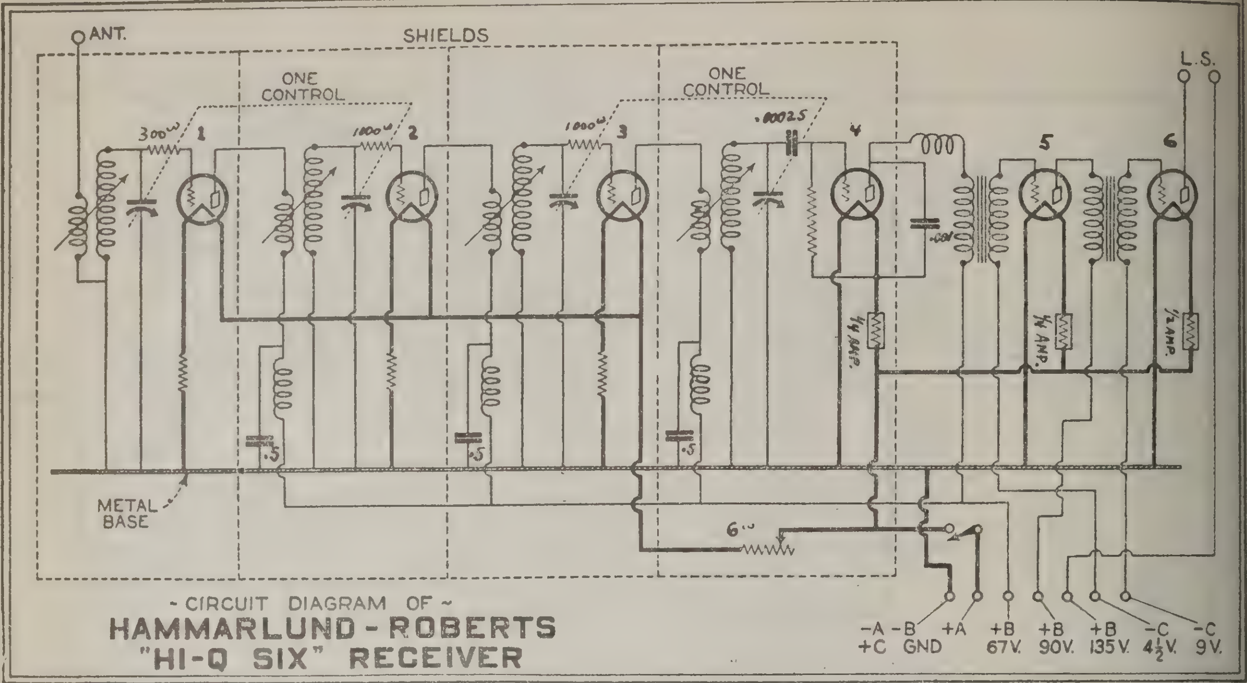
HAMMARLUND-ROBERTS
5 TUBE RECEIVER -


COMMON SHAFT
1
2
3
4
5
G
F
P
B
E
B+
F−
135 V.+
90 V.+
67 V.+
45 V.+
−C 2ND A.F.
−C 1ST A.F.
+C
−B
−A
+A

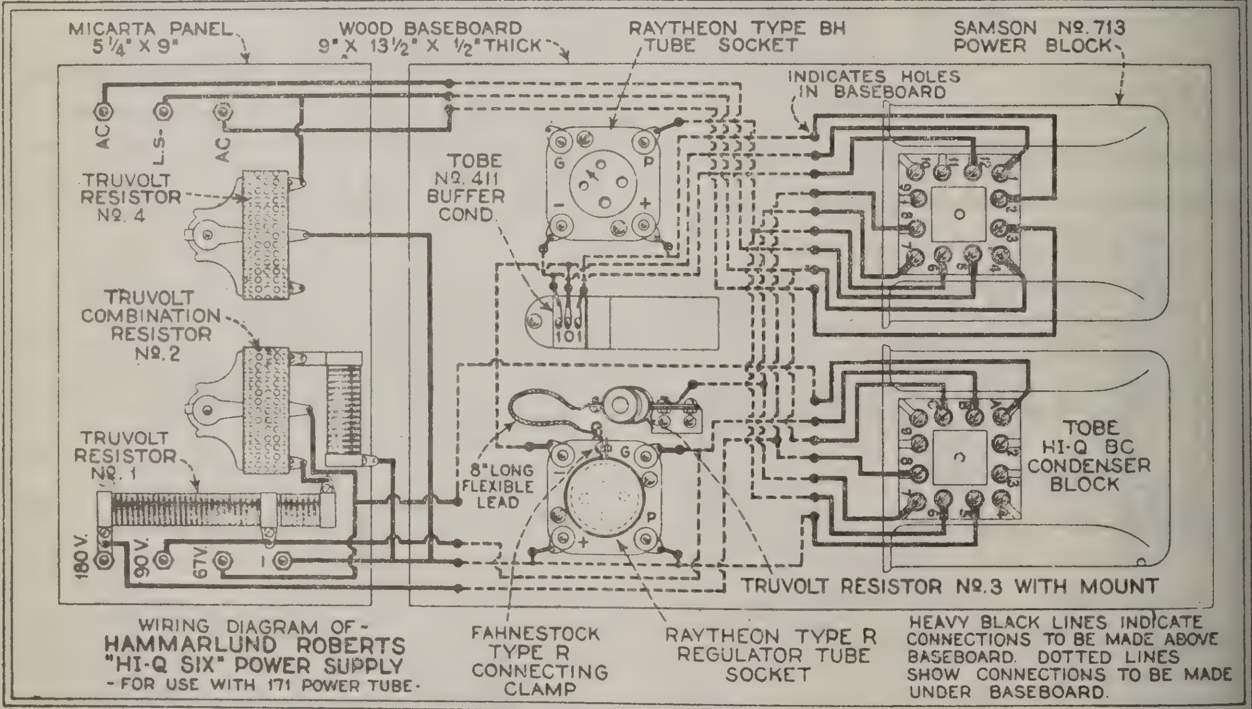
"HAMMARLUND-ROBERTS"
HI-Q RECEIVER

MODEL H-R "HI-Q" 6

HAMMARLUND-ROBERTS, INC.


ANT.
SHIELDS
ONE CONTROL
300ω
1
1000ω
2
1000ω
3
ONE CONTROL
.00025
4
5
6
L.S.
.001
¼ AMP.
¼ AMP.
½ AMP.
.5
.5
.5
METAL BASE
6ω
-A -B +C GND
+A
+B 67V.
+B 90V.
+B 135V.
-C 4½V.
-C 9V.

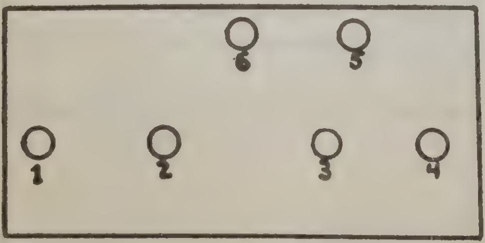
- CIRCUIT DIAGRAM OF -
HAMMARLUND - ROBERTS "HI-Q SIX" RECEIVER


MICARTA PANEL 5¼" X 9"
WOOD BASEBOARD 9" X 13½" X ½" THICK
RAYTHEON TYPE BH TUBE SOCKET
SAMSON NO. 713 POWER BLOCK
INDICATES HOLES IN BASEBOARD
AC
L.S.-
AC
TRUVOLT RESISTOR NO. 4
TOBE NO. 411 BUFFER COND.
G
P
101
TRUVOLT COMBINATION RESISTOR NO. 2
TRUVOLT RESISTOR NO. 1
8" LONG FLEXIBLE LEAD
TOBE HI-Q BC CONDENSER BLOCK
180 V.
90 V.
67V.
TRUVOLT RESISTOR NO. 3 WITH MOUNT
FAHNESTOCK TYPE R CONNECTING CLAMP
RAYTHEON TYPE R REGULATOR TUBE SOCKET

WIRING DIAGRAM OF -
HAMMARLUND ROBERTS "HI-Q SIX" POWER SUPPLY
- FOR USE WITH 171 POWER TUBE -

HEAVY BLACK LINES INDICATE CONNECTIONS TO BE MADE ABOVE BASEBOARD. DOTTED LINES SHOW CONNECTIONS TO BE MADE UNDER BASEBOARD.

SOCKET LAYOUT



Battery Cable

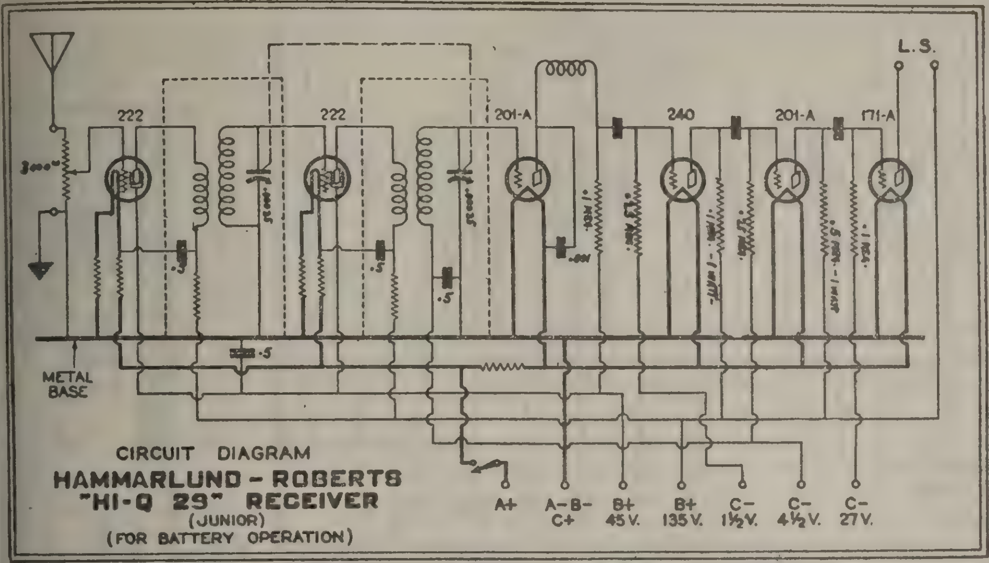
To	B+	135	Gray
"	B+	90	Yellow
"	B+	67	Blue
"	B-	C+ A-	Black
"	C-	4.5	Green
"	C-	9.	Brown
"	A+		Red

Power Cable

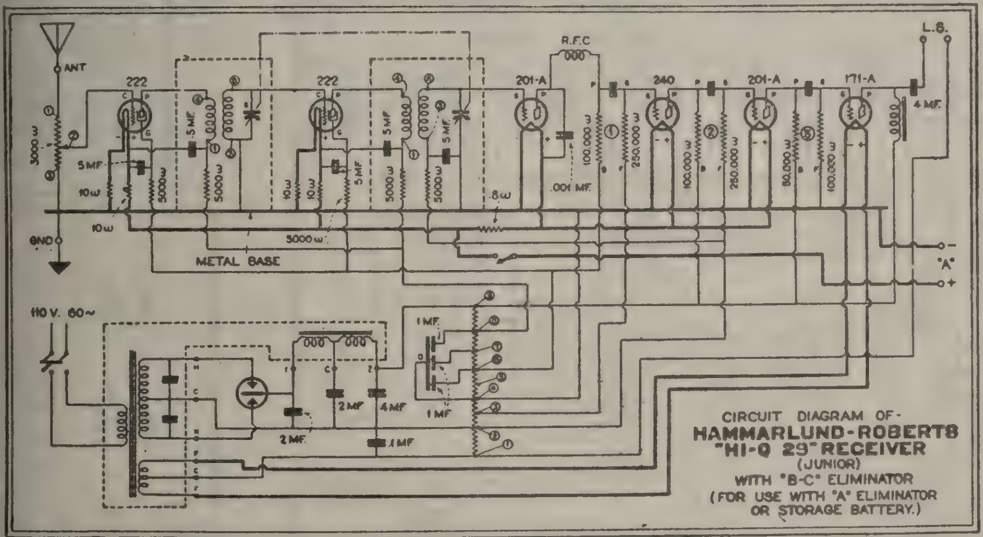
To	B+	180	Gray
"	B+	90	Yellow
"	B+	67	Blue
"	B-		Black
"	C-		Green
"	Fil.center tap		Brown

HAMMARLUND-ROBERTS, INC.

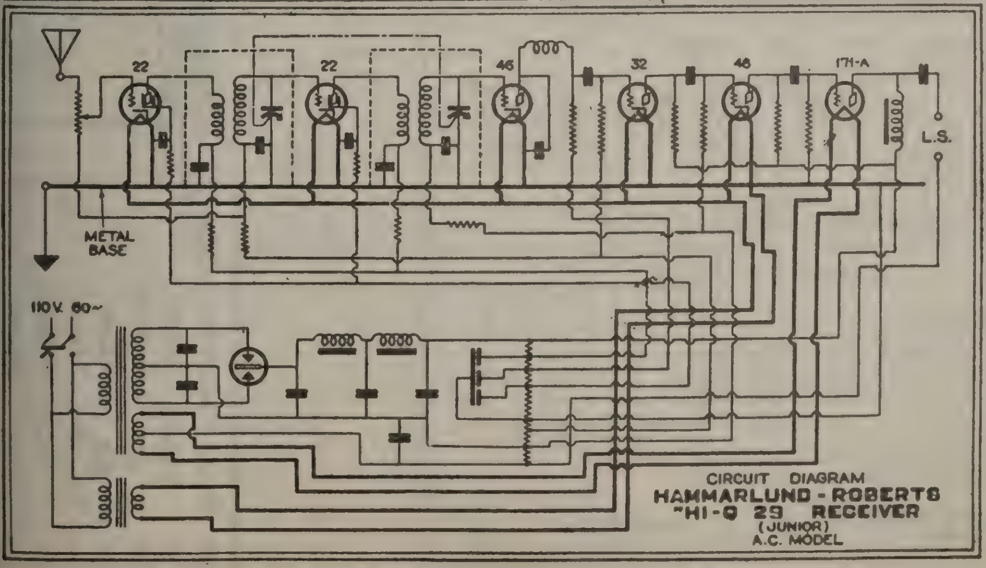
MODEL H-R "HI-Q" 29
Junior-Three Types


222
222
201-A
240
201-A
171-A
L.S.
3000 w
METAL BASE
A+
A− B−
C+
B+
45 V.
B+
135 V.
C−
1½ V.
C−
4½ V.
C−
27 V.

CIRCUIT DIAGRAM
HAMMARLUND - ROBERTS
"HI-Q 29" RECEIVER
(JUNIOR)
(FOR BATTERY OPERATION)


ANT
GND
222
222
R.F.C
201-A
240
201-A
171-A
L.S.
4 MF.
3000 w
5 MF
10 w
5000 w
.5 MF
100,000 w
250,000 w
80,000 w
.001 MF
.8 w
METAL BASE
"A"
110 V. 60~
1 MF
2 MF
4 MF
2 MF.
.1 MF

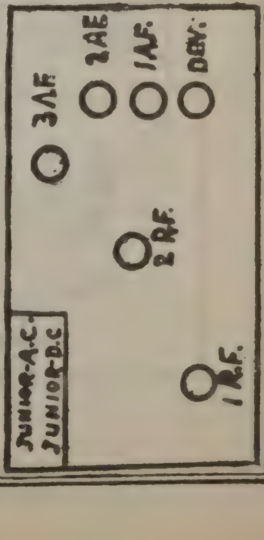
CIRCUIT DIAGRAM OF-
HAMMARLUND-ROBERTS
"HI-Q 29" RECEIVER
(JUNIOR)
WITH "B-C" ELIMINATOR
(FOR USE WITH "A" ELIMINATOR
OR STORAGE BATTERY.)


22
22
46
32
46
171-A
L.S.
METAL BASE
110V. 60~

CIRCUIT DIAGRAM
HAMMARLUND - ROBERTS
"HI-Q 29" RECEIVER
(JUNIOR)
A.C. MODEL

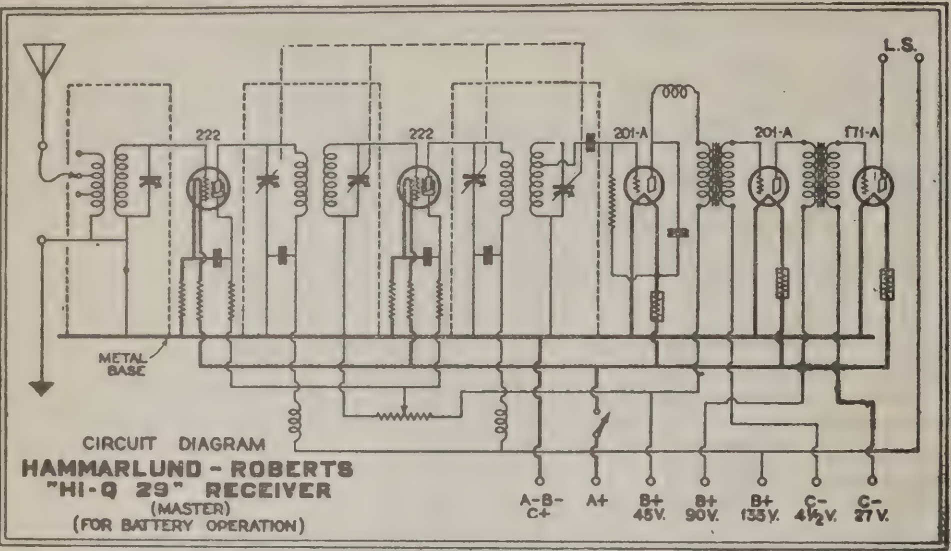
HI-Q 29 Jr. Battery cable.

To B + 135 - Gray
" B + 45 - Blue
" B -, A -, C + Black
" C - 1.5 Yellow
" C - 4.5 Green
" C - 27. Brown
" A + Red

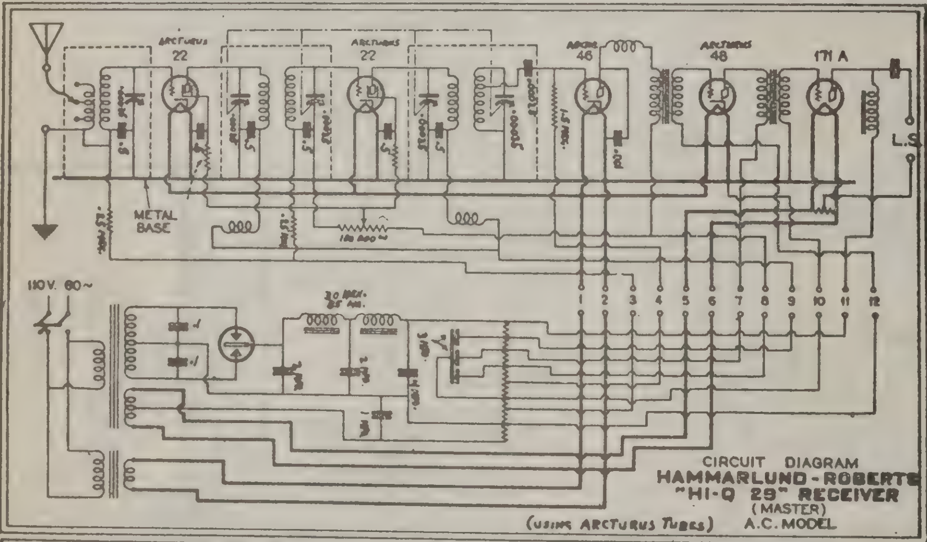

3AF.
2AF.
1AF.
DET.
2RF.
1RF.
JUNIOR-A.C.
JUNIOR-D.C.

MODEL H-R "HI-Q" 29
Master-Three Types

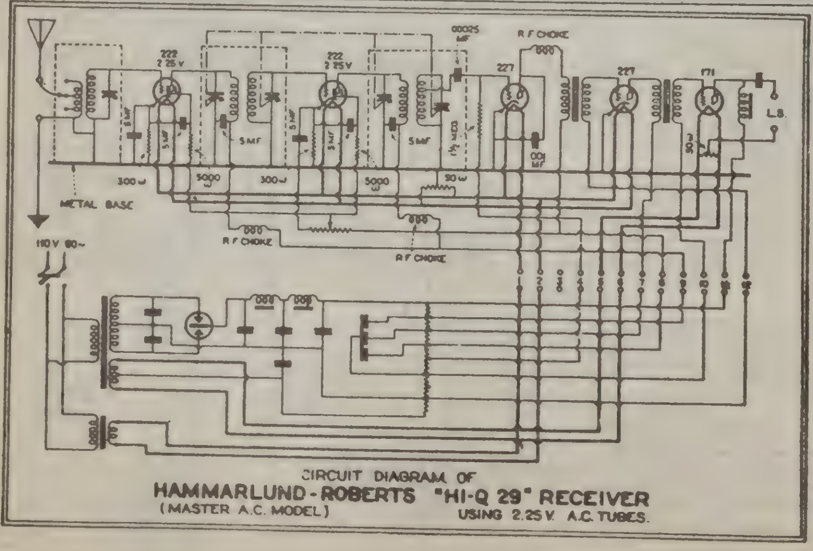
HAMMARLUND-ROBERTS, INC.


L.S.
222
222
201-A
201-A
171-A
METAL BASE
A-B- C+
A+
B+ 45V.
B+ 90V.
B+ 135V.
C- 4½V.
C- 27V.

CIRCUIT DIAGRAM
HAMMARLUND - ROBERTS
"HI-Q 29" RECEIVER
(MASTER)
(FOR BATTERY OPERATION)


ARCTURUS 22
ARCTURUS 22
ARCTURUS 46
ARCTURUS 48
171 A
L.S.
METAL BASE
110V. 60~
1
2
3
4
5
6
7
8
9
10
11
12

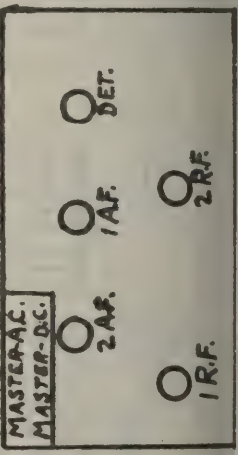
CIRCUIT DIAGRAM
HAMMARLUND - ROBERTS
"HI-Q 29" RECEIVER
(MASTER)
(USING ARCTURUS TUBES) A.C. MODEL


222 2.25V
222 2.25V
.00025 MF
R F CHOKE
227
227
171
L.S.
5MF
5MF
5MF
300 ω
5000 ω
300 ω
5000 ω
30 ω
METAL BASE
R F CHOKE
R F CHOKE
110V 60~

CIRCUIT DIAGRAM OF
HAMMARLUND-ROBERTS "HI-Q 29" RECEIVER
(MASTER A.C. MODEL) USING 2.25V. A.C. TUBES.

MASTER A.C. - POWER CABLE

1-RED } 15V. A.C.
2-BLACK } 15V. A.C.
3-RED-GREEN TRACER, C-, 1 VOLT.
4-BLACK-GREEN TRACER, C+4.5V.
5-RED-YELLOW TRACER } 5V. A.C.
6-BLACK YELLOW TRACER } 5V. A.C.
7-YELLOW, B+90V.
8-BLUE, B+45V.
9-SLATE, B+135V
10-GREEN, B-C+
11-BROWN, B+180V
12-WHITE, C-4.5V

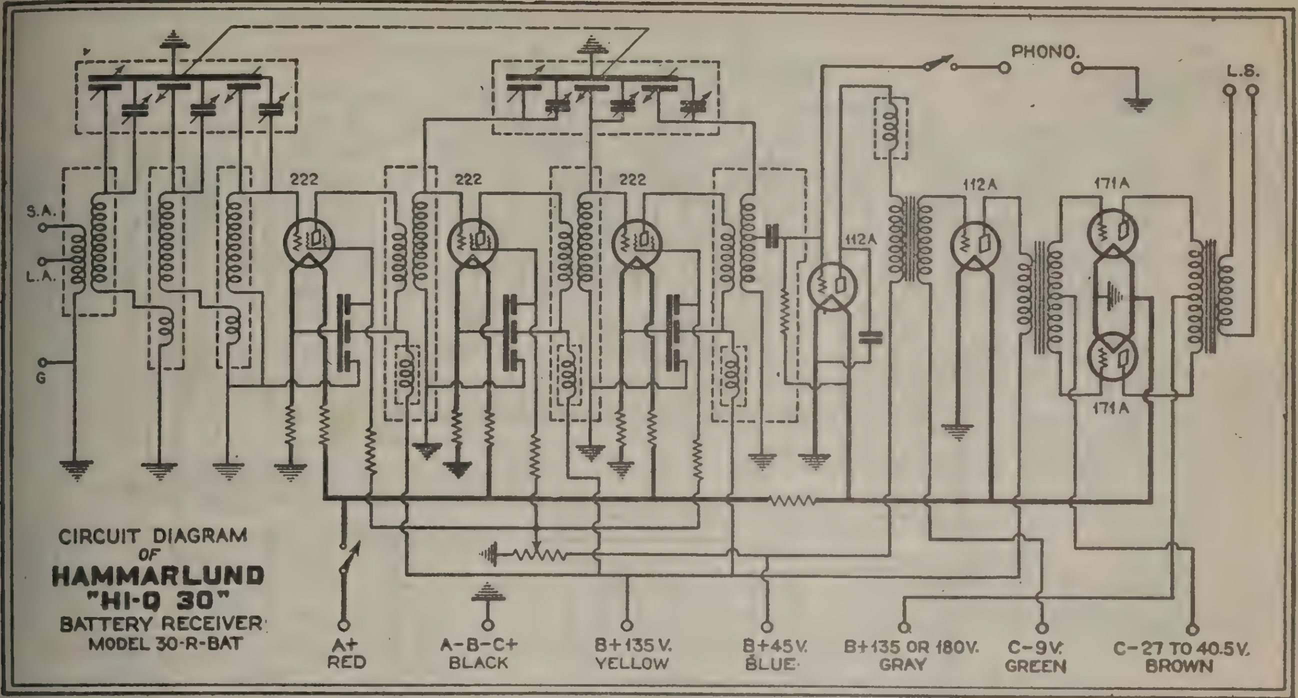

MASTER-A.C.
MASTER-D.C.
DET.
1A.F.
2R.F.
2A.F.
1R.F.

Master D.C. - Batt.cable.

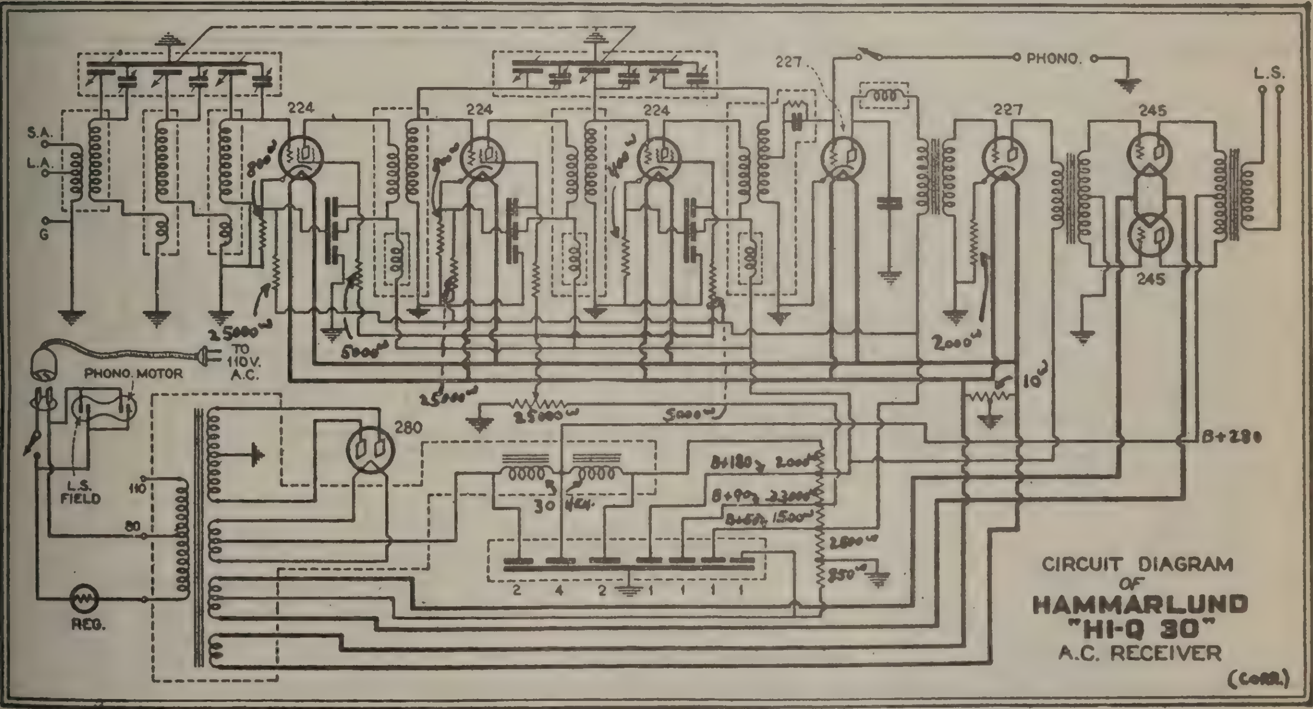
To	B+	135	Gray
"	B+	90	Yellow
"	B+	45	Blue
"	B-, C+, A-,		Black
"	C-	4.5	Green
"	C-	27.	Brown
"	A+		Red

HAMMARLUND-ROBERTS, INC.

MODEL H-R "HI-Q" 30
A.C.-Battery

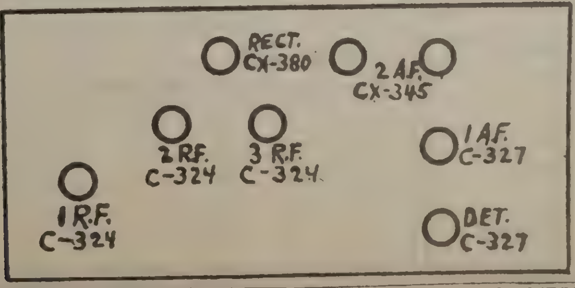

S.A.
L.A.
G
222
222
222
112A
112A
112A
171A
171A
PHONO.
L.S.
A+
RED
A-B-C+
BLACK
B+135 V.
YELLOW
B+45 V.
BLUE
B+135 OR 180V.
GRAY
C-9V.
GREEN
C-27 TO 40.5V.
BROWN

CIRCUIT DIAGRAM
OF
HAMMARLUND
"HI-Q 30"
BATTERY RECEIVER
MODEL 30-R-BAT


S.A.
L.A.
G
224
224
224
300ω
300ω
400ω
227
227
245
245
PHONO.
L.S.
25000ω
5000ω
TO 110V. A.C.
PHONO. MOTOR
25000ω
25000ω
5000ω
280
2000ω
10ω
B+280
L.S. FIELD
110
80
REG.
B+180 2000ω
B+90 23000ω
B+67.5 1500ω
30 HEN.
2800ω
850ω
2
4
2
1
1
1
1

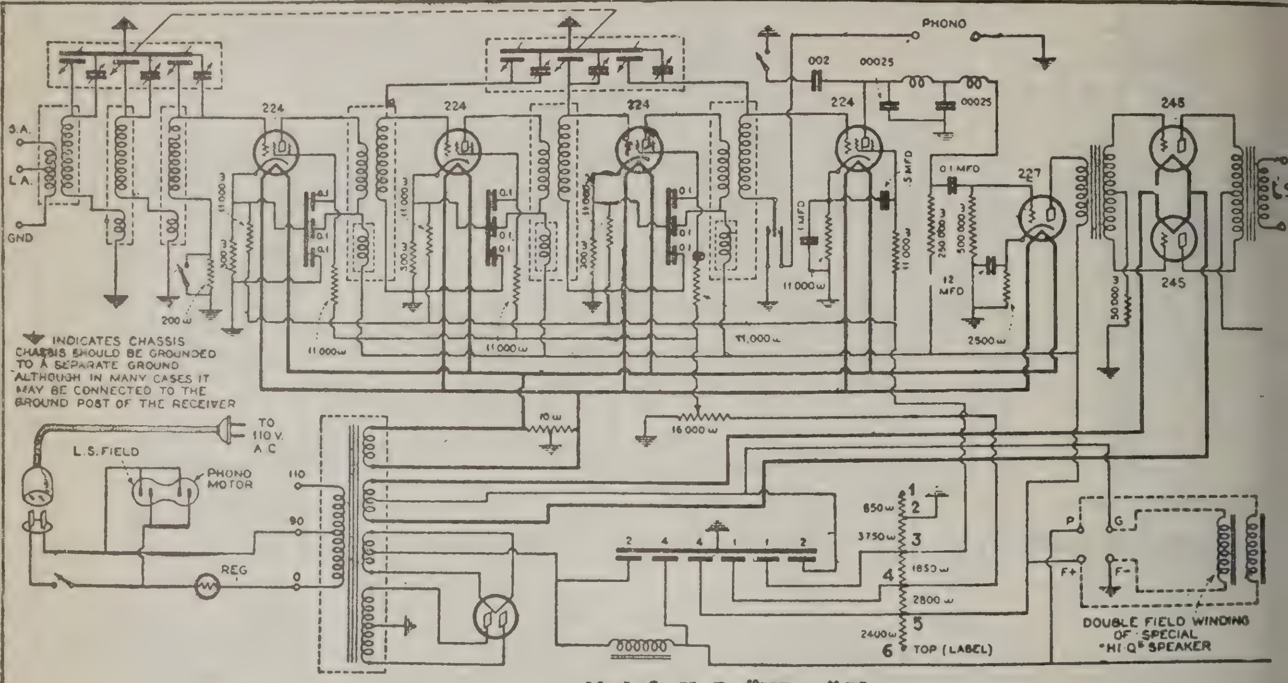
CIRCUIT DIAGRAM
OF
HAMMARLUND
"HI-Q 30"
A.C. RECEIVER

(CORR.)

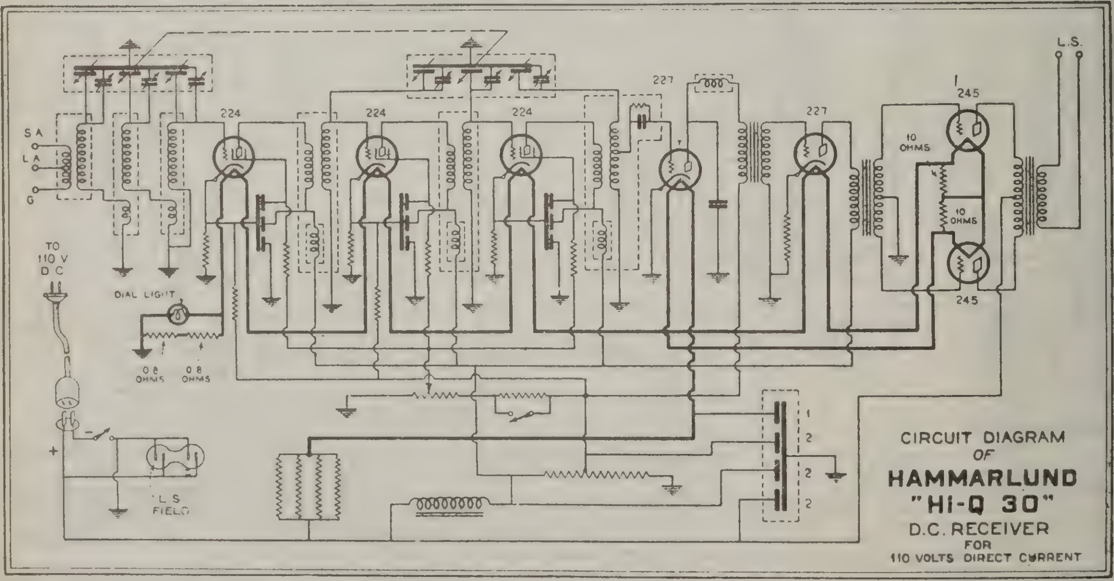

RECT.
CX-380
2 A.F.
CX-345
2 R.F.
C-324
3 R.F.
C-324
1 A.F.
C-327
1 R.F.
C-324
DET.
C-327

MODEL H-R "HI-Q"30
D.C.
MODEL H-R "HI-Q"31

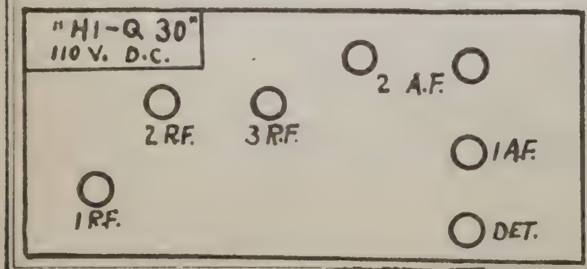
HAMMARLUND-ROBERTS, INC.


S.A.
L.A.
GND
224
224
224
224
227
245
245
PHONO
002
00025
00025
.01 MFD
.5 MFD
1 MFD
11000 ω
300 ω
200 ω
250 000
500 000
12 MFD
2500 ω
50 000
11 000 ω
11,000 ω
10 ω
16 000 ω
INDICATES CHASSIS SHOULD BE GROUNDED TO A SEPARATE GROUND ALTHOUGH IN MANY CASES IT MAY BE CONNECTED TO THE GROUND POST OF THE RECEIVER
TO 110 V. A.C.
L.S. FIELD
PHONO MOTOR
110
90
REG
0
650 ω
3750 ω
1650 ω
2800 ω
2400 ω
1
2
3
4
5
6
TOP (LABEL)
P
G
F+
F-
DOUBLE FIELD WINDING OF SPECIAL "HI-Q" SPEAKER

Model H-R "HI-Q"31


S A
L A
G
224
224
224
227
227
245
245
L.S.
10 OHMS
10 OHMS
TO 110 V D C
DIAL LIGHT
0.8 OHMS
0.8 OHMS
L S FIELD
1
2
2
2

CIRCUIT DIAGRAM OF HAMMARLUND "HI-Q 30" D.C. RECEIVER FOR 110 VOLTS DIRECT CURRENT


"HI-Q 30"
110 V. D.C.
2 A.F.
2 R.F.
3 R.F.
1 A.F.
1 R.F.
DET.

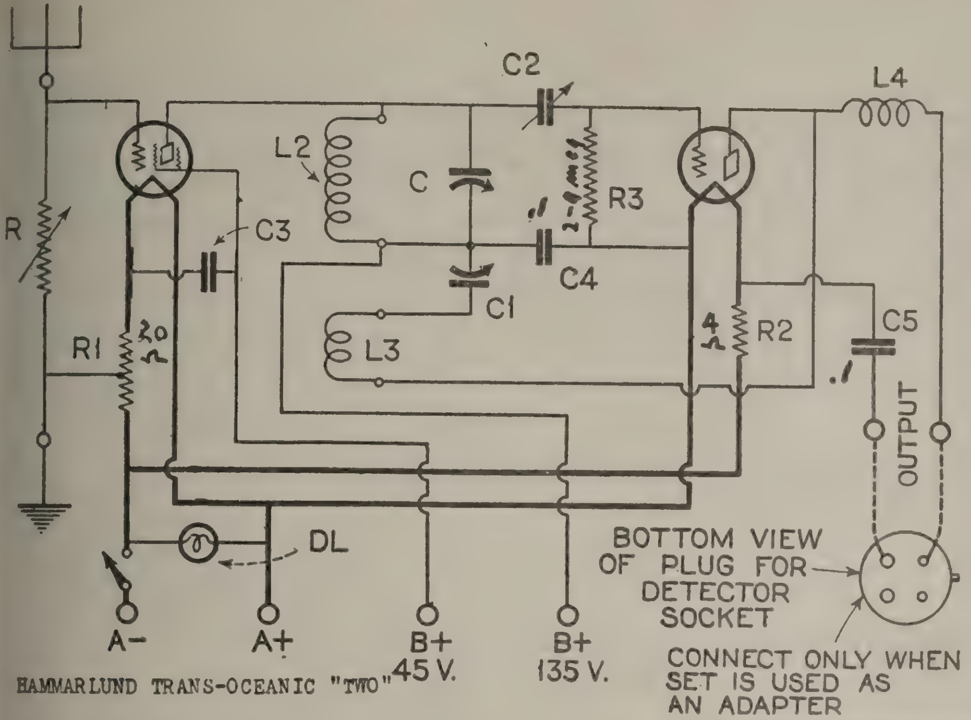
HI-Q 30 D.C.

Voltmeter readings from chassis to:

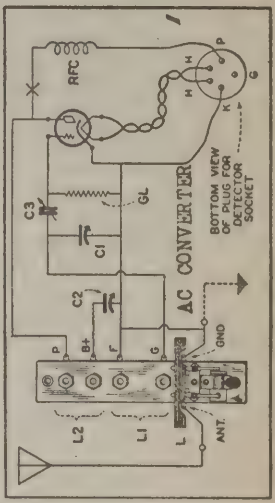
Top of voltage divider	- 110 V.
Middle tap	- 60 "
(P) term.of socket # 1, 2. 3 and 5	- 100 "
(P) " " " # 4	- 50 "
(P) " " " # 6 and 7	- 110 "
(G) " " " # 1, 2 and 3	- 20 "
(K) " " " # 1, 2 and 3	- 1-2 "
(K) " " " # 5	- 6 "

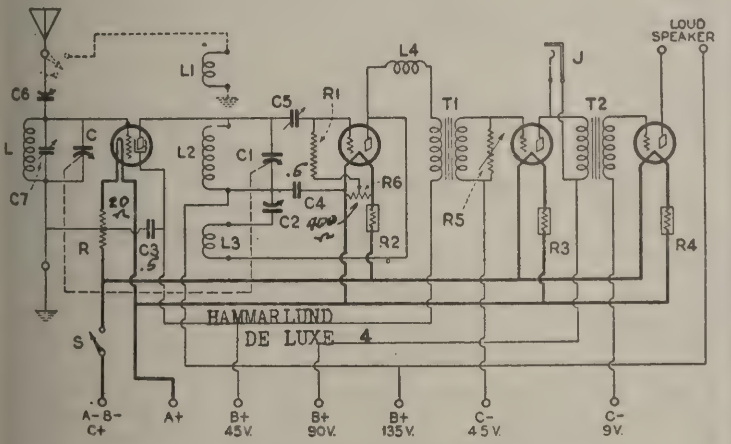
MODEL Hawk
MODEL DeLuxe
MODEL Z4 Commander
MODEL Trans-Oceanic Two
MODELS AC & DC Converters

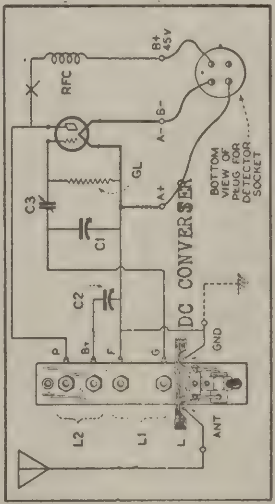
HAMMARLUND MFG. CO.


C2
L4
L2
C
R3
2-9 meg
.1
C3
C4
C1
R
R1
20 Ω
L3
4 Ω
R2
C5
.1
OUTPUT
DL
BOTTOM VIEW OF PLUG FOR DETECTOR SOCKET
CONNECT ONLY WHEN SET IS USED AS AN ADAPTER
A-
A+
B+ 45 V.
B+ 135 V.

HAMMARLUND TRANS-OCEANIC "TWO"


RFC
P
H
H
K
G
GL
C3
C1
C2
AC CONVERTER
BOTTOM VIEW OF PLUG FOR DETECTOR SOCKET
P
B+
F
G
GND
L2
L1
L
ANT.

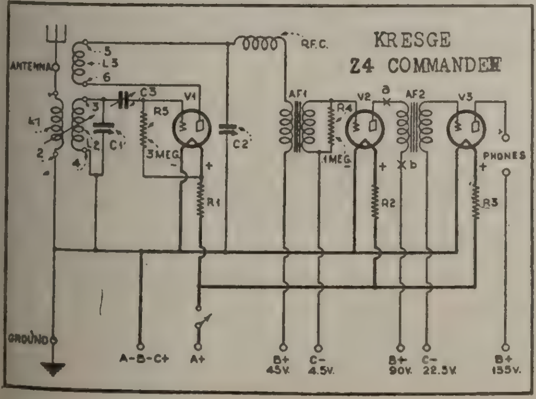

LOUD SPEAKER
L4
J
L1
C6
C5
R1
T1
T2
L
C
L2
C1
.6
R6
C7
20 Ω
C4
C2
400 Ω
R
L3
C3 .5
R2
R5
R3
R4
HAMMARLUND DE LUXE 4
S
A-B- C+
A+
B+ 45V.
B+ 90V.
B+ 135V.
C- 4.5V.
C- 9V.

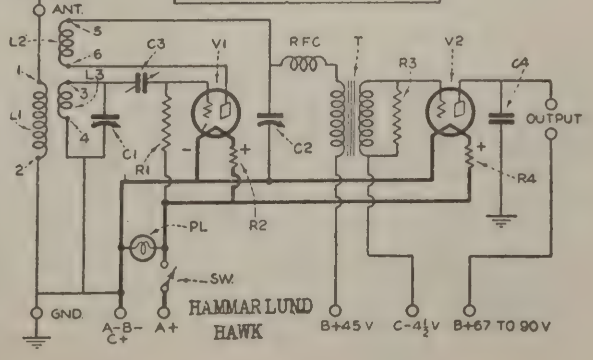

RFC
B+ 45v
B-
A-
A+
GL
C3
C1
C2
DC CONVERTER
BOTTOM VIEW OF PLUG FOR DETECTOR SOCKET
P
B+
F
G
GND
L2
L1
L
ANT

Coil Table

Wave Band (Meters)	Secondary Turns	Tickler Turns
14 to 24	3	3
22 to 40	7	5
36 to 65	15	6
60 to 110	24	12

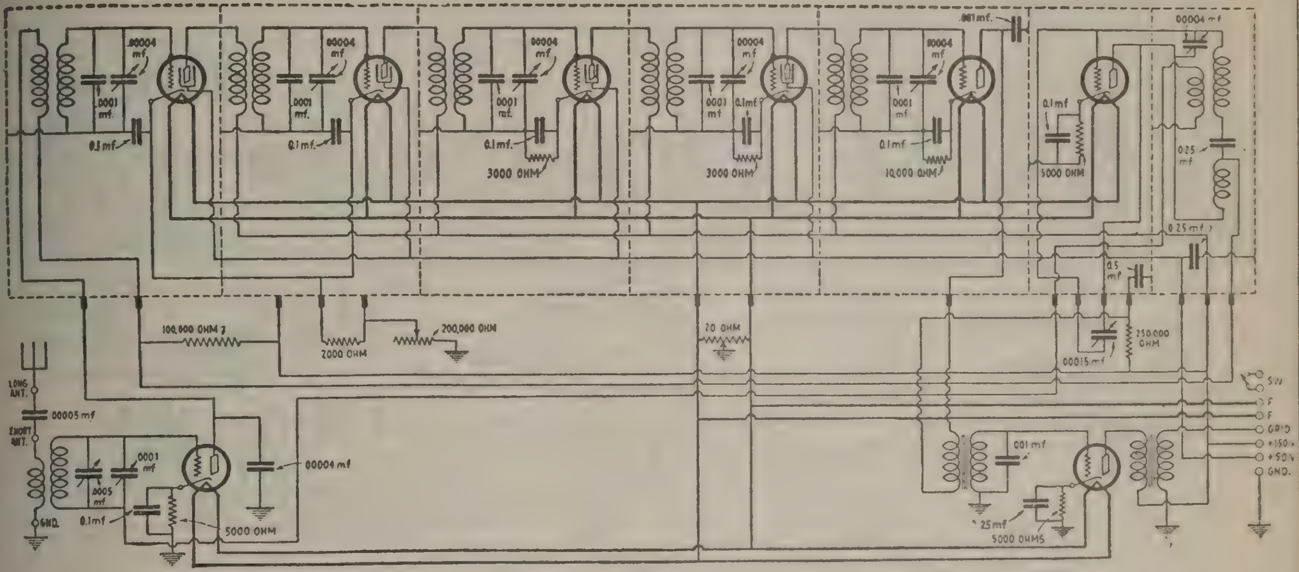
HAMMARLUND HAWK


KRESGE Z4 COMMANDER
R.F.C.
ANTENNA
5
L3
6
C3
V1
AF1
V2
AF2
V3
a
b
R5
R4
3MEG.
1MEG.
C1
C2
PHONES
R1
R2
R3
GROUND
A-B-C+
A+
B+ 45V.
C- 4.5V.
B+ 90V.
C- 22.5V.
B+ 135V.

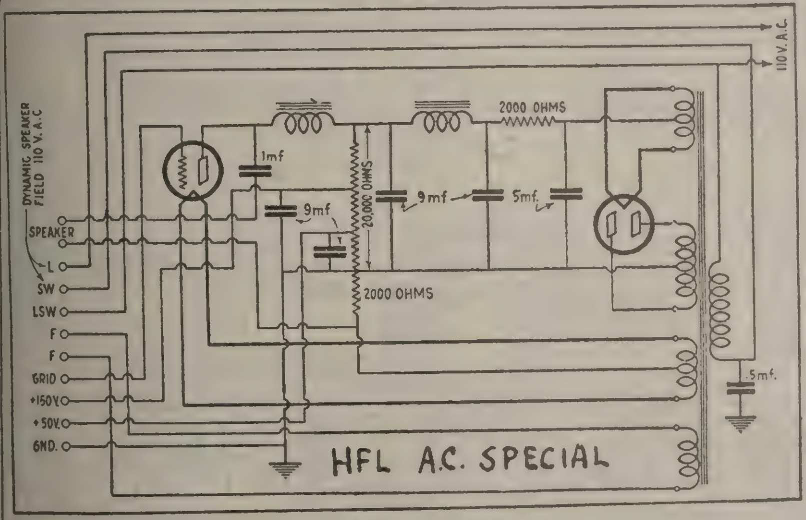

ANT.
L2
5
6
C3
V1
RFC
T
V2
L3
3
R3
C4
L1
4
C1
R1
C2
OUTPUT
R4
R2
PL
SW.
GND.
A-B- C+
A+
HAMMARLUND HAWK
B+45 V
C-4½V
B+67 TO 90 V

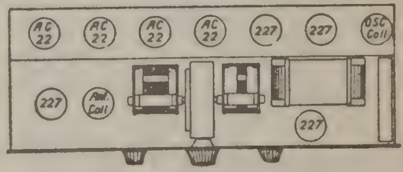
HIGH FREQUENCY LABORATORIES

MODEL A.C. Special
MODEL 9-in-Line

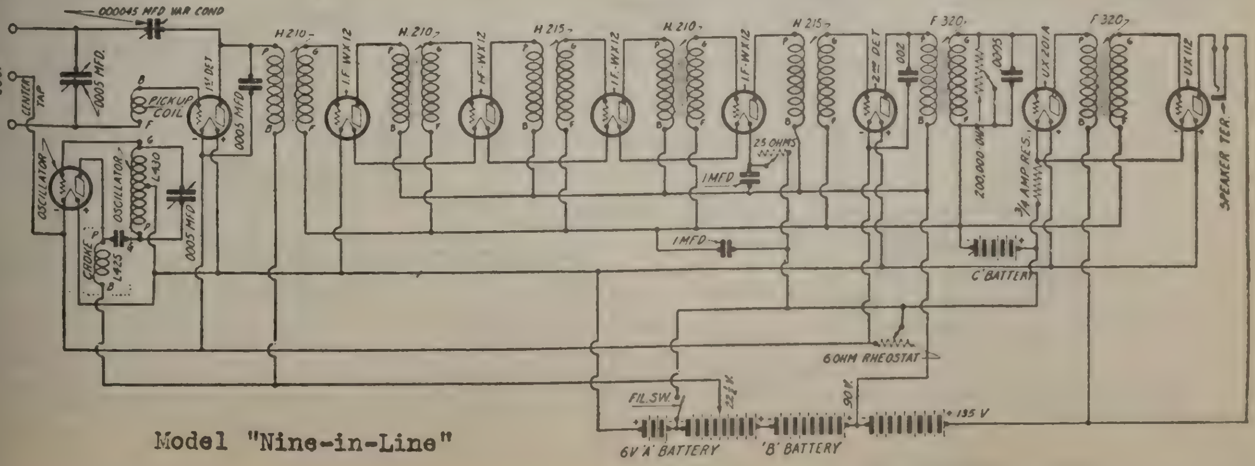

.00004 mf.
.0001 mf.
0.1 mf.
3000 OHM
10,000 OHM
5000 OHM
.001 mf.
.25 mf
0.5 mf
100,000 OHM
2000 OHM
200,000 OHM
20 OHM
250,000 OHM
.00015 mf
LONG ANT.
SHORT ANT.
.00005 mf
.0005 mf
.00004 mf
GND.
.01 mf
.25 mf
5000 OHMS
SW
F
F
GRID
+150 V
+50 V
GND.

Model "A.C.Special"


DYNAMIC SPEAKER FIELD 110 V. A.C.
110 V. A.C.
1mf
2000 OHMS
9mf
9mf
5mf.
20,000 OHMS
2000 OHMS
.5mf.
SPEAKER
L
SW
LSW
F
F
GRID
+150V.
+50V.
GND.
HFL A.C. SPECIAL


AC 22
AC 22
AC 22
AC 22
227
227
OSC Coil
227
Ant. Coil
227

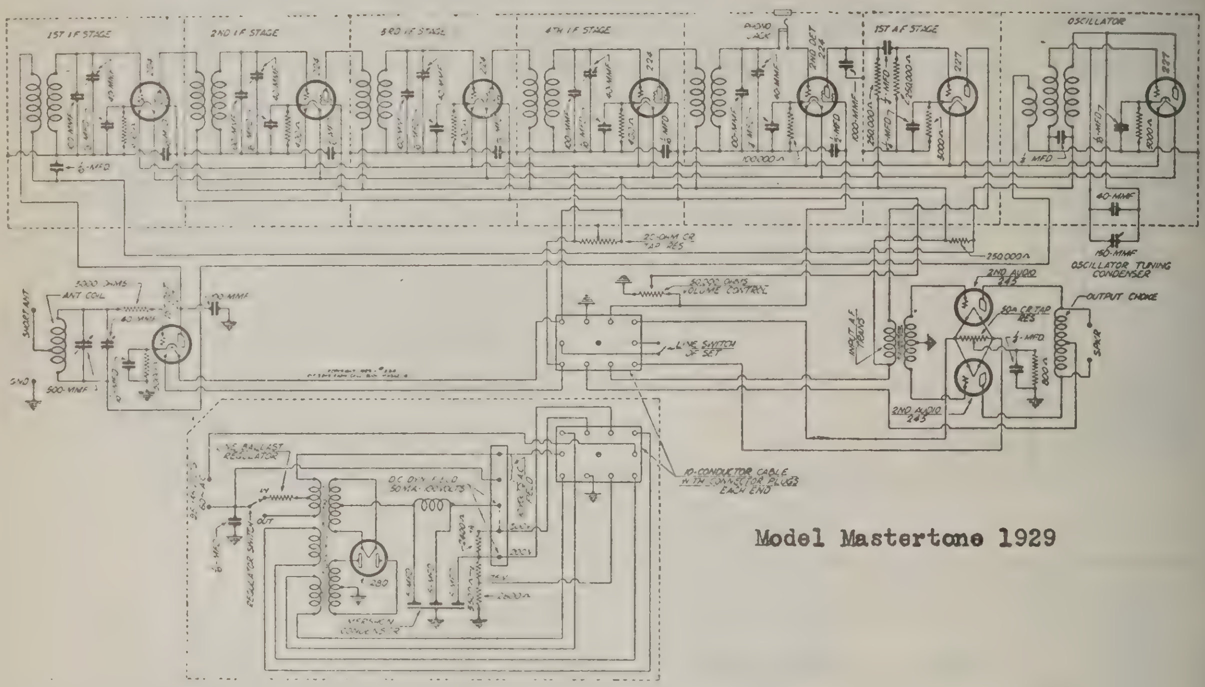
Tube layout showing position of respective tubes.


.000045 MFD VAR COND
LOOP
CENTER TAP
.0005 MFD.
PICKUP COIL
1st DET
.0005 MFD
OSCILLATOR
OSCILLATOR
LAJO
.0005 MFD
CHOKE
1425
H 210
I.F. WX12
H 210
I.F. WX12
H 215
I.F. WX12
H 210
I.F. WX12
H 215
2nd DET
.002
F 320
.0005
UX201A
F 320
UX112
SPEAKER TER.
25 OHMS
1 MFD
1 MFD
200,000 OHM
1/4 AMP RES.
C BATTERY
6 OHM RHEOSTAT
FIL. SW.
22½ V.
90 V.
+135 V
6V 'A' BATTERY
'B' BATTERY

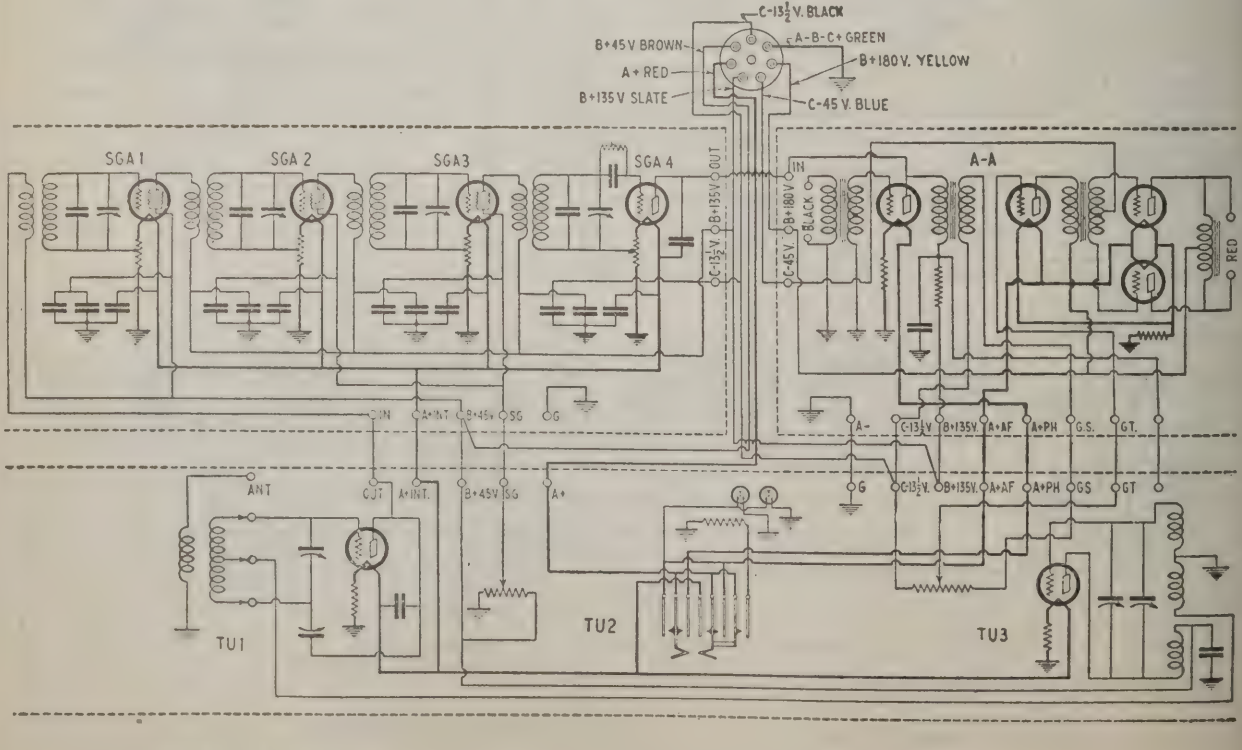
Model "Nine-in-Line"

MODEL Mastertone 1929
MODEL Isotone 10

HIGH FREQUENCY LABORATORIES


1ST I.F. STAGE
2ND I.F. STAGE
3RD I.F. STAGE
4TH I.F. STAGE
PHONO JACK
2ND DET 224
1ST A.F. STAGE
OSCILLATOR
224
227
250,000 Ω
40-MMF
150-MMF
OSCILLATOR TUNING CONDENSER
2ND AUDIO 245
OUTPUT CHOKE
SPKR
INPUT A.F. TRANS
50,000 OHMS VOLUME CONTROL
LINE SWITCH OF SET
ANT COIL
SHORT ANT
GND
500-MMF
LINE BALLAST REGULATOR
REGULATOR SWITCH
DC DYN. FIELD
280
10-CONDUCTOR CABLE WITH CONNECTOR PLUGS EACH END

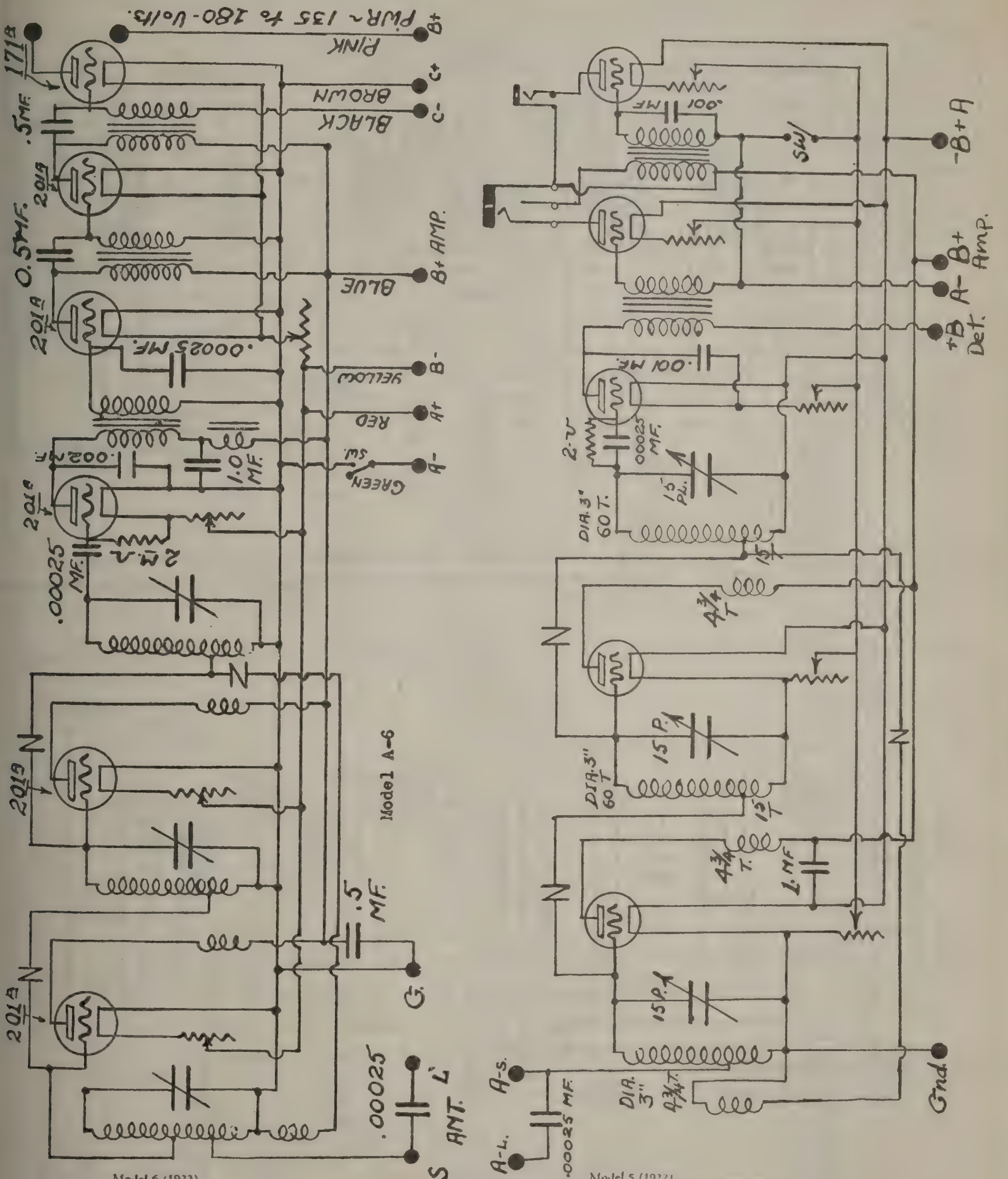
Model Mastertone 1929


C-13½ V. BLACK
B+45 V BROWN
A-B-C+ GREEN
A+ RED
B+180 V. YELLOW
B+135 V SLATE
C-45 V. BLUE
SGA 1
SGA 2
SGA 3
SGA 4
OUT
B+135V
C-13½ V.
IN
B+180V
C-45V.
BLACK
A-A
RED
IN
A+INT
B+45V
SG
G
A-
C-13½ V.
B+135V.
A+AF
A+PH
G.S.
GT.
ANT
OUT
A+INT.
B+45V
SG
A+
G
C-13½ V.
B+135V.
A+AF
A+PH
GS
GT
TU1
TU2
TU3

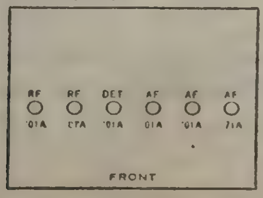
Model Isotone 10

HOWARD RADIO CO.

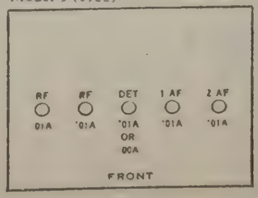
MODEL A-5
MODEL A-6


+ PWR - 135 to 180-Volts.
PINK
B+
BROWN
C+
BLACK
C-
171B
.5MF.
201A
0.5MF.
B+ AMP.
BLUE
201A
.00025 MF.
YELLOW
B-
RED
A+
SW.
GREEN
A-
.002 MF
1.0 MF.
201A
2 M.Ω
.00025 MF.
201A
.5 MF.
G.
201A
.00025
L'
ANT.
S
Model A-6
100
1 MF
SW
-B+A
B+ Amp.
A-
+B Det.
.001 MF.
2-V
.00025 MF.
15 PL.
DIA. 3" 60 T.
15 T
4 3/4 T
15 P.
DIA. 3" 60 T
15 T
4 3/4 T.
1. MF
15 P.
DIA. 3"
4 3/4 T.
Gnd.
A-S.
A-L.
.00025 MF.

Model 6 (1923)

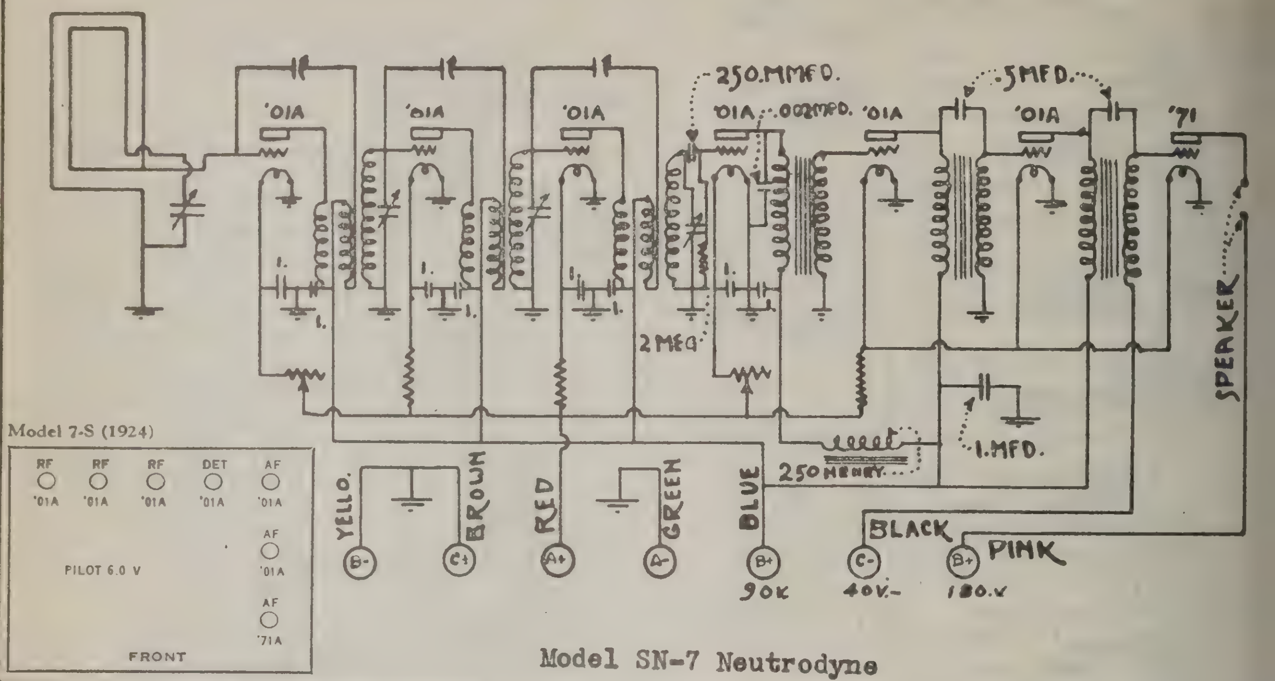

RF
RF
DET
AF
AF
AF
'01A
'01A
'01A
01A
'01A
71A
FRONT

Model 5 (1922)


RF
RF
DET
1 AF
2 AF
01A
'01A
'01A OR 00A
'01A
'01A
FRONT

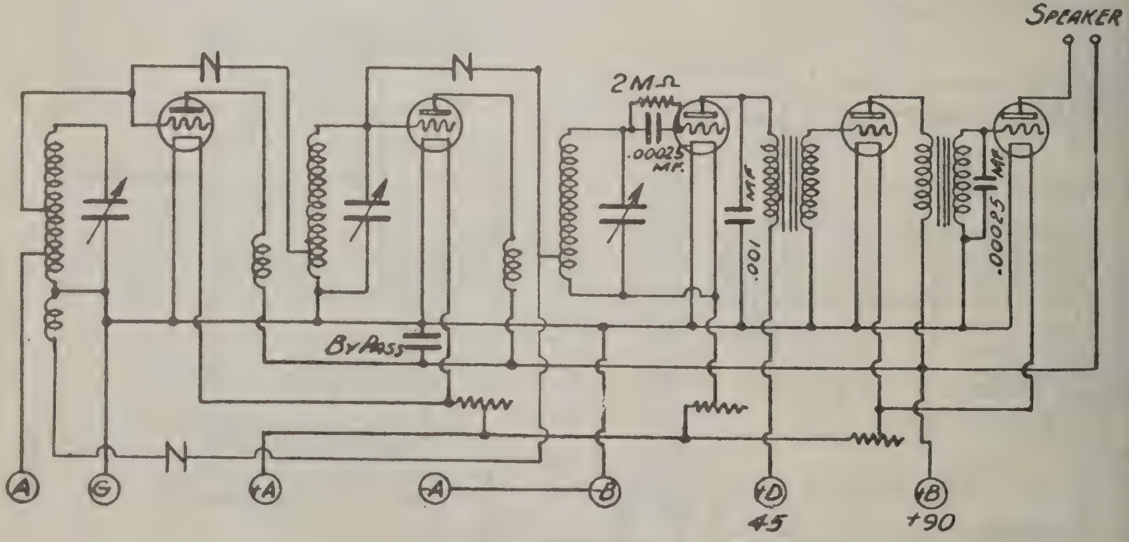
MODEL SN-7
MODEL K

HOWARD RADIO CO


-250.MMFD.
.5MFD.
'01A
'01A
'01A
'01A
.002MFD.
'01A
'01A
'71
2MEG
1.
1.MFD.
250 HENRY
SPEAKER
YELLO
BROWN
RED
GREEN
BLUE
BLACK
PINK
B-
C+
A+
A-
B+
C-
B+
90K
40V.-
180.V
RF
'01A
RF
'01A
RF
'01A
DET
'01A
AF
'01A
AF
'01A
AF
'71A
PILOT 6.0 V
FRONT

Model 7-S (1924)

Model SN-7 Neutrodyne

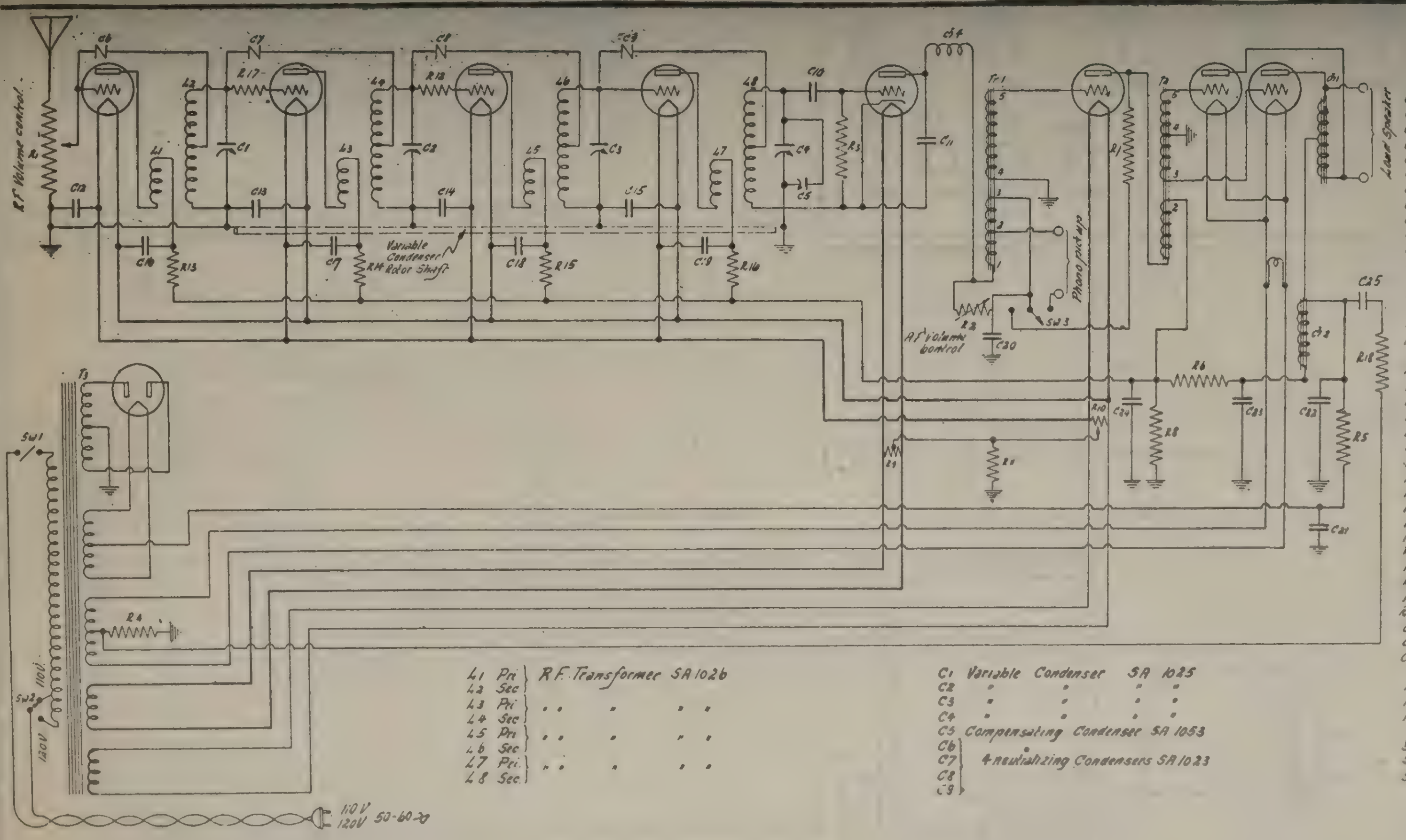

SPEAKER
N
N
2MΩ
.00025 MF.
.001 MF
.00025 MF
By Pass
N
A
G
+A
-A
B
+D
+B
45
+90

Model K

PAR No
DATE 10-1-25
REVISED
HOWARD RADIO CO.
SOUTH HAVEN MICHIGAN
NAME SCHEMATIC DIAGRAM
OF HOWARD RECEIVER MODEL K
MATERIAL
DRAWN BY WRH
FINISH
CK
APP

MODEL Green Diamond 8
(Magnetic Speaker)

HOWARD RADIO CO.


RF Volume control
R1
C6
C7
C8
C9
L1
L2
L3
L4
L5
L6
L7
L8
C1
C2
C3
C4
C5
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C24
C25
R2
R3
R4
R5
R6
R8
R9
R10
R11
R13
R14
R15
R16
R17
R18
Variable Condenser RH Rotor Shaft
Ch1
Ch2
Ch4
Tr1
Tr2
Tr3
Phono pickup
SW3
AF Volume control
Loud Speaker
SW1
SW2
110V
120V
110V 120V 50-60 ~

L1 Pri } R.F. Transformer SA1026
L2 Sec }
L3 Pri } " " " "
L4 Sec }
L5 Pri } " " " "
L6 Sec }
L7 Pri } " " " "
L8 Sec }

C1 Variable Condenser SA 1025
C2 " " " "
C3 " " " "
C4 " " " "
C5 Compensating Condenser SA 1053
C6 }
C7 } 4 neutralizing Condensers SA1023
C8 }
C9 }

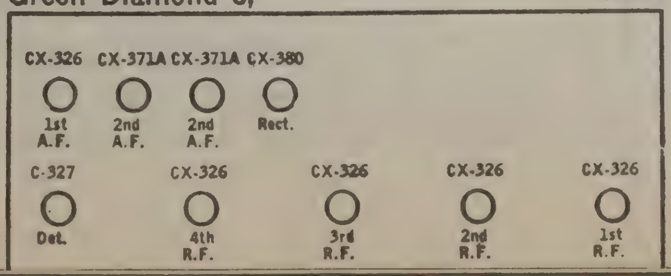
C10 grid Condenser P1697
C11 By Pass Condenser P1698
C12 By Pass Condenser P1663 } ½ MF each
C13 " " " " }
C14 " " " " }
C15 " " " " }
C16 " " " P1662 } ¼ MF each
C17 " " " " }
C18 " " " " }
C19 " " " " }
C21 filter Cond. } P1664B
C22 " " }
C24 " " } P1665C
C20 " " }
C25 By Pass Condenser P1614
R1 Var. Potentiometer RF Volume Control P1683A 300Ω
R2 Var Resistor RF Volume Control P1685A
R3 grid leak P1612 2000Ω (50 MΩ)
R4 Resistor P1674 1000Ω
R5 " P1668
R6 " P1666
R7 " P1718
R8 " P1717 50000Ω
R9 C.T " P1700 10Ω CT
R10 potentiometer P1000
R11 P1667 450Ω
R12 P1687 } 200Ω each
R13 P1687 }
R14 P1687 }
R15 P1687 }
R16 P1687 }
R17 P1691 — 100Ω
R18 Resistor P 1693
ch1 output choke P1646 - SA1046
ch2 filter choke P1649 - SA1049
ch4 R.F. choke SA1027

Tr1 1st A.F. Transformer P1641 - SA1041
Tr2 Pushpull input transformer P1642 - SA1042
Tr3 Power Transformer SA1050

SW1 Set Switch S.P.S.T P1643
SW2 Line " on Tr 3
SW3 Phono-Radio Switch S.P.D.T. P1639

HOWARD RADIO CO
4949 N CRAWFORD AVE CHICAGO ILL
Schematic Wiring Diagram
Green Diamond-Model 8
DATE — 9-11-28
DWN. — HAI
W1408

Green Diamond 8, (A.C.)

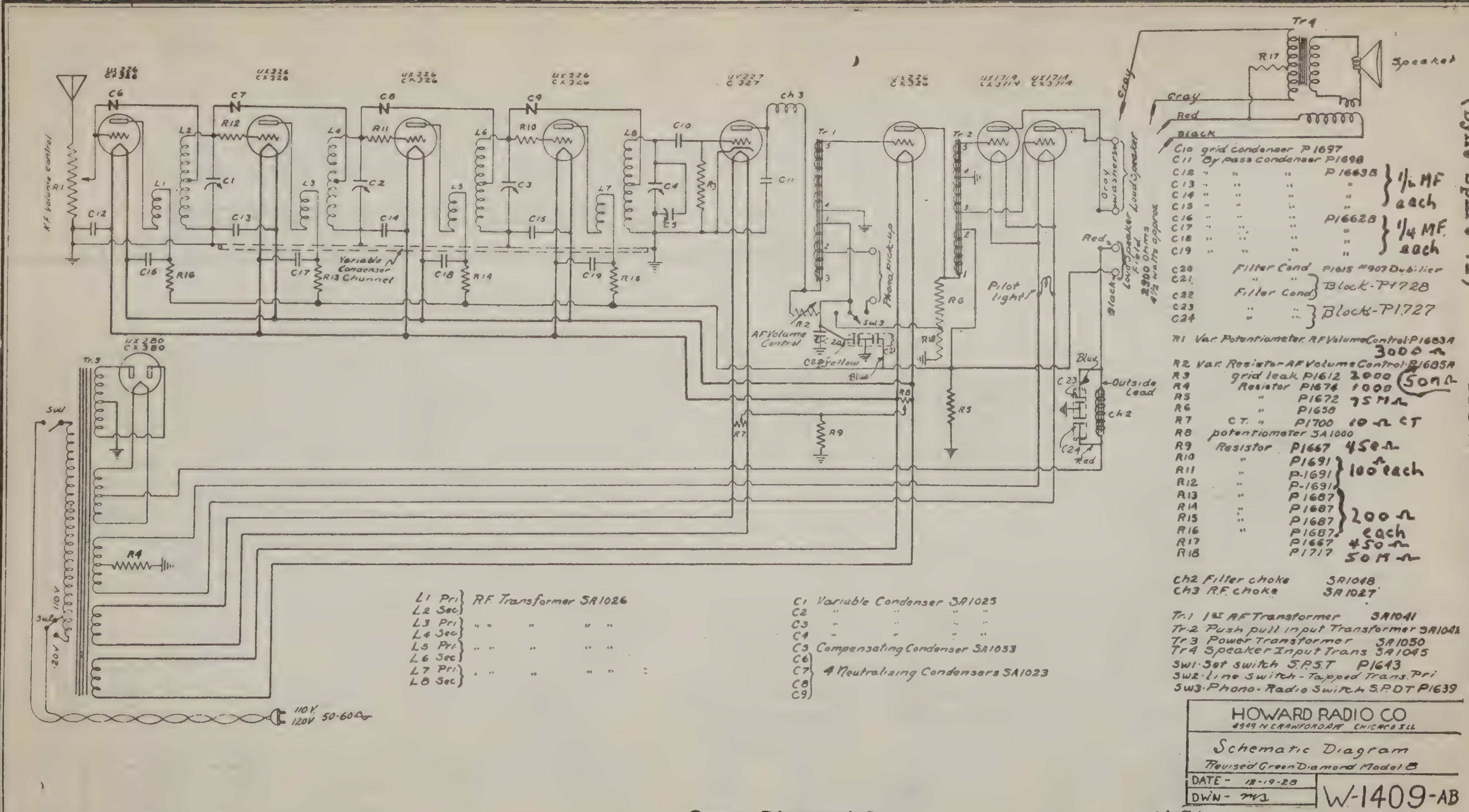

CX-326
CX-371A
CX-371A
CX-380
1st A.F.
2nd A.F.
2nd A.F.
Rect.
C-327
CX-326
CX-326
CX-326
CX-326
Det.
4th R.F.
3rd R.F.
2nd R.F.
1st R.F.

HOWARD—Green—Diamond 8
Line Voltage 115—2nd A. F. 2 Tubes—Push Pull

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
2	226	2nd.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
3	226	3rd.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
4	226	4th.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
5	227	Det.	2.3	110	2.1	23	0	9	1.4	1.4	0.0
6	226	1st.A.F.	1.3	136	1.2	124	8	-	4.4	8.2	3.8
7	171	2nd.A.F.	4.5	176	4.4	161	32	-	13	14	1.0
8	171	2nd.A.F.	4.5	176	4.4	161	32	-	13	14	1.0
9	280	Rectifier	4.7	-	4.5	-	-	-	26	-	-

MODEL Green Diamond 8
(Dyn. Spkr.'71)

HOWARD RADIO CO.


UX226 CX326
UX226 CX326
UX226 CX326
UX226 CX326
UX227 C327
UX226 CX326
UX171A CX371A
UX171A CX371A
C6
C7
C8
C9
R1
R.F. volume control
C12
L1
L2
R12
C1
C13
L3
L4
R11
C2
C14
L5
L6
R10
C3
C15
L7
L8
C16
R16
C17
R13 Channel
Variable Condenser
C18
R14
C19
R15
C10
C4
C5
R3
C11
Ch 3
Tr 1
Phono pick-up
Sw3
R2
AF Volume Control
C20
C21
C22 Yellow
Blue
R8
R7
R9
Tr 2
R6
R18
R5
Pilot lights
Gray washers
Loud Speaker
Red
Black
Loud Speaker Field
2900 ohms
4½ watts approx
Blue
C23
Outside Lead
Ch2
C24
Red
Gray
Gray
Red
Black
Tr 4
R17
Speaker
UX280 CX380
Tr.3
Sw
Sw2
110V
120V
R4
110V 120V 50-60~
L1 Pri} RF Transformer SA1026
L2 Sec}
L3 Pri} " "
L4 Sec}
L5 Pri} " "
L6 Sec}
L7 Pri} " "
L8 Sec}
C1 Variable Condenser SA1025
C2 " "
C3 " "
C4 " "
C5 Compensating Condenser SA1053
C6
C7 4 Neutralizing Condensers SA1023
C8
C9

C10 grid condenser P1697
C11 By pass condenser P1698
C12 " " " P1663B } ½ MF each
C13 " " " "
C14 " " " "
C15 " " " "
C16 " " " P1662B } ¼ MF each
C17 " " " "
C18 " " " "
C19 " " " "
C20 Filter Cond P1615 #907 Dubilier
C21 " " } Black-P1728
C22 Filter Cond }
C23 " " } Black-P1727
C24 " " }

R1 Var. Potentiometer. RF Volume Control P1683A 3000 Ω
R2 Var. Resistor-AF Volume Control P1685A
R3 grid leak P1612 2000 (50nΩ
R4 Resistor P1674 1000
R5 " P1672 75 MΩ
R6 " P1650
R7 C.T. " P1700 10 Ω CT
R8 potentiometer SA1000
R9 Resistor P1667 450 Ω
R10 " P1691 } 100 Ω each
R11 " P-1691
R12 " P-1691
R13 " P1687 } 200 Ω each
R14 " P1687
R15 " P1687
R16 " P1687
R17 P1667 450 Ω
R18 P1717 50 M Ω

Ch2 Filter choke SA1048
Ch3 R.F. choke SA1027

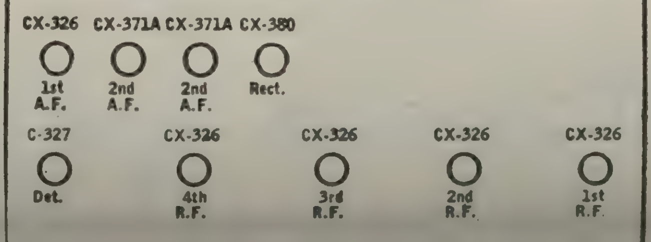
Tr.1 1st AF Transformer SA1041
Tr.2 Push pull input Transformer SA1042
Tr3 Power Transformer SA1050
Tr4 Speaker Input Trans SA1045
Sw1 Set switch S.P.S.T P1643
Sw2 line switch - Tapped Trans. Pri
Sw3 Phono-Radio Switch S.P.D.T P1639

HOWARD RADIO CO
4949 N CRAWFORD AVE CHICAGO ILL
Schematic Diagram
Revised Green Diamond Model 8
DATE - 12-19-28
DWN - M.J.
W-1409-AB

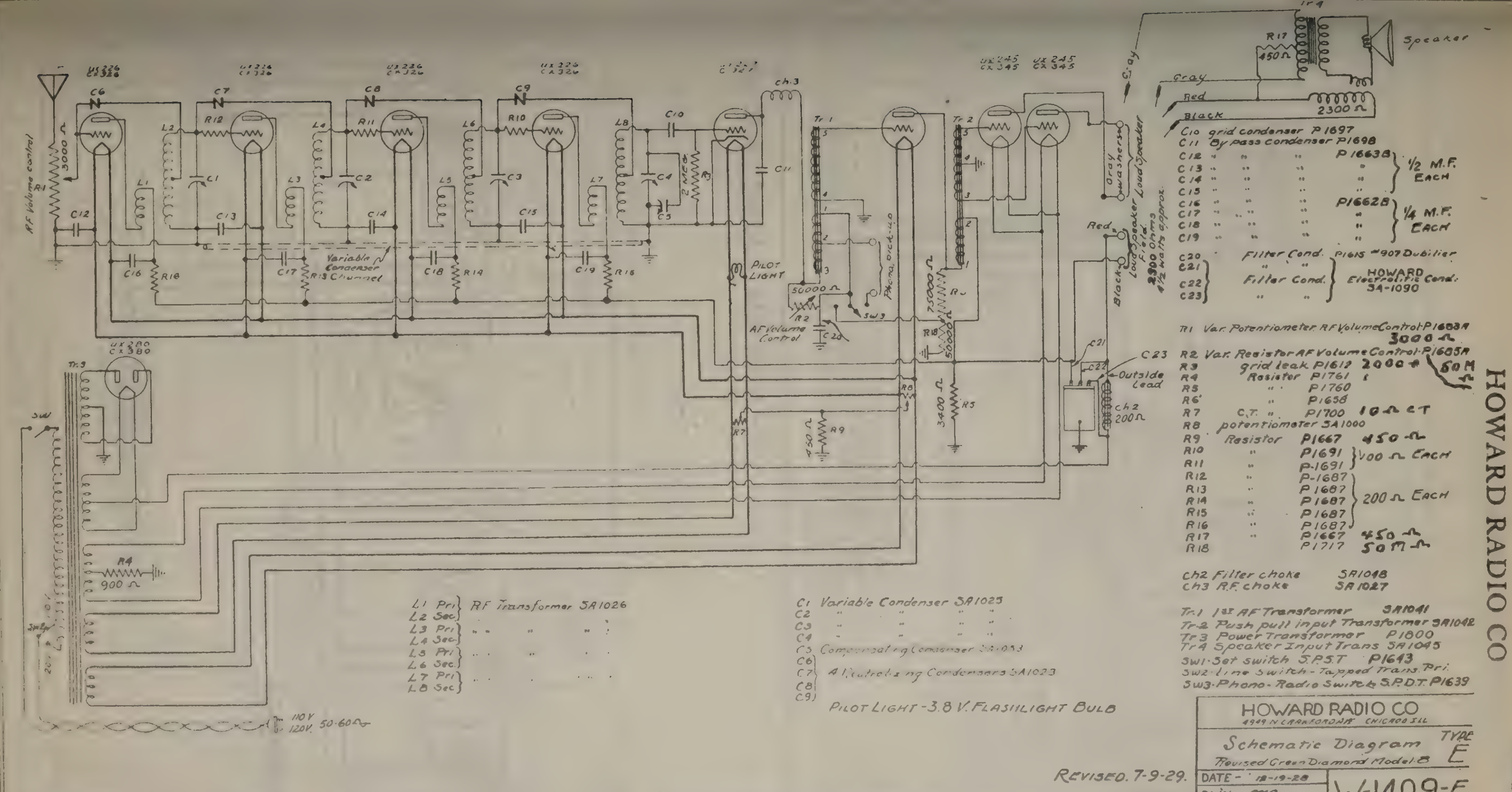
HOWARD—Green—Diamond 8
Line Voltage 115—2nd A. F. 2 Tubes—Push Pull

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	G VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
[illegible]	226	1st.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
[illegible]	226	2nd.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
[illegible]	226	3rd.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
[illegible]	226	4th.R.F.	1.3	136	1.2	132	9	-	4.4	8.2	3.8
[illegible]	227	Det.	2.3	110	2.1	23	0	9	1.4	1.4	0.0
[illegible]	226	1st.A.F.	1.3	136	1.2	124	8	-	4.4	8.2	3.8
7	171	2nd.A.F.	4.5	176	4.4	161	32	-	13	14	1.0
[illegible]	171	2nd.A.F.	4.5	176	4.4	161	32	-	13	14	1.0

Green Diamond 8,
(A.C.)

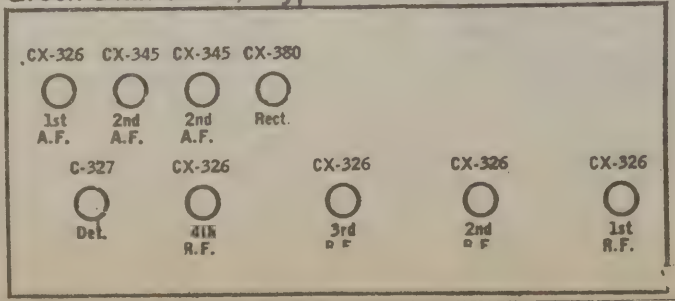

CX-326
CX-371A
CX-371A
CX-380
1st A.F.
2nd A.F.
2nd A.F.
Rect.
C-327
CX-326
CX-326
CX-326
CX-326
Det.
4th R.F.
3rd R.F.
2nd R.F.
1st R.F.

MODEL Green Diamond 8 (Dyn. Spkr. '45)


HOWARD RADIO CO
RF Volume control
R1
3000 Ω
C6
C7
C8
C9
UX226 CX326
L1
L2
L3
L4
L5
L6
L7
L8
R10
R11
R12
C1
C2
C3
C4
C5
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
R13
R14
R15
R16
R18
Variable Condenser
2 MEG
R3
ch 3
C-327
Tr 1
Tr 2
Tr 3
Tr 4
PILOT LIGHT
50000 Ω
R2
AF Volume Control
C20
SW3
Phono. pick-up
75000 Ω
R6
R8 50000 Ω
3400 Ω
R5
R7
R9
450 Ω
UX245 CX345
Gray
washers
Loud Speaker
Field
Loud Speaker
2300 Ohms
4½ watts approx.
Red
Black
C21
C22
C23
Outside Lead
ch2 200 Ω
UX280 CX380
SW
R4
900 Ω
110V 120V. 50-60 ∿
R17
450 Ω
2300 Ω
Gray
Red
Black
Speaker
C10 grid condenser P1697
C11 By pass condenser P1698
C12 " " " P1663B } ½ M.F. EACH
C13 " " " "
C14 " " " "
C15 " " " "
C16 " " " P1662B } ¼ M.F. EACH
C17 " " " "
C18 " " " "
C19 " " " "
C20 Filter Cond. P1615 #907 Dubilier
C21 " "
C22 Filter Cond. } HOWARD Electrolitic Cond. SA-1090
C23 " "
R1 Var. Potentiometer RF Volume Control P1683A 3000 Ω
R2 Var. Resistor AF Volume Control P1685A 50 M Ω
R3 grid leak P1612 2000 Ω
R4 Resistor P1761
R5 " P1760
R6 " P1658
R7 C.T. " P1700 10 Ω CT
R8 potentiometer SA1000
R9 Resistor P1667 450 Ω
R10 " P1691 } 400 Ω EACH
R11 " P-1691
R12 " P-1687 } 200 Ω EACH
R13 " P1687
R14 " P1687
R15 " P1687
R16 " P1687
R17 " P1667 450 Ω
R18 P1717 50 M Ω
Ch2 Filter choke SA1048
Ch3 R.F. choke SA1027
Tr.1 1st AF Transformer SA1041
Tr.2 Push pull input Transformer SA1042
Tr.3 Power Transformer P1800
Tr.4 Speaker Input Trans SA1045
SW1 Set switch S.P.S.T P1643
SW2 line switch - Tapped Trans. Pri.
SW3 Phono-Radio Switch S.P.D.T. P1639
L1 Pri } RF Transformer SA1026
L2 Sec
L3 Pri } " " " "
L4 Sec
L5 Pri } " " "
L6 Sec
L7 Pri } " " "
L8 Sec
C1 Variable Condenser SA1025
C2 " " "
C3 " " "
C4 " " "
C5 Compensating Condenser SA1033
C6 } Alternating Condensers SA1023
C7
C8
C9
PILOT LIGHT - 3.8 V. FLASHLIGHT BULB
HOWARD RADIO CO
4949 N CRAWFORD AVE CHICAGO ILL
Schematic Diagram
Revised Green Diamond Model 8
TYPE E
DATE - 12-19-28
DWN - M.J.
W-1409-E
REVISED. 7-9-29.

Green Diamond 8, Type SH

(A.C.)


CX-326
1st A.F.
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-380
Rect.
C-327
Det.
CX-326
4th R.F.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.

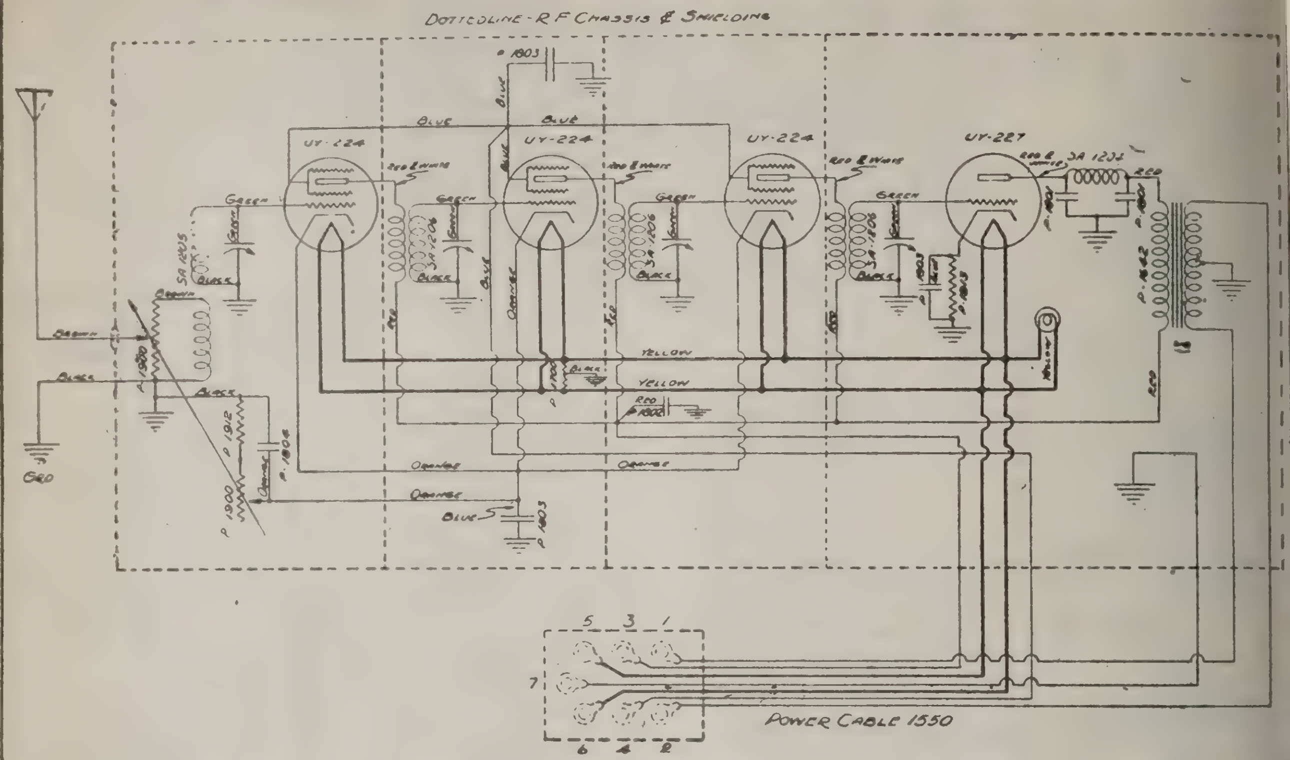
HOWARD—Model SH-245

Line Voltage 120—Set on High Volt Tap—Volume Control Position No Change

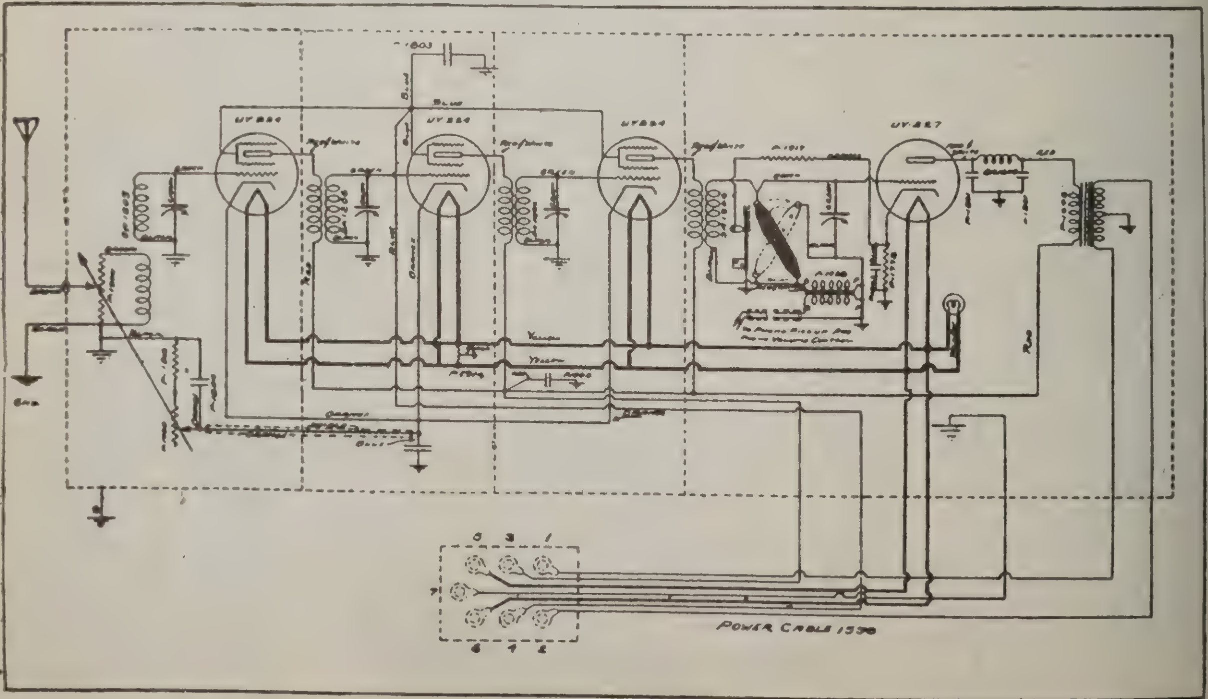
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS CONTROL GRID	CATHODE-HEATER VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE CHANGE MA	SCREEN GRID VOLTS
1	226	1st RF	1.4	120	1.35	116	8	-	4.5	7.5	3	-
2	226	2nd RF	1.4	120	1.35	116	8	-	4.5	7.5	3	-
3	226	3rd RF	1.35	120	1.3	116	8	-	4.5	7.5	3	-
4	226	4th RF	1.35	120	1.3	116	8	-	4.5	7.5	3	-
5	227	Det.	2.25	44	2.1	20	-	-	.8	-	-	-
6	226	1st A	1.35	[illegible]	1.3	116	8	-	2.2	5.4	3.2	-
7	245	2nd A	2.2	245	2.1	235	36	-	22	26	9	-
8	245	2nd A	2.2	245	2.1	235	36	-	22	26	4	-
9	280	Rect.	5	-	4.8	-	-	-	100	-	-	-

MODEL SG "A"
RF Chassis
MODEL SG "C"
RF Chassis

HOWARD RADIO CO.


DOTTEDLINE - R F CHASSIS & SHIELDING
UY-224
UY-224
UY-224
UY-227
BLUE
BLUE
BLUE
RED & WHITE
RED & WHITE
RED & WHITE
RED & WHITE
GREEN
GREEN
GREEN
GREEN
BLACK
BLACK
BLACK
BLACK
BROWN
BROWN
SA 1205
SA 1206
SA 1206
SA 1206
SA 1202
P 1803
P 1803
P 1804
P 1912
P 1900
P 1802
P 1642
P 1813
RED
RED
RED
ORANGE
ORANGE
ORANGE
ORANGE
YELLOW
YELLOW
YELLOW
GRD
5
3
1
7
6
4
2
POWER CABLE 1550

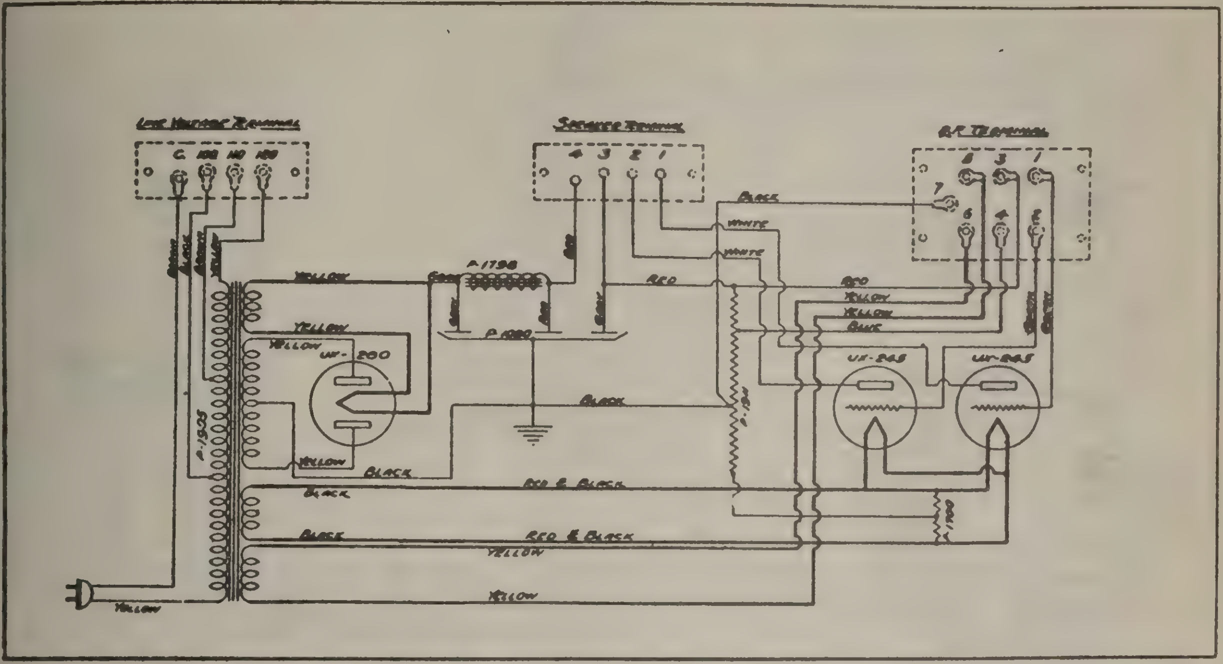
R.F. Chassis Model S.G."A"


P 1803
BLUE
BLUE
UY-224
UY-224
UY-224
UY-227
RED & WHITE
RED & WHITE
RED & WHITE
GREEN
GREEN
P 1917
RED
YELLOW
YELLOW
ORANGE
BLUE
GND
5
3
1
7
6
4
2
POWER CABLE 1550

R.F.Chassis Model S.G."C"

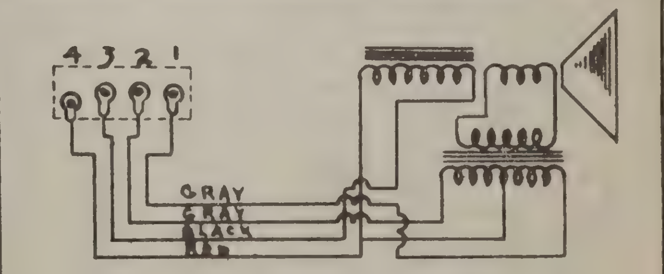
HOWARD RADIO CO

MODEL SG"A"
AF Chassis
MODEL SG"C"
AF Chassis
Voltage


Line Voltage Terminal
C
100
110
120
Speaker Terminal
4
3
2
1
R.F. Terminal
8
3
1
7
6
4
2
P-1798
P-1080
UX-280
UX-245
UX-245
P-1935
YELLOW
YELLOW
YELLOW
YELLOW
YELLOW
YELLOW
YELLOW
YELLOW
RED
RED
WHITE
WHITE
BLACK
BLACK
BLACK
BLACK
BLACK
BLUE
RED & BLACK
RED & BLACK

Power Unit and A.F.Amplifier for HOWARD Models S.G."A" and S.G."C"

R.F.Chassis Term.Plate.			
1	Gray	Audio Grid	
2	Gray	Audio Grid	
3	Red	B +	175 Volts
4	Blue	B +	70 "
5	Yellow	Fil.	2.25 "
6	Yellow	Fil.	2.25 "
7	Black	B -	Ground


4
3
2
1
GRAY
GRAY
BLACK
RED

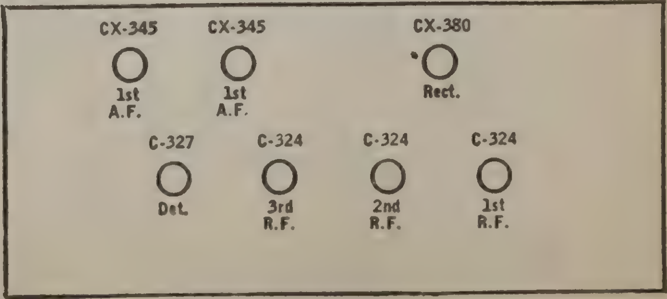
Dyn. Speaker
for models S.G."A" and S.G."C".

HOWARD RADIO—Model A—Screen Grid
Line Voltage 110—Set on 110 Volt Tap
Volume Control Position Max
*Detector Plate Voltage on Phone Combination

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det., etc. ③	Readings, Plug in Socket of Set Tube Out A Volts ④	 B Volts ⑤	 Tube in Tester A Volts ⑥	 B Volts ⑦	 C Volts (Control Grid) ⑧	 Cathode-Heater Volts ⑨	 Normal Plate ⑩ M A	 Plate M A Grid ⑪ Test	 Plate Change ⑫ M A	 Screen Grid ⑬ Volts
1	224	1 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3	1.0	64
2	224	2 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3	1.0	64
3	224	3 R.F.	2.40	171	2.26	164	2.7	1.9	3.3	4.3	1.0	64
4	227	Det.	2.45	161	2.32	*150	15.1X	11.6	1.1	1.4	0.3	-
5	245	P. P.	2.33	272	2.21	251	47.0	-	26	30	4.0	-
6	245	P. P.	2.33	272	2.21	251	47.0	-	26	30	4.0	-
7	280	Rect.	5.54	-	4.66	-	-	-	64	-	-	-

SG-A

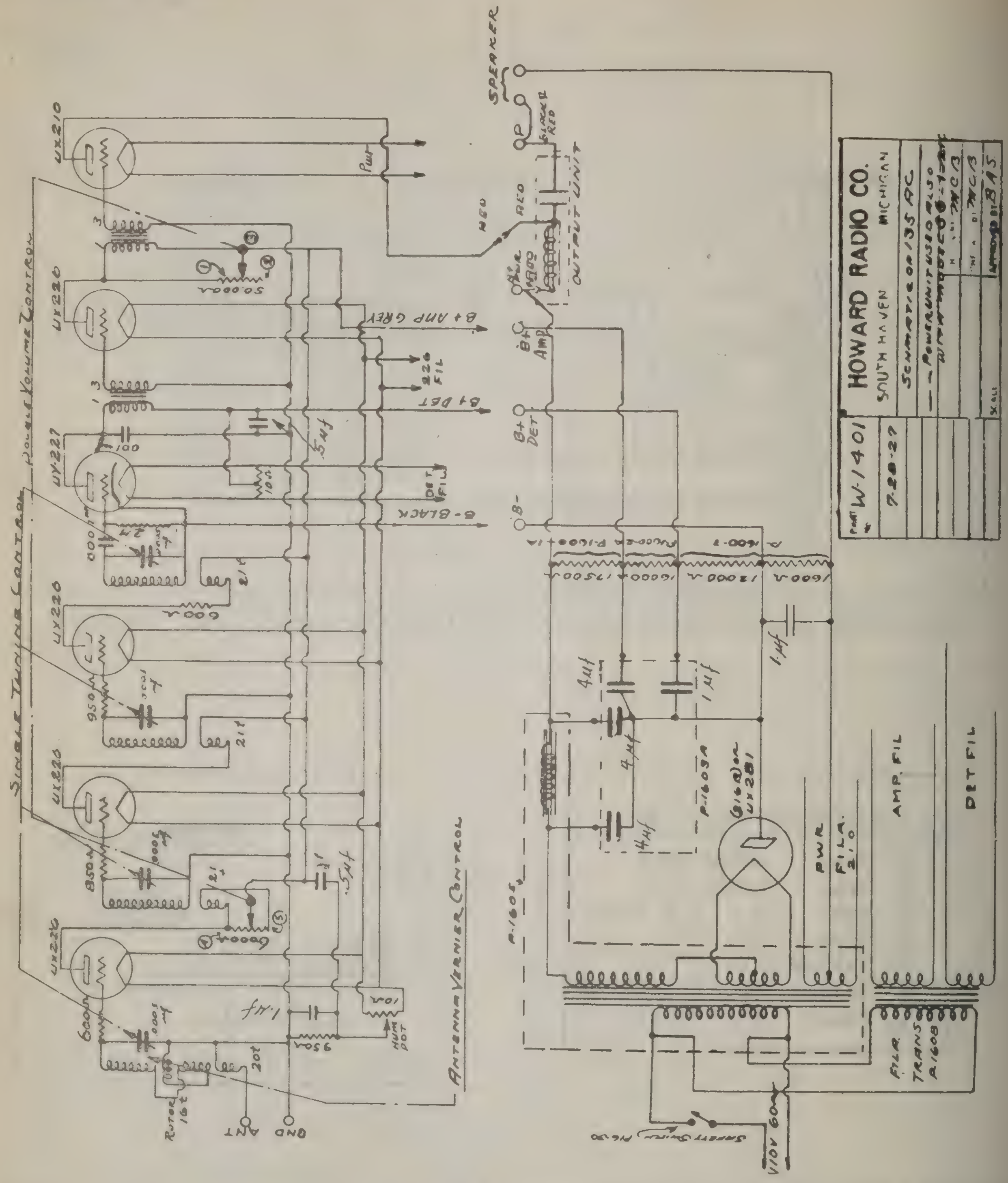
(A.C.)


CX-345
1st A.F.
CX-345
1st A.F.
CX-380
Rect.
C-327
Det.
C-324
3rd R.F.
C-324
2nd R.F.
C-324
1st R.F.

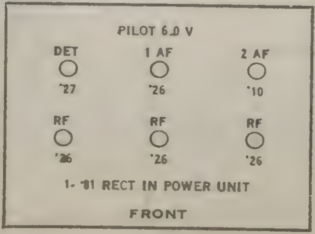
XDetector coil shorted to give correct voltage when measuring detector

MODEL 395,445,470,495
(135-AC Chassis)

HOWARD RADIO CO.

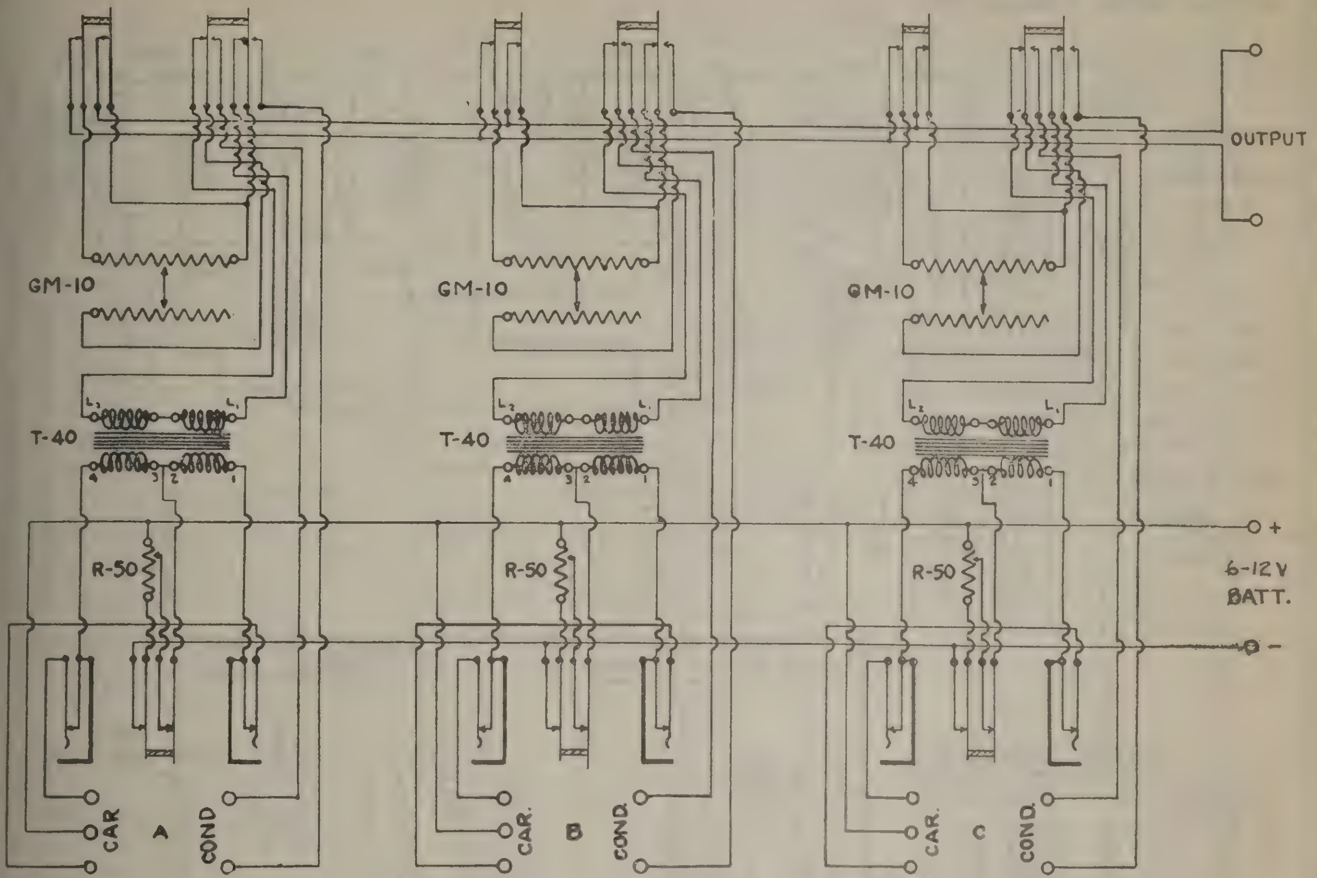

SPEAKER
OUTPUT UNIT
UX210
UX226
UY227
PWR
50,000Ω
B+ AMP GREY
B+ AMP
226 FIL
B+ DET
DET FIL
B- BLACK
B-
100
10Ω
.5 MF
600Ω
950Ω
850Ω
600Ω
6000Ω
95Ω
10Ω
HUM POT
1 MF
ROTOR 16t
20t
ANT
GND
DOUBLE VOLUME CONTROL
SINGLE TUNING CONTROL
ANTENNA VERNIER CONTROL
P-1600-1A
P-1603A
P-1605
4 MF
1 MF
UX281
PWR FIL 2.0
AMP FIL
DET FIL
FIL TRANS A1608
110V 60~
SAFETY SWITCH
HOWARD RADIO CO.
SOUTH HAVEN MICHIGAN
W-1401
7-28-27
SCHEMATIC 135 AC

Models 135, 395, 445, 470, (1927)

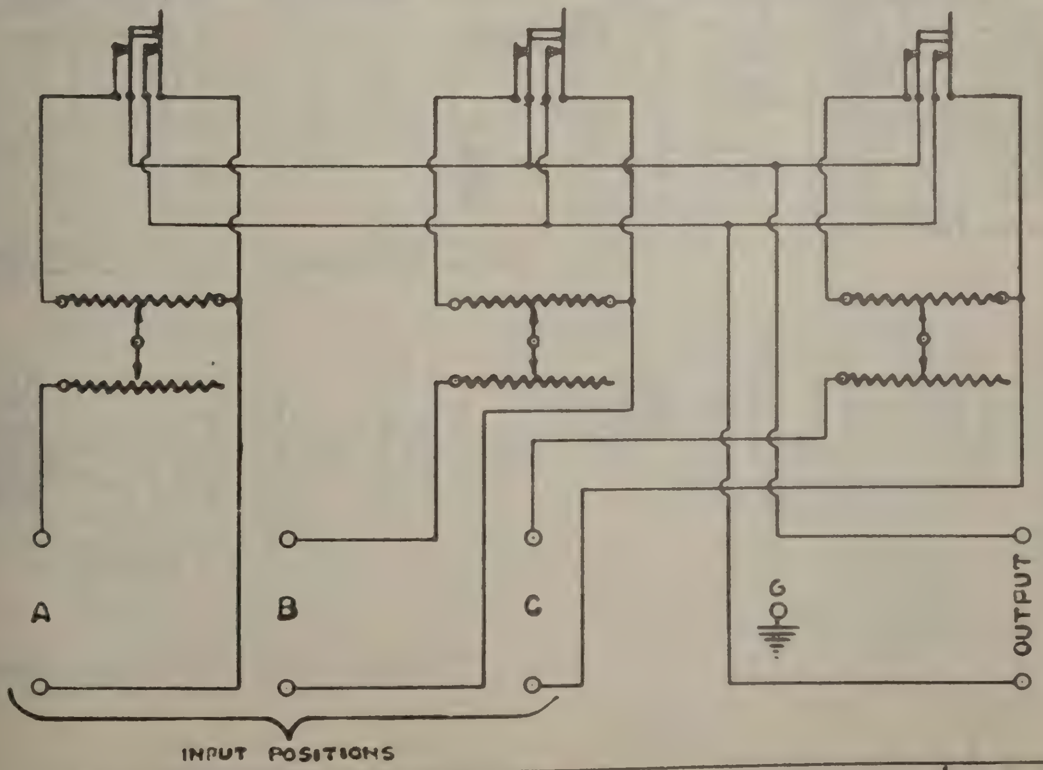

PILOT 6.0 V
DET
'27
1 AF
'26
2 AF
'10
RF
'26
RF
'26
RF
'26
1- '81 RECT IN POWER UNIT
FRONT

J. E. JENKINS AND S. E. ADAIR

MODEL 3B Mixing Panel
MODEL 3C Mixing Panel


GM-10
GM-10
GM-10
T-40
T-40
T-40
L1
L2
1
2
3
4
R-50
R-50
R-50
OUTPUT
+
6-12 V
BATT.
−
CAR
A
COND
CAR.
B
COND.
CAR.
C
COND.

Schematic of:- 3B MIXING PANEL

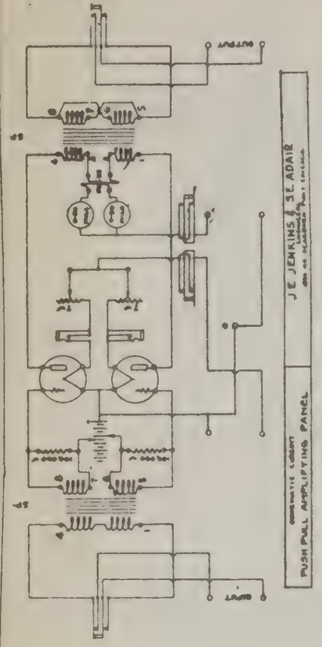

A
B
C
G
OUTPUT
INPUT POSITIONS

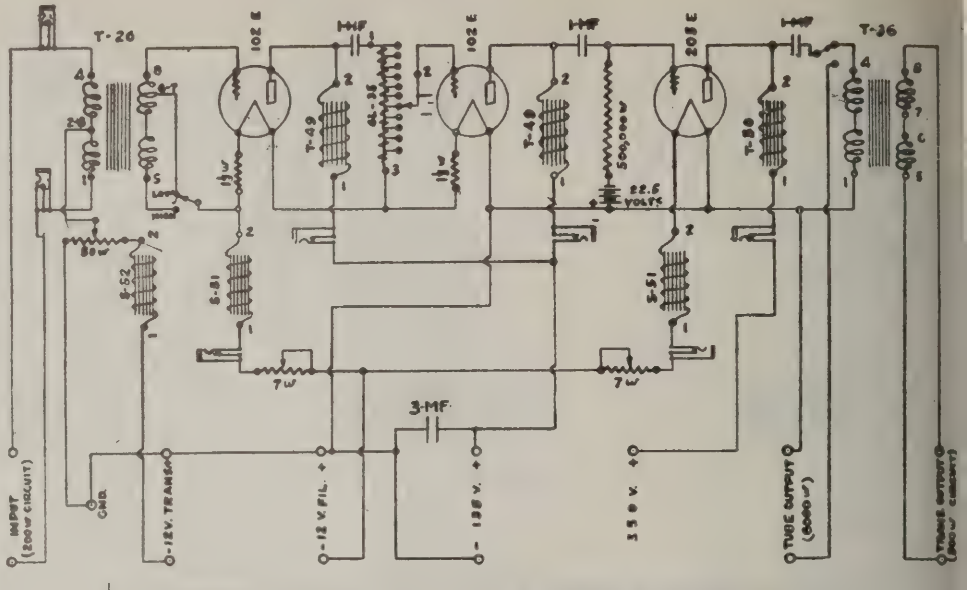
SCHEMATIC CIRCUIT
3-C MIXING PANEL

J.E JENKINS & S.E. ADAIR
ENGINEERS
1500 NO. DEARBORN PKWY. CHICAGO

MODEL A Two Types
MODEL PushPull Amp.
MODEL Monitor Amp.
MODEL Level Indicator

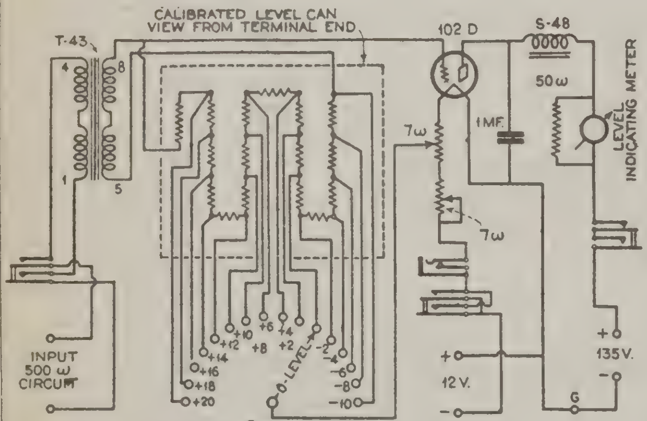
J. E. JENKINS AND S. E. ADAIR


J. E. JENKINS & S. E. ADAIR
SCHEMATIC CIRCUIT
PUSH PULL AMPLIFYING PANEL

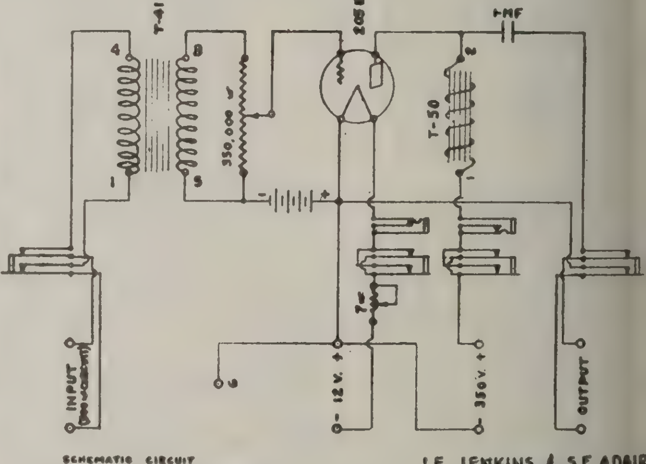

T-26
102 E
1-MF
T-49
GL-25
102 E
1-MF
T-49
500,000 w
22.5 VOLTS
205 E
1-MF
T-50
T-36
30 w
S-52
S-51
S-51
7w
7w
3-MF
INPUT (200 w CIRCUIT)
GND.
-12 V. TRANS.
-12 V. FIL. +
- 135 V. +
350 V. +
TUBE OUTPUT (8000 w)
TRUNK OUTPUT (200 w CIRCUIT)

SCHEMATIC CIRCUIT
TYPE "A" AMPLIFYING PANEL

J. E. JENKINS & S. E. ADAIR
ENGINEERS
1500 NO. DEARBORN PKWY. CHICAGO.

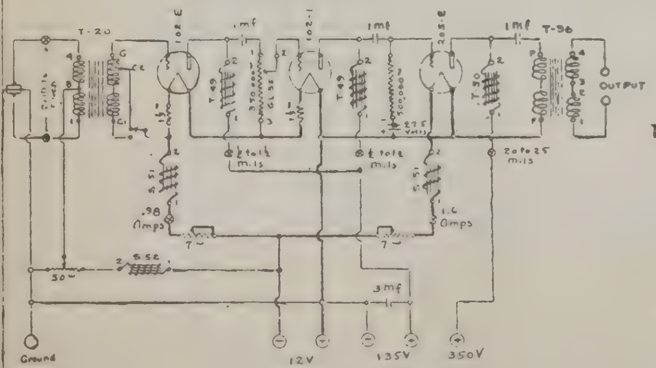

CALIBRATED LEVEL CAN
VIEW FROM TERMINAL END
T-43
102 D
S-48
50 w
LEVEL INDICATING METER
7w
1 MF.
7w
INPUT 500 w CIRCUIT
+10
+12
+8
+6
+4
+2
+14
+16
+18
+20
0-LEVEL
-2
-4
-6
-8
-10
+
12 V.
-
+
135 V.
-
G

LEVEL INDICATOR


T-41
205 E
1-MF
350,000 w
T-50
7w
INPUT
G
- 12 V. +
350 V. +
OUTPUT

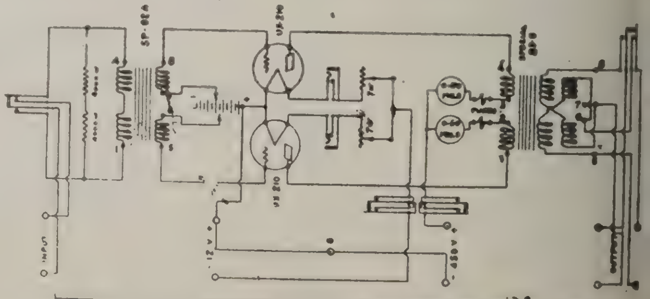
SCHEMATIC CIRCUIT
MONITOR TYPE AMPLIFIER

J. E. JENKINS & S. E. ADAIR
ENGINEERS
1500 NO. DEARBORN PKWY. CHICAGO


T-20
102 E
1 mf
102-1
1 mf
205 E
1 mf
T-36
OUTPUT
T-49
T-49
T-30
S-51
S-51
.98 Amps
1.6 Amps
7~
7~
S-52
30~
3 mf
Ground
12 V
135 V
350 V
20 to 25 mils

TYPE 'A CIRCUIT

J E JENKINS & S E ADAIR
ENGINEERS
1300 N DEARBORN
CHICAGO

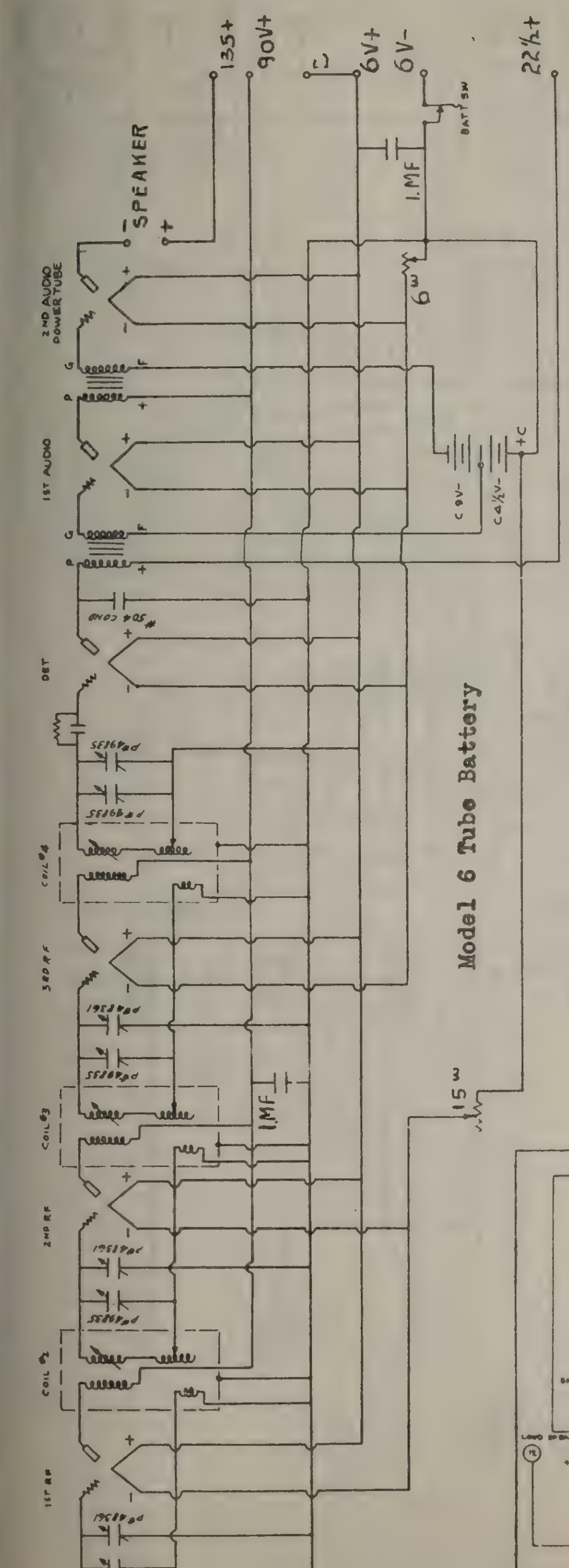

SP-24A
UX-210
UX-210
INPUT
12 V
450 V
OUTPUT

SCHEMATIC CIRCUIT
PUSH PULL AMPLIFYING PANEL

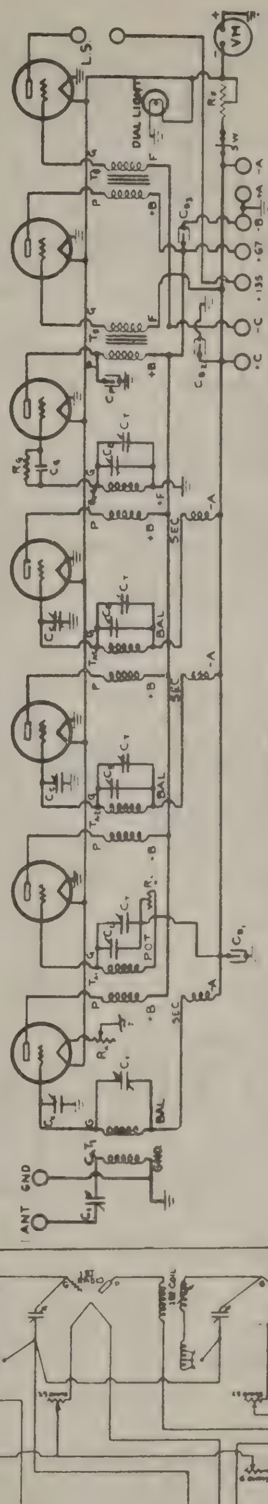
J E JENKINS & S E ADAIR
ENGINEERS

KELLOGG SWITCHBOARD & SUPPLY CO.

MODEL 6 Tube Battery
MODEL 7 Tube Cascade
MODEL Wave_Master


SPEAKER
135+
90V+
C
6V+
6V-
22½+
BATT SW
1.MF
6W
15W
C 9V-
C 4½V-
+C
2ND AUDIO POWER TUBE
1ST AUDIO
DET
3RD RF
2ND RF
1ST RF
COIL #1
COIL #2
COIL #3
COIL #4
#504 COND
1.MF

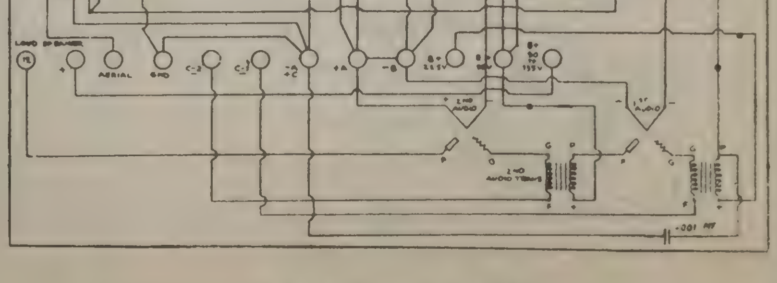
Model 6 Tube Battery


ANT
GND
L.S.
VM
DIAL LIGHT
SW
SEC
BAL
POT
+B
-A
+C
-C
+135
+67
-B
+A

C_1 ANTENNA EQUALIZER .00027 MF.
C_2 TUNING ALIGNMENT CONDENSER.
C_B BYPASS CONDENSER 1MFD.
C_C BALANCING CONDENSER .000060 MF.
C_G GRID CONDENSER .00025 MF.
C_P BYPASS CONDENSER .001 MF.
C_T GANG CONDENSER 0005 MF UNITS [STATION SELECTOR]
L DIAL LIGHT
R ROTOR PLATES OF VARIABLE CONDENSER
R_F FILAMENT RHEOSTAT 4 OHMS

R_G GRID LEAK 2½ MEGOHMS.
R_L NON-INDUCTIVE WIRE RESISTANCE 200 OHMS. } VOLUME CONTROL
R_A RHEOSTAT 20 OHMS.
S STATIONARY PLATES OF VARIABLE CONDENSER.
SW FILAMENT SWITCH.
T_{RF} RADIO FREQUENCY TRANSFORMERS
T_1 INPUT TRANSFORMER
T_S KELLOGG AUDIO TRANSFORMER
VM FILAMENT VOLTMETER
⏚ GROUND TO SHIELD

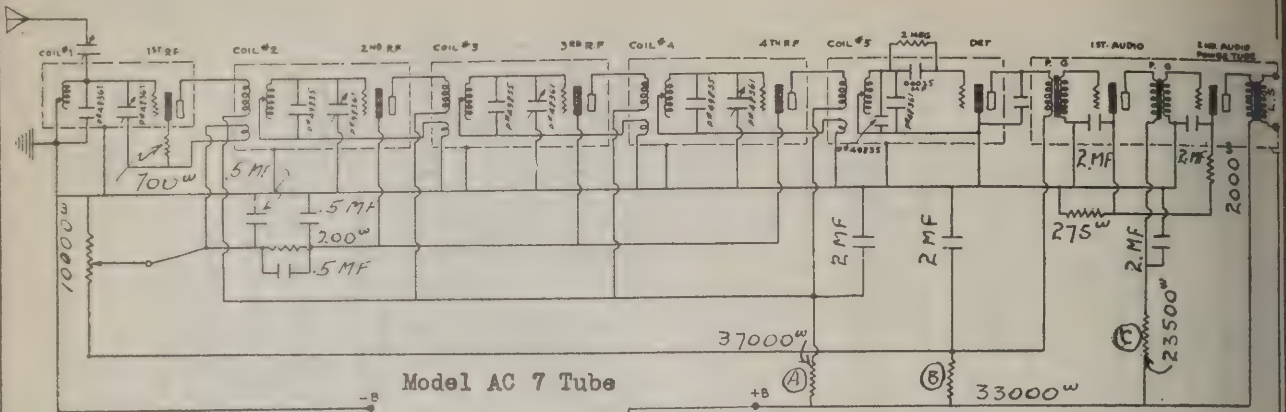
Model 7 Tube Cascade


LOUD SPEAKER
AERIAL
GND
BATT SW
1ST COIL
2ND COIL
3RD COIL
DET
1ST AUDIO
2ND AUDIO
2ND AUDIO TRANS
.001 MF

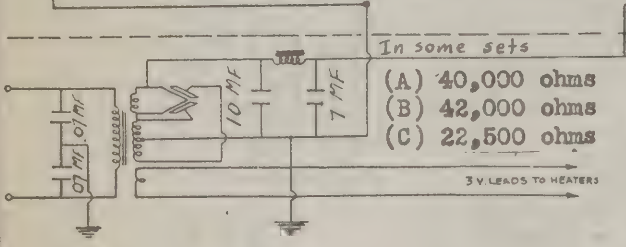
Model Wave Master

MODEL RFL 701
MODEL AC 7 Tube
MODEL Chassis B

KELLOGG SWITCHBOARD & SUPPLY CO.


COIL #1
1ST RF
COIL #2
2ND RF
COIL #3
3RD R.F
COIL #4
4TH R.F
COIL #5
2 MEG
DET
1ST. AUDIO
2ND AUDIO POWER TUBE
L.S.
700ʷ
.5 MF
.5 MF
200ʷ
.5 MF
10000ʷ
2 MF
2 MF
2 MF
2 MF
275ʷ
2 MF
2000ʷ
23500ʷ
37000ʷ
Ⓐ
Ⓑ
Ⓒ
33000ʷ
+B
-B

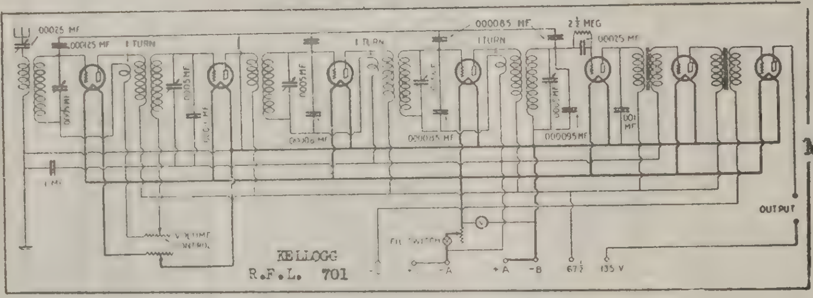
Model AC 7 Tube


10 MF
7 MF
.07 MF
.07 MF
3 V. LEADS TO HEATERS

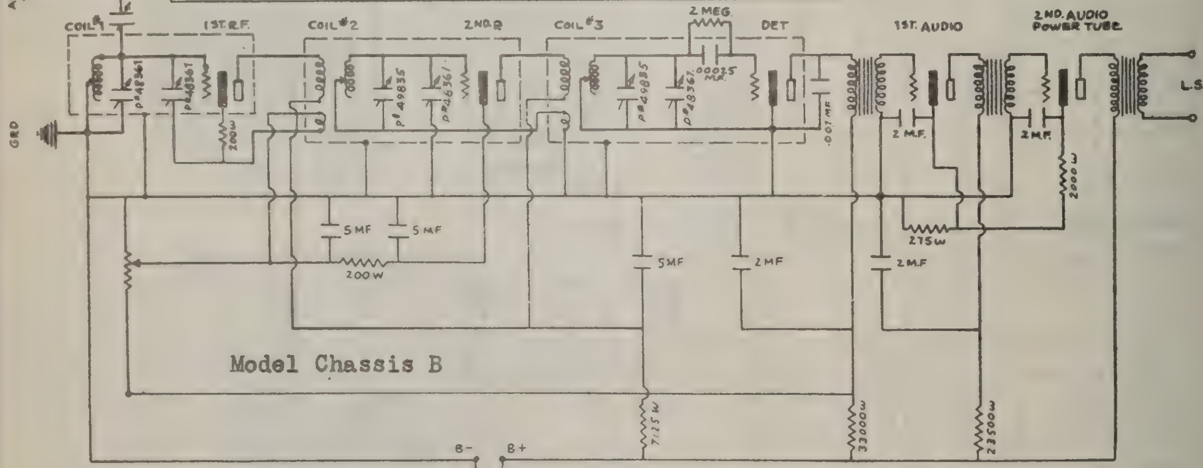
In some sets
(A) 40,000 ohms
(B) 42,000 ohms
(C) 22,500 ohms

KELLOGG—7 Tube "A" Chassis
Line Voltage 115—Volume Control Full

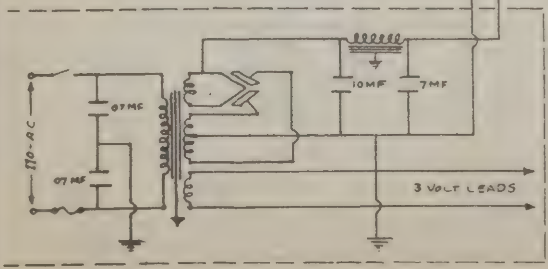
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET. ETC.	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	401	1st.R.F.	2.75	115	2.75	108	3.5	-	6.2	10.5	4.3
2	401	2nd.R.F.	2.75	115	2.75	108	4.5	-	6.2	10.5	4.3
3	401	3rd.R.F.	2.75	115	2.75	108	4.5	-	6.2	10.5	4.3
4	401	4th.R.F.	2.75	115	2.75	108	4.5	-	6.2	10.5	4.3
5	401	Detector	2.75	26	2.75	23	0.0	-	1.4	1.5	.1
6	401	1st.A.F.	2.75	115	2.75	108	5.0	-	6.2	10.5	4.3
7	403	2nd.A.F.	2.75	165	2.75	153	33.5	-	13.2	15.2	2.0
8	280	Rectifier	-	-	4.8	-	-	-	22.0	-	-


.00025 MF
.000125 MF
1 TURN
.000085 MF
2½ MEG
.00025 MF
1 TURN
1 TURN
.000085 MF
.000095 MF
.001 MF
OUTPUT
VOLUME CONTROL
FIL SWITCH
KELLOGG
R.F.L. 701
-A
+A
-B
67½
135 V

Model RFL 701


ANTENNA
GRD
COIL #1
1ST. R.F.
COIL #2
2ND R
COIL #3
2 MEG.
DET
1ST. AUDIO
2ND. AUDIO POWER TUBE
L.S.
.00025 MF.
200 W
.001 MF
2 M.F.
2 M.F.
2000 W
275 W
5 MF
5 MF
200 W
5 MF
2 MF
2 M.F
7125 W
33000 W
23500 W
B-
B+

Model Chassis B


10 MF
7 MF
.07 MF
.07 MF
110-AC
3 VOLT LEADS

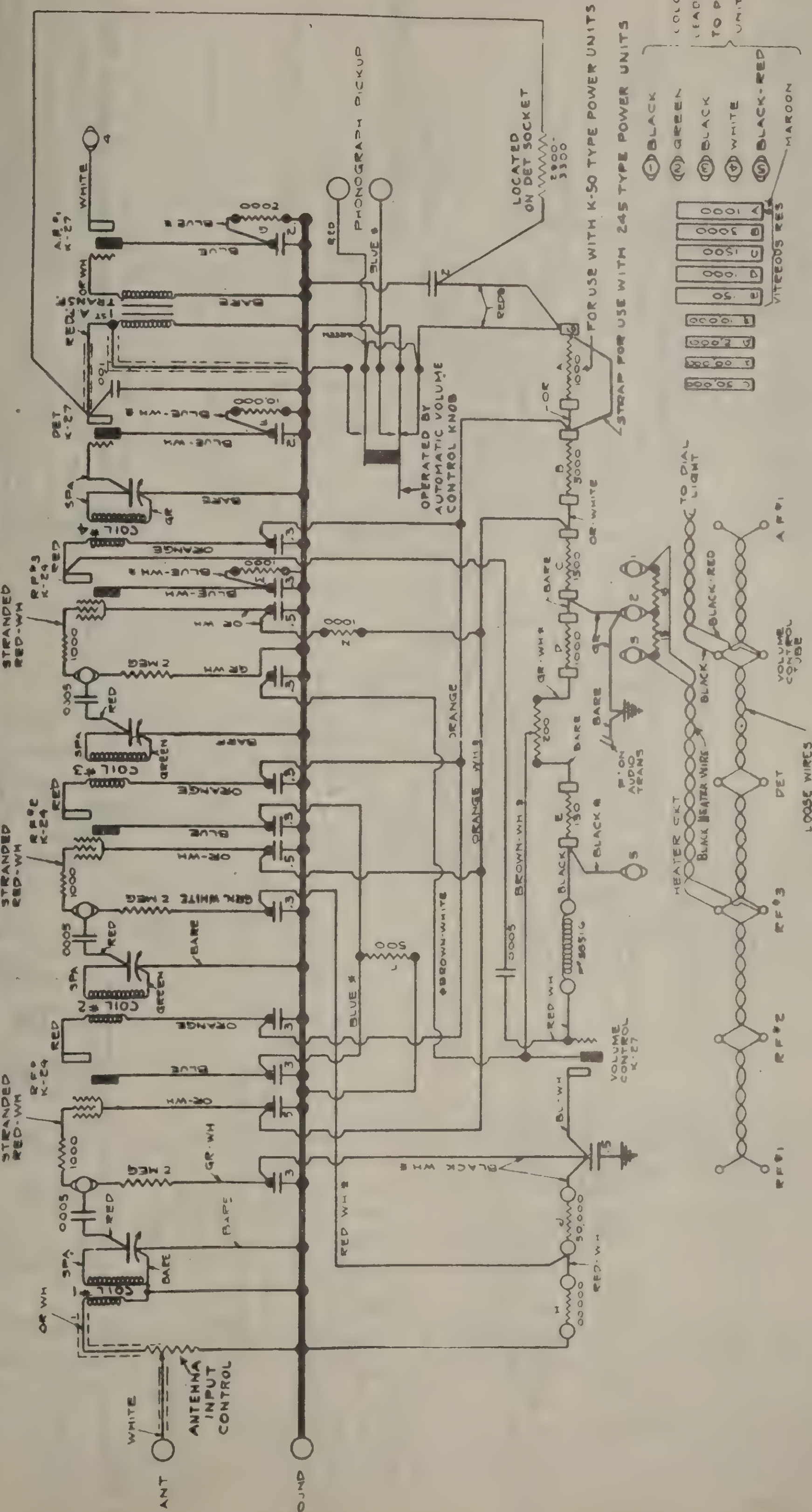
KELLOGG—5 Tube "B" Chassis
Line Voltage 115—Volume Control Full

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	401	1st.R.F.	2.75	113	2.75	105	3.1	-	6.0	9.5	3.5
2	401	2nd.R.F.	2.75	113	2.75	105	4.2	-	6.0	9.5	3.5
3	401	Detector	2.75	28	2.75	25	0.0	-	1.4	1.5	.1
4	401	1st.A.F.	2.75	113	2.75	105	4.2	-	6.0	9.5	3.5
5	403	2nd.A.F.	2.75	113	2.75	105	4.8	-	4.3	6.0	1.7
6	280	Rectifier	-	-	4.60	-	-	-	20.0	-	-
7											
8											
9											
10											

KELLOGG SWITCHBOARD & SUPPLY CO.

MODEL 523,524,525,
526,527,528
RF Chassis
Schematic

RADIO CIRCUIT KELLOGG SCREEN GRID RECEIVER


ANT
WHITE
ANTENNA INPUT CONTROL
GROUND
OR WH
COIL
SPA
BARE
RED
.0005
2 MEG
GR WH
1000
STRANDED RED-WH
RF #1 K-24
OR-WH
BLUE
COIL #2
ORANGE
GRN. WHITE 2 MEG
RF #2 K-24
COIL #3
GREEN
RF #3 K-24
BLUE-WH
1000
COIL #4
GR
DET K-27
10,000
.001
1ST A.F. TRANS
RED
AF #1 K-27
.0002
BLUE #
WHITE
PHONOGRAPH PICKUP
OPERATED BY AUTOMATIC VOLUME CONTROL KNOB
LOCATED ON DET SOCKET
2900-3300
FOR USE WITH K-50 TYPE POWER UNITS
STRAP FOR USE WITH 245 TYPE POWER UNITS
BLUE #
500
BROWN-WHITE
ORANGE
ORANGE WH
BROWN-WH
.0005
RED WH
BLACK WH #
BL WH
VOLUME CONTROL K-27
50,000
20000
A 100
B 3000
C 300
D 1000
E 150
200
BLACK
BARE
OR WHITE
GR WHI
P ON AUDIO TRANS
TO DIAL LIGHT
BLACK-RED
VOLUME CONTROL TUBE
LOOSE WIRES WITH SPAGHETTI SLEEVING
HEATER CKT
BLACK HEATER WIRE
DET
RF #1
RF #2
RF #3
AF #1
COLOR OF LEAD WIRES TO POWER UNIT
① BLACK
② GREEN
③ BLACK
④ WHITE
⑤ BLACK-RED
MAROON
A 1000
B 3000
C 1500
D 1000
E 150
VITREOUS RES
.J 50,000
L 2,000
H 20,000
I 30,000
WIRES MARKED # IN CABLE
ALL SHIELDING FOR WIRES GROUNDED

CHOKE COIL (J-8551G) IS LOCATED ON SINGLE MTG ON THE INSIDE TOP SURFACE OF BASE

RESISTANCE L & M ARE LOCATED ON DOUBLE RESISTANCE MTG ON INSIDE OF BASE

RESISTANCE N IS LOCATED ON SINGLE RESIS MTG ON BACK END OF BASE (INSIDE)

FOR POWER UNITS SEE SUBSEQUENT PAGES

MODEL 523,526
Power Unit
Schematic

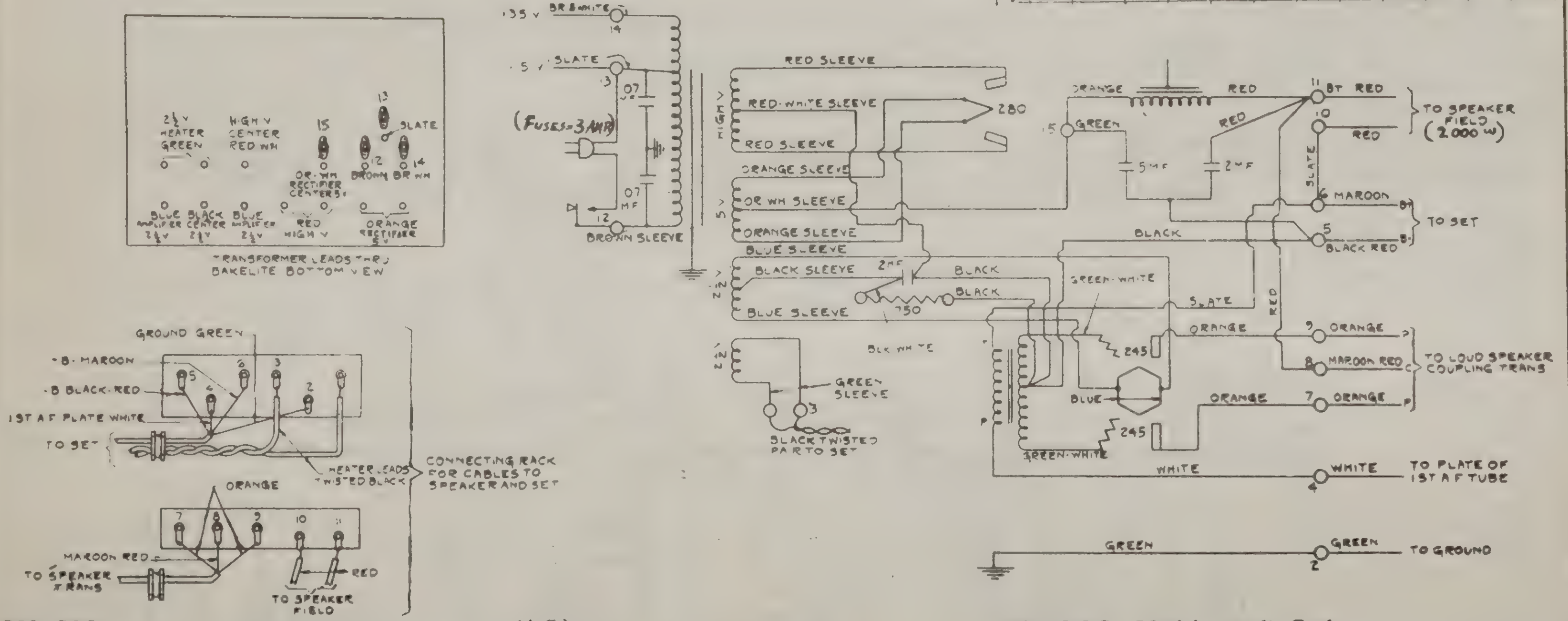
KELLOGG SWITCHBOARD & SUPPLY CO.

POWER UNIT CIRCUIT
245 TYPE

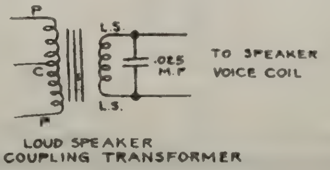
FOR SETS 523, 526

KELLOGG—Model 526-25 Cycle
Line Voltage 112—Volume Control Position Full On
***Volume Control Tube**

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET TUBE OUT A VOLTS ④	 B VOLTS ⑤	 TUBE IN TESTER A VOLTS ⑥	 B VOLTS ⑦	 C VOLTS (CONTROL GRID) ⑧	 CATHODE-HEATER VOLTS ⑨	 NORMAL PLATE M A ⑩	 PLATE M A GRID TEST ⑪	 PLATE CHANGE M A ⑫	 SCREEN GRID VOLTS ⑬
1	224	1st RF	2.5	132	2.4	128	1	1	1.2	-	-	40
2	224	2nd RF	2.5	132	2.4	128	1	1	1.2	-	-	40
3	224	3rd RF	2.5	132	2.4	128	1	1	1.2	-	-	40
4	227	Det.	2.5	132	2.3	128	12	12	1.2	-	-	-
5	227	*	2.5	24	2.3	24	1	40	-	-	-	-
6	227	1st A	2.45	144	2.3	128	8	8	4.4	-	-	-
7	245	2nd A	2.45	260	2.2	228	40		28	-	-	-
8	245	2nd A	2.45	260	2.2	228	40		28	-	-	-
9	280	Rect.			4.6				100			



135 V
BR & WHITE
14
5 V
SLATE
3
(FUSES=3 AMP)
.07 MF
.07 MF
12
BROWN SLEEVE
HIGH V
5 V
2½ V
2½ V
RED SLEEVE
RED-WHITE SLEEVE
RED SLEEVE
ORANGE SLEEVE
OR WH SLEEVE
ORANGE SLEEVE
BLUE SLEEVE
BLACK SLEEVE
BLUE SLEEVE
2 MF
750
BLK WHITE
GREEN SLEEVE
3
BLACK TWISTED PAIR TO SET
280
15
GREEN
ORANGE
RED
5 MF
2 MF
RED
11
BT RED
10
RED
TO SPEAKER FIELD (2000 W)
SLATE
6
MAROON
B+
5
BLACK RED
B-
TO SET
BLACK
BLACK
BLACK
GREEN-WHITE
SLATE
RED
ORANGE
245
245
BLUE
GREEN-WHITE
P
9
ORANGE
P
8
MAROON RED
C
7
ORANGE
P
TO LOUD SPEAKER COUPLING TRANS
WHITE
4
WHITE
TO PLATE OF 1ST A F TUBE
GREEN
2
GREEN
TO GROUND
2½ V HEATER GREEN
HIGH V CENTER RED WH
15
13
SLATE
12
BROWN
14
BR WH
OR-WH RECTIFIER CENTER 5 V
BLUE AMPLIFIER 2½ V
BLACK CENTER 2½ V
BLUE AMPLIFIER 2½ V
RED HIGH V
ORANGE RECTIFIER 5 V
TRANSFORMER LEADS THRU BAKELITE BOTTOM VIEW
GROUND GREEN
-B- MAROON
-B BLACK-RED
1ST A F PLATE WHITE
TO SET
5
4
6
3
2
HEATER LEADS TWISTED BLACK
CONNECTING RACK FOR CABLES TO SPEAKER AND SET
ORANGE
7
8
9
10
11
MAROON RED
TO SPEAKER TRANS
RED
TO SPEAKER FIELD

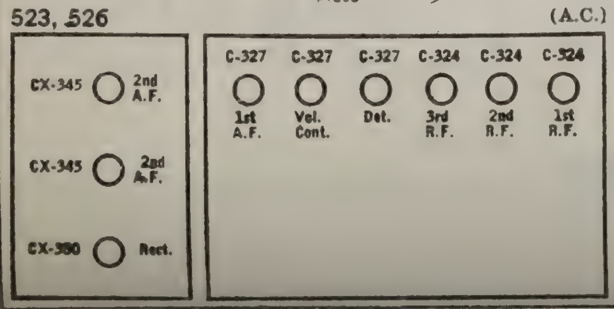


P
C
P
L.S.
L.S.
.025 M.F
TO SPEAKER VOICE COIL

LOUD SPEAKER COUPLING TRANSFORMER

KELLOGG—Model 523-60 Cycle
Line Voltage 112—Volume Control Position Full On
***Volume Control Tube**

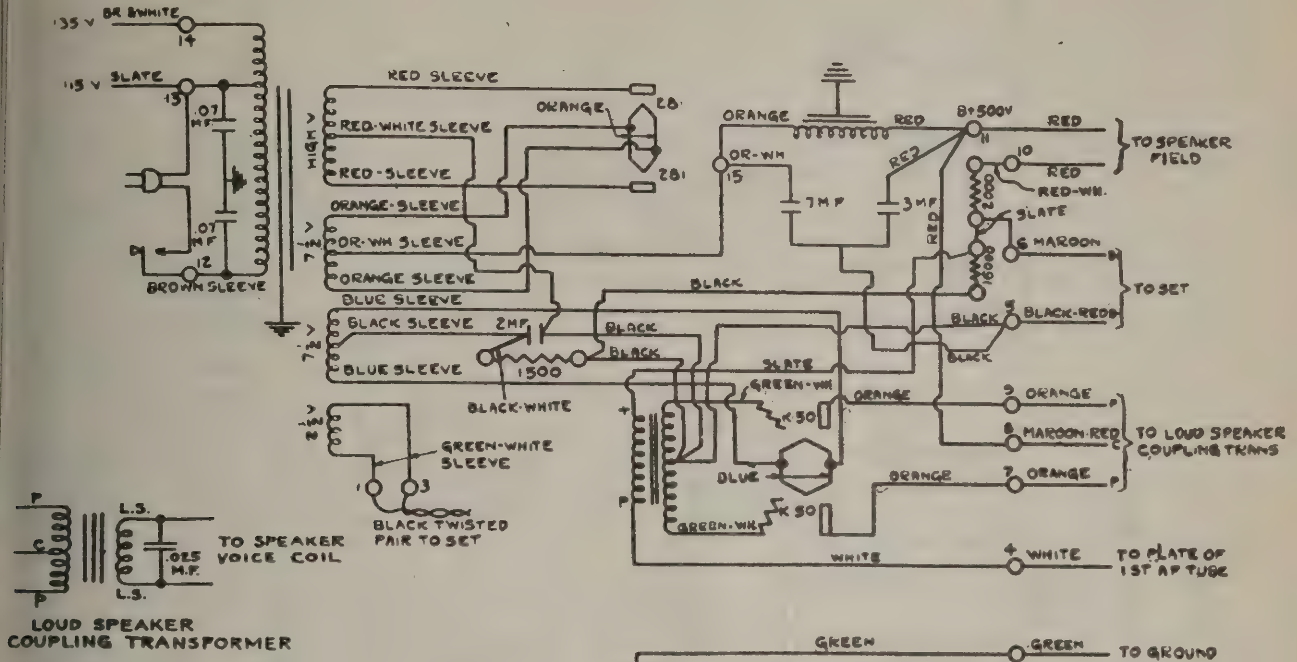
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET TUBE OUT A VOLTS ④	 B VOLTS ⑤	 TUBE IN TESTER A VOLTS ⑥	 B VOLTS ⑦	 C VOLTS (CONTROL GRID) ⑧	 CATHODE-HEATER VOLTS ⑨	 NORMAL PLATE M.A ⑩	 PLATE M.A. GRID TEST ⑪	 PLATE CHANGE M.A. ⑫	 SCREEN GRID VOLTS ⑬
1	224	1st RF	2.5	132	2.4	128	1	1	1.2	-	-	40
2	224	2nd RF	2.5	132	2.4	128	1	1	1.2	-	-	40
3	224	3rd RF	2.5	132	2.4	128	1	1	1.2	-	-	40
4	227	Det.	2.5	132	2.3	128	12	12	1.2	-	-	-
5	227	*	2.5	24	2.3	24	1	40	-	-	-	-
6	227	1st A	2.45	144	2.3	128	8	8	4.4	-	-	-
7	245	2nd A	2.45	260	2.2	228	40		28	-	-	-
8	245	2nd A	2.45	260	2.2	228	40		28	-	-	-
9	280	Rect.			4.6				100			

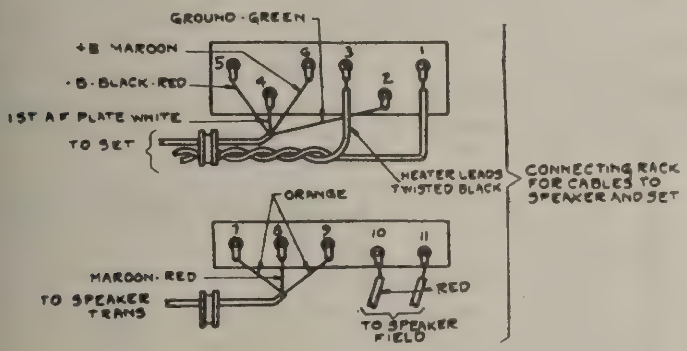


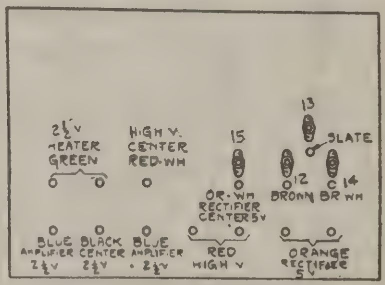
523, 526
(A.C.)
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-380
Rect.
C-327
1st A.F.
C-327
Vol. Cont.
C-327
Det.
C-324
3rd R.F.
C-324
2nd R.F.
C-324
1st R.F.

KELLOGG SWITCHBOARD & SUPPLY CO.

**MODEL 524,525,
527,528
Power Unit
Schematic**

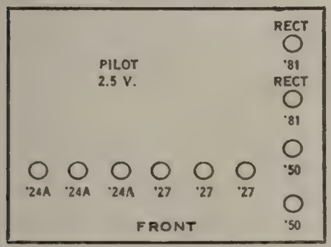

135 V BR-WHITE
14
115 V SLATE
13
.07 MF
.07 MF
12
BROWN SLEEVE
HIGH V
RED SLEEVE
RED-WHITE SLEEVE
RED-SLEEVE
ORANGE-SLEEVE
OR-WH SLEEVE
ORANGE SLEEVE
BLUE SLEEVE
BLACK SLEEVE
2MF
BLUE SLEEVE
1500
BLACK-WHITE
GREEN-WHITE SLEEVE
BLACK TWISTED PAIR TO SET
ORANGE
28
281
ORANGE
RED
B+500V
RED
TO SPEAKER FIELD
OR-WH
15
7MF
3MF
RED
10
RED
RED-WH.
SLATE
6 MAROON
TO SET
BLACK
BLACK-RED
BLACK
BLACK
BLACK
SLATE
GREEN-WH
K 50
ORANGE
BLUE
GREEN-WH
K 50
ORANGE
9 ORANGE
8 MAROON-RED
TO LOUD SPEAKER COUPLING TRANS
7 ORANGE
WHITE
4 WHITE
TO PLATE OF 1ST AF TUBE
GREEN
2 GREEN
TO GROUND
L.S.
.025 M.F.
TO SPEAKER VOICE COIL
LOUD SPEAKER COUPLING TRANSFORMER


GROUND-GREEN
+B MAROON
-B BLACK-RED
1ST AF PLATE WHITE
TO SET
5
4
6
3
2
1
HEATER LEADS TWISTED BLACK
CONNECTING RACK FOR CABLES TO SPEAKER AND SET
ORANGE
7
8
9
10
11
MAROON-RED
TO SPEAKER TRANS
RED
TO SPEAKER FIELD


2½V HEATER GREEN
HIGH V. CENTER RED-WH
15
13
SLATE
12
14
OR-WH RECTIFIER CENTER 5V
BROWN
BR WH
BLUE AMPLIFIER 2½V
BLACK CENTER 2½V
BLUE AMPLIFIER 2½V
RED HIGH V
ORANGE RECTIFIER 5V

TRANSFORMER LEADS THRU BAKELITE BOTTOM VIEW

Models 524, 525, 527, 528


PILOT 2.5 V.
RECT
'81
RECT
'81
'50
'50
'24A
'24A
'24A
'27
'27
'27
FRONT

POWER UNIT CIRCUIT
K-50 TYPE
FOR SETS 524, 525, 527, 528

KELLOGG—527-528-25 Cycle
Line Voltage 112—*Volume Control Tube

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
2	224	2nd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
3	224	3rd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
4	227	Det.	2.4	200	2.25	180	17	17	1.8	-	-	-
5	227	*	2.4	28	2.25	28	-	45	-	-	-	-
6	227	1st A	2.4	220	2.25	188	10	10	5	-	-	-
7	250	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
8	250	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
9	281	Rect.	7.5	-	7.4	-	-	-	60	-	-	-
10	281	Rect.	7.5	-	7.4	-	-	-	60	-	-	-

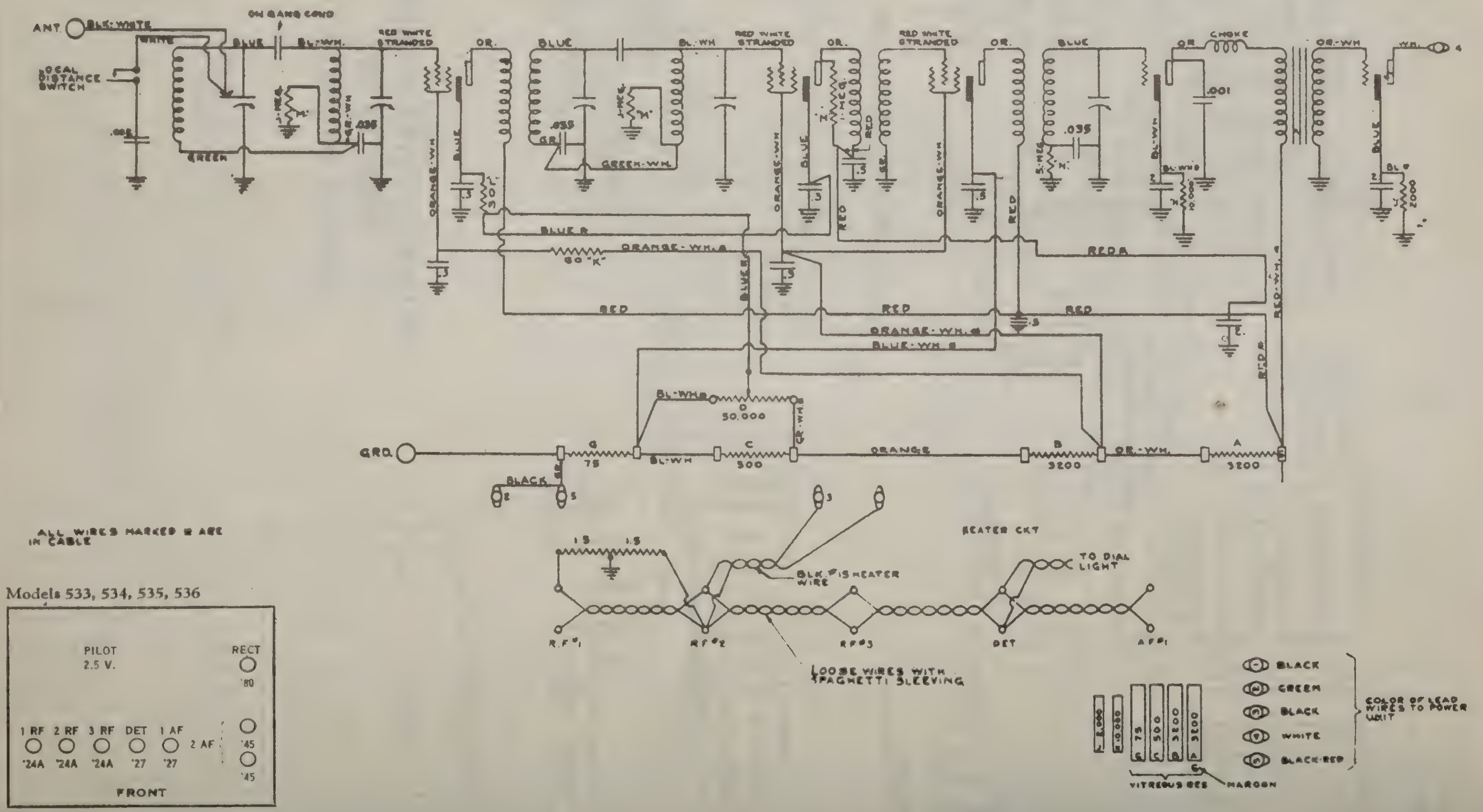
KELLOGG—524-525-60 Cycle
Line Voltage 112—*Volume Control Tube

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
2	224	2nd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
3	224	3rd RF	2.4	164	2.25	160	2	2	1.4	1.6	.2	46
4	227	Det.	2.4	200	2.25	180	17	17	1.8	-	-	-
5	227	*	2.4	28	2.25	28	-	45	-	-	-	-
6	227	1st A	2.4	220	2.25	188	10	10	5	-	-	-
7	250	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
8	250	2nd A	7.5	440	7.4	420	86	-	30	-	-	-
9	281	Rect.	7.5	-	7.4	-	-	-	60	-	-	-
10	281	Rect.	7.5	-	7.4	-	-	-	50	-	-	-

MODEL 533,534
535,536
R.F.Chassis
Schematic

KELLOGG SWITCHBOARD & SUPPLY CO.

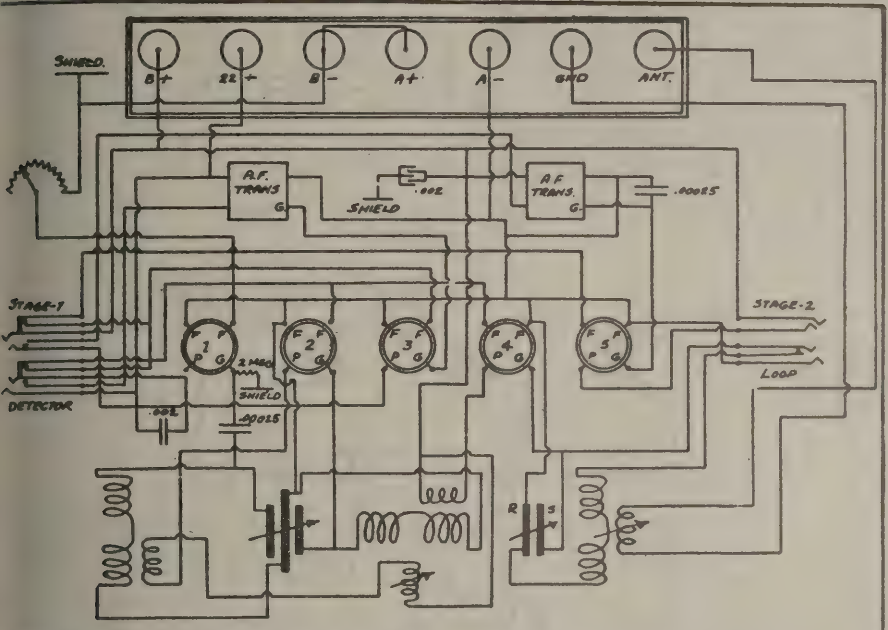
RADIO CIRCUIT KELLOGG SCREEN GRID RECEIVER


ANT.
BL.-WHITE
WHITE
LOCAL DISTANCE SWITCH
.002
GREEN
BLUE
ON GANG COND
BL.-WH.
1-MEG.
"H"
GR.-WH.
.035
RED WHITE STRANDED
OR.
ORANGE-WH.
BLUE
30"L"
.1
BLUE ☒
60"K"
ORANGE-WH. ☒
RED
.035
GR.
GREEN-WH.
BL.-WH
BLUE ☒
.3
RED WHITE STRANDED
OR.
"K"
1-MEG.
RED
.1
ORANGE-WH.
ORANGE-WH. ☒
BLUE-WH. ☒
BLUE
.035
5-MEG.
"H"
.5
RED ☒
OR.
CHOKE
.001
BL.-WH.
BL.-WH ☒
10,000
OR.-WH.
BLUE
BL ☒
2
2000
WH.
4
RED-WH. ☒
RED ☒
BL.-WH ☒
D
50,000
OR.-WH.
GRD.
G
75
BL.-WH
C
500
ORANGE
B
3200
OR.-WH.
A
3200
BLACK
2
5
3
HEATER CKT
1.5
1.5
BLK. ☒ IS HEATER WIRE
TO DIAL LIGHT
R.F. ☒ 1
R.F. ☒ 2
R.F. ☒ 3
DET
A.F. ☒ 1
LOOSE WIRES WITH SPAGHETTI SLEEVING
ALL WIRES MARKED ☒ ARE IN CABLE
2,000
10,000
75
500
3200
3200
G
C
B
A
VITREOUS RES
MAROON
BLACK
GREEN
BLACK
WHITE
BLACK-RED
COLOR OF LEAD WIRES TO POWER UNIT
Models 533, 534, 535, 536
PILOT
2.5 V.
RECT
'80
1 RF
2 RF
3 RF
DET
1 AF
2 AF
'24A
'24A
'24A
'27
'27
'45
'45
FRONT

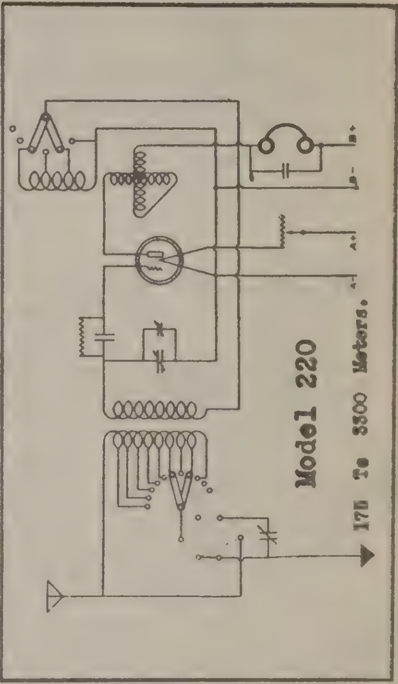
FOR POWER UNITS SEE INDEX

COLIN B. KENNEDY CORP.

MODEL 220
MODEL 281
MODELS 15,16(Type 430-43)
MODEL 175 to 25000 Meter


SHIELD
B+
22+
B-
A+
A-
GND
ANT.
A.F. TRANS. G
.002
SHIELD
A.F. TRANS. G
.00025
STAGE-1
DETECTOR
1
2
3
4
5
2 MEG
SHIELD
.002
.00025
STAGE-2
LOOP
R
S

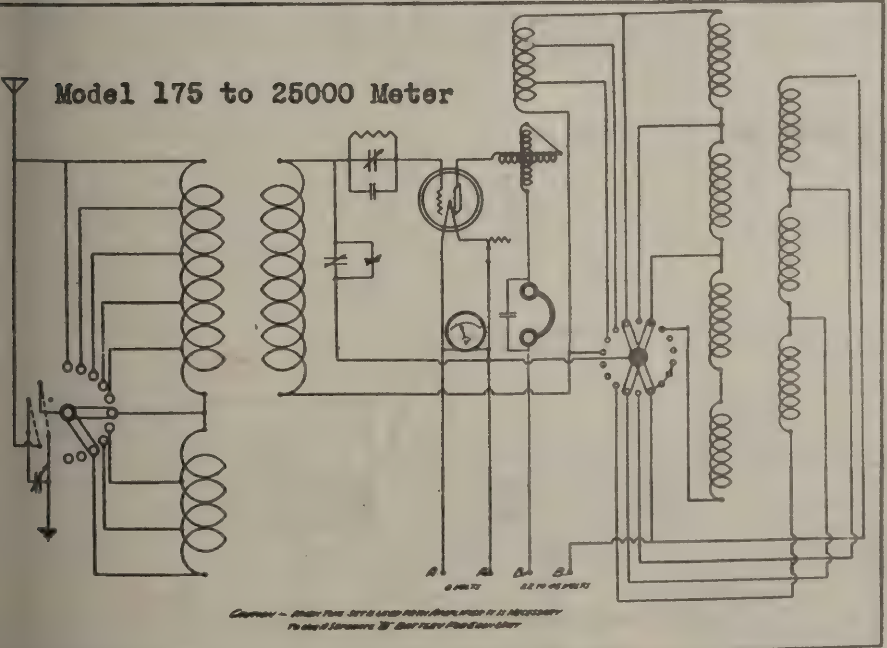
Models 15,16(Type 430-43) Tube order: 4, - 2, - 1, - 3, - 5.

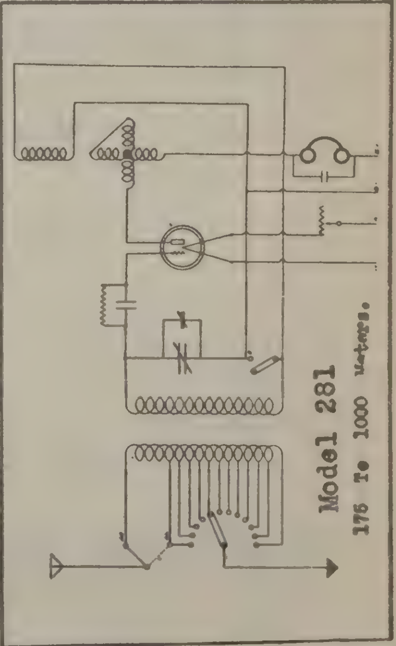


Model 220

175 To 3300 Meters.

Model 175 to 25000 Meter


A-
A+
B-
B+
6 VOLTS
22 TO 45 VOLTS

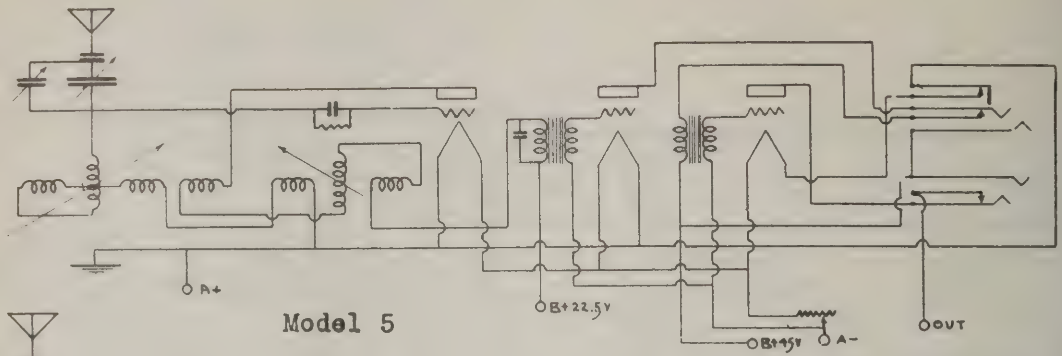


Model 281

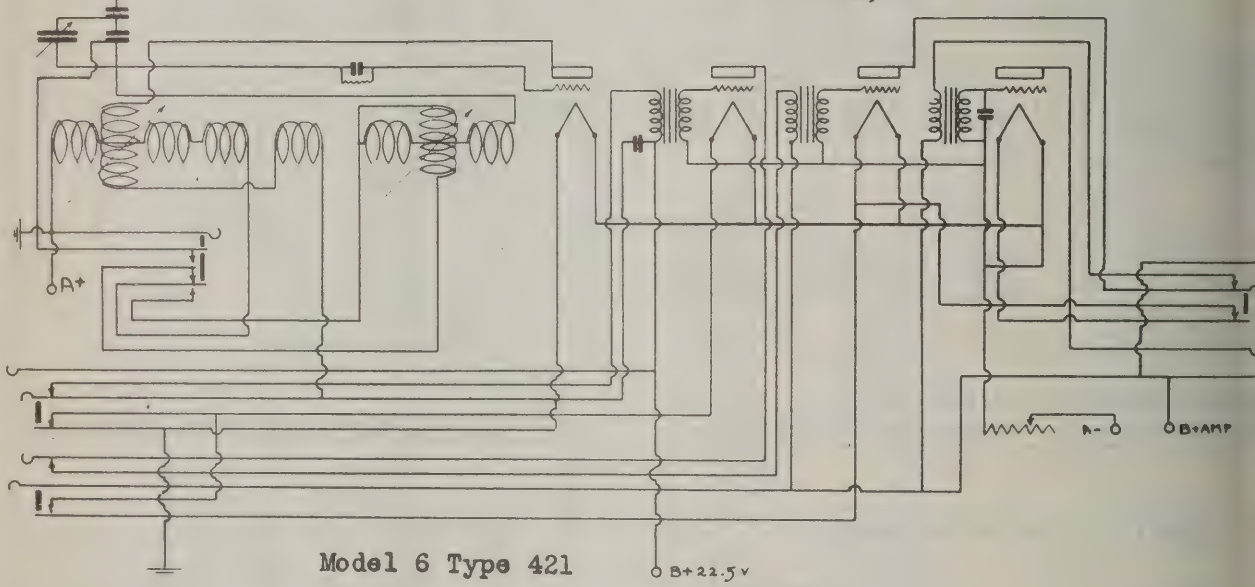
175 To 1000 Meters.

MODEL 5
MODEL 6 Type 421
MODEL 6 Type 420

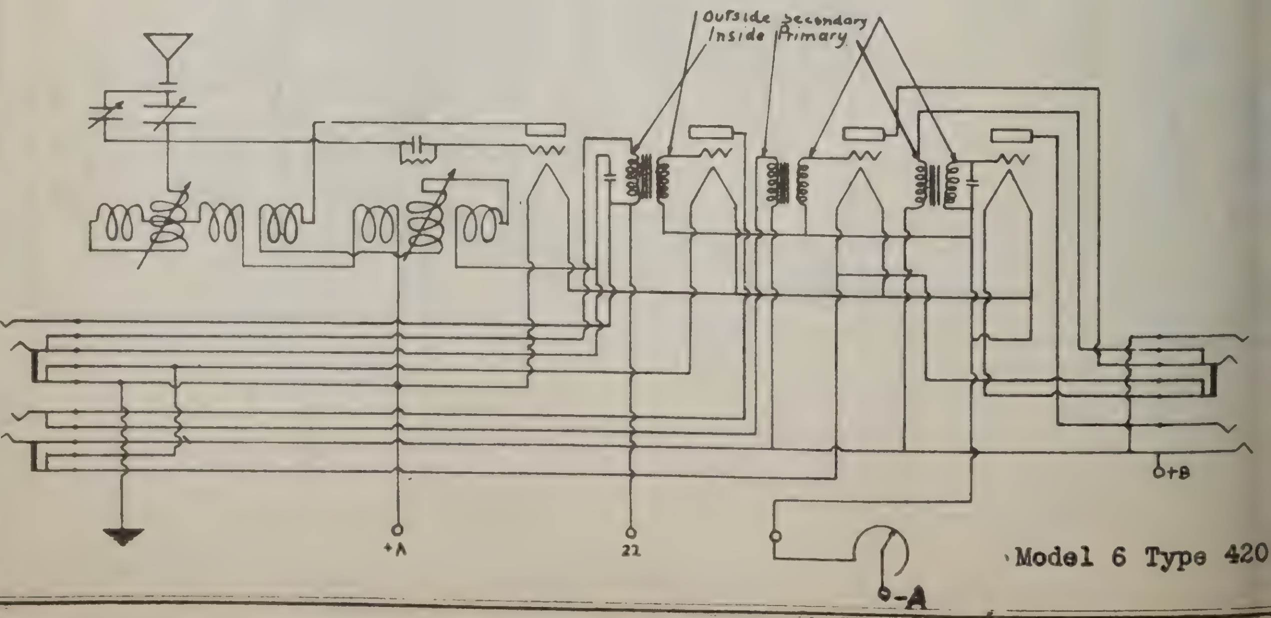
COLIN B. KENNEDY CORP.


A+
B+22.5V
B+45V
A-
OUT

Model 5


A+
A-
B+AMP
B+22.5V

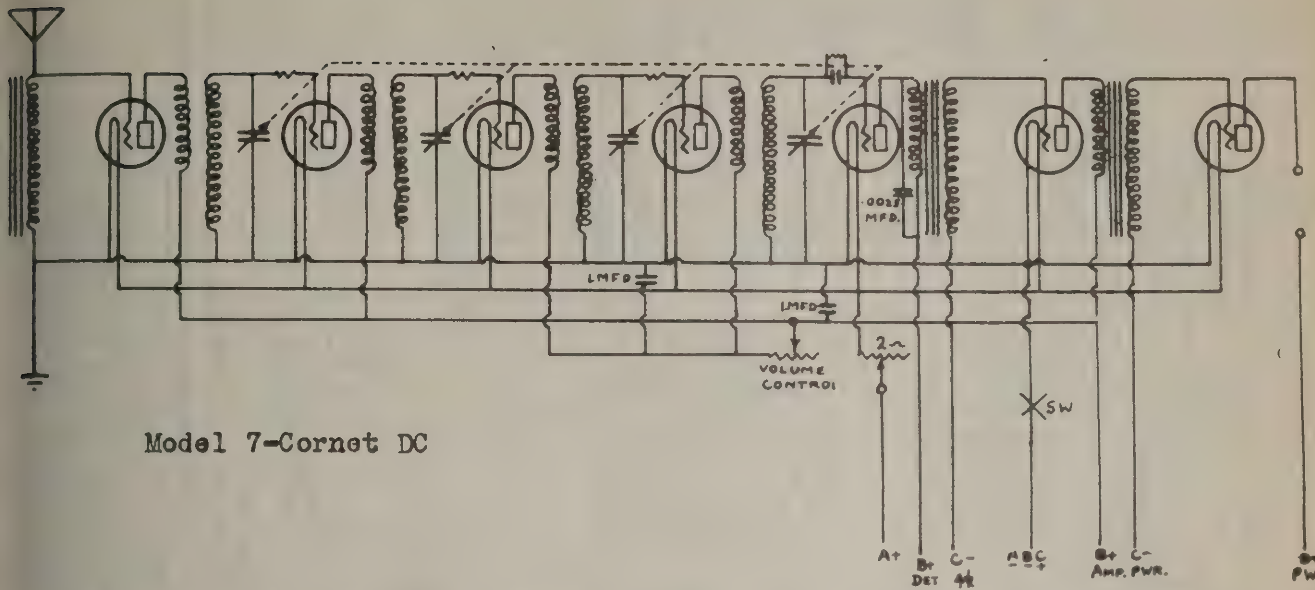
Model 6 Type 421


Outside Secondary
Inside Primary
+B
+A
22
-A

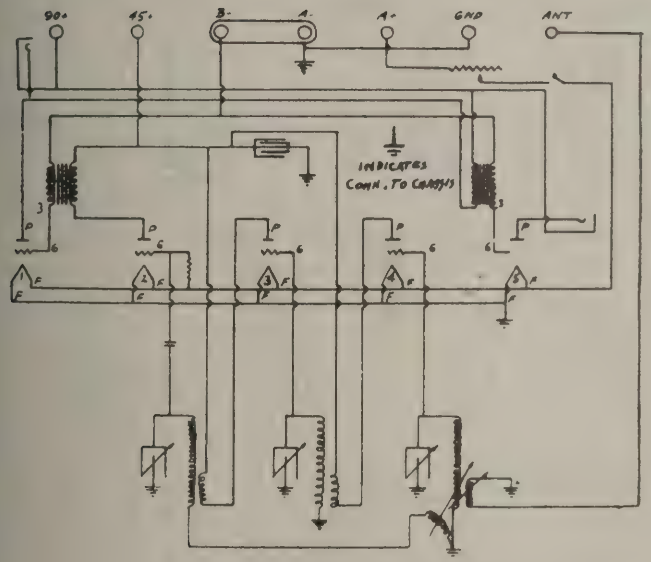
Model 6 Type 420

COLIN B. KENNEDY CORP.

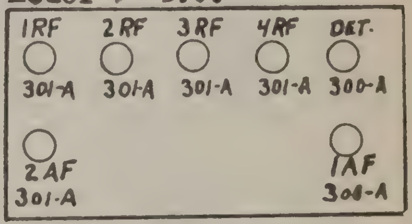
MODEL 7-Cornet DC
MODEL 20 Type 440
MODEL 30 Type 435


LMFD
LMFD
.0025 MFD.
VOLUME CONTROL
2~
SW
A+
B+ DET
C- 4½
A B C
- - +
B+ AMP.
C- PWR.
B+ PWR

Model 7-Cornet DC


90+
45+
B-
A-
A+
GND
ANT
INDICATES CONN. TO CHASSIS
1
2
3
4
5
P
G
F
3
6

Model 7 D.C.

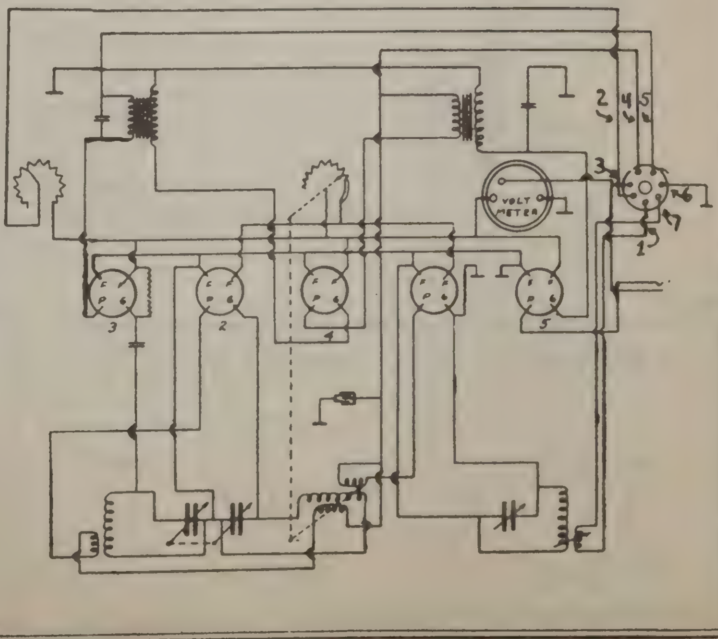

1RF
2RF
3RF
4RF
DET.
301-A
301-A
301-A
301-A
300-A
2AF
301-A
1AF
301-A

Model 20
Type 440
Tube Order
4,-3,-2,-1,-5.

Model 30
Type 435

Multiplug Connections
and
Cable Colors.

1 Antenna - Brown
2 +A - Red
3 +B3 -- Pink
4 +B2 - Blue
5 +B1 — Yellow
6 -A&B - Green
7 Ground - Black

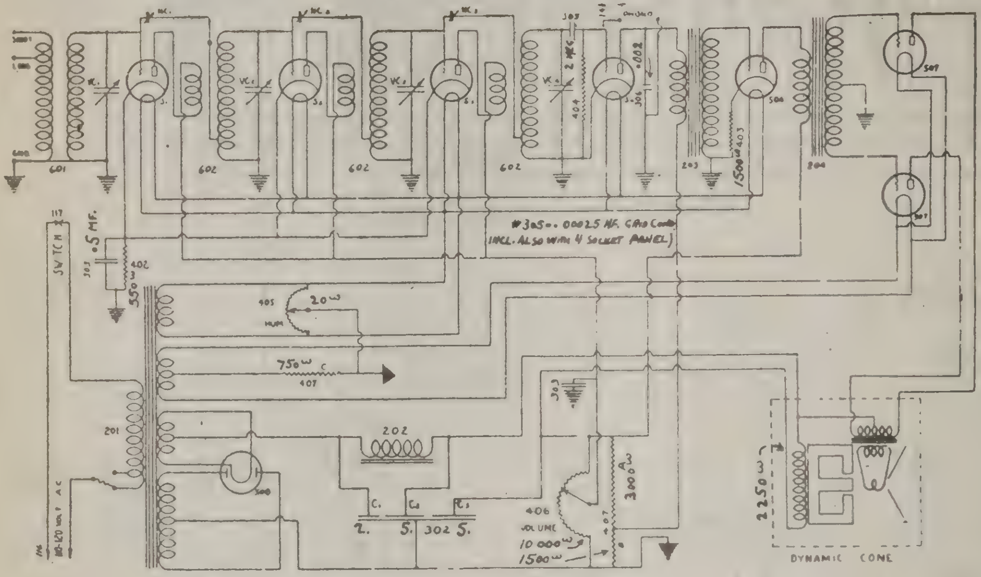

VOLT METER
1
2
3
4
5
2
4
5
3
6
1

ENNEDY—Model 30-32
ine Voltage 120—Volume Control Full Or

UBE NO IN RDER ESTED	TYPE OF TUBE (2)	POSITION OF TUBE IN SET (3)	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF S·T							
			OPERATING VOLTAGES					MILLIAMPERES		
			FILAMENT OR HEATER (4)	PLATE OR ANODE (5)	CONTROL GRID — SPACE (6) 60 +	NORMAL GRID — SCREEN (7) 60 +	CATHODE TO HEATER (8)	SCREEN GD L H 60 PLATE (9)	PLATE S H 60 PLATE (10)	TUBE TEST (11)
1	224	1 R.F.	2.3	160	3.5	60	-	-	2.2	
2	224	2 R.F.	2.3	160	3.5	60	-	-	2.4	
3	224	3 R.F.	2.3	160	3.5	60	-	-	2.2	
4	227	Det.	2.3	125	-	10	-	-	1.5	
5	227	1 A.F.	2.3	155	-	9	-	-	2.4	
6	245	PP-AF	2.3	230	-	45	-	-	28	
7	245	PP-AF	2.3	230	-	45	-	-	28..	
8	280	Rect.	4.8	-	-	-	-	45	45	

MODEL 10
MODEL 20

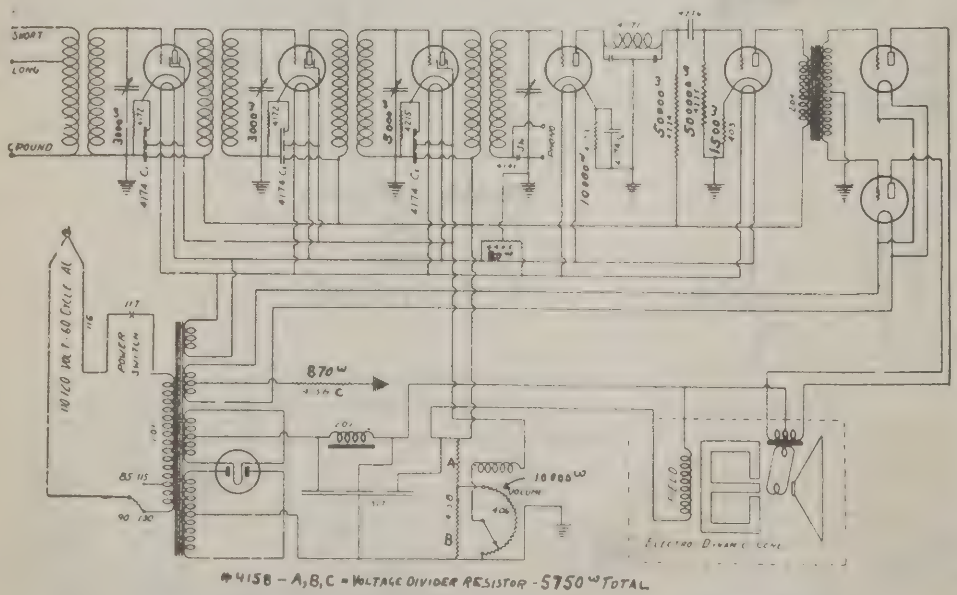
COLIN B. KENNEDY CORP.



601
602
602
602
.5 MF.
303
402
550ω
SWITCH
117
110-120 VOLT AC
201
405
20ω
HUM
750ω
407
C
202
C.
C2
C3
2.
5.
302
5.
303
406
VOLUME
10 000ω
1500ω
3000ω
A
#305 - .00025 MF. GRID COND. (INCL. ALSO WITH 4 SOCKET PANEL)
404
2 MEG.
.002
306
PHONO
203
1500ω
403
204
2250ω
DYNAMIC CONE

#407 – A, B, C, = VOLTAGE DIVIDER RESISTOR – 5250ω TOTAL.

Model 10



SHORT
LONG
GROUND
3000ω
4172
4174 C1
3000ω
4172
4174 C2
3000ω
4215
4174 C3
PHONO
10000ω
50000ω
500000ω
1500ω
403
204
110-120 VOLT 60 CYCLE AC
116
117
POWER SWITCH
85 115
90 130
870ω
C
201
A
B
10000ω
VOLUME
406
ELECTRO DYNAMIC CONE

#4158 – A, B, C = VOLTAGE DIVIDER RESISTOR – 5750ω TOTAL

Model 20

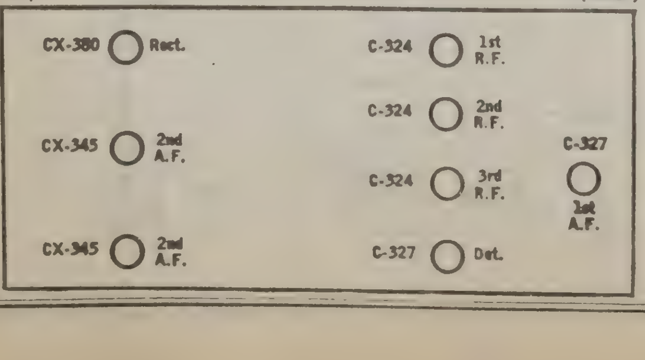
KENNEDY—Model 10
Line Voltage 112—Set on 120 Volt Tap

① Tube No. in Order	② Type of Tube	③ Position of Tube 1st RF Det. Etc.	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			④ A Volts	⑤ B Volts	⑥ A Volts	⑦ B Volts	⑧ C Volts Control Grid	⑨ Cathode-Heater Volts	⑩ Normal Plate M A	⑪ Plate M A Grid Test	⑫ Plate Change M A	⑬ Screen Grid Volts
1	227	1st RF	2.45	130	2.37	118	8	8	5.8	8.8	3	
2	227	2nd RF	2.45	130	2.37	118	8	8	5.8	8.8	3	
3	227	3rd RF	2.45	130	2.37	118	8	8	5.8	8.8	3	
4	227	Det.	2.45	135	2.37	38	0	0	2.1	2.1	0	
5	227	1st AF	2.45	160	2.37	112	9	9	4.8	6.5	1.7	
6	245	Pwr.	2.45	290	2.45	240	45	-	30	35	5	

KENNEDY—Model 20—Screen Grid
Line Voltage 112—Set on 120 Volt Tap

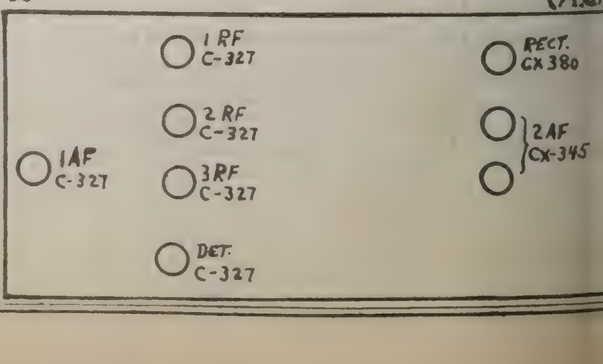
① Tube No. in Order	② Type of Tube	③ Position of Tube 1st RF Det. Etc.	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			④ A Volts	⑤ B Volts	⑥ A Volts	⑦ B Volts	⑧ C Volts Control Grid	⑨ Cathode-Heater Volts	⑩ Normal Plate M A	⑪ Plate M A Grid Test	⑫ Plate Change M A	⑬ Screen Grid Volts
1	224	1st RF	2.45	185	2.35	170	3.5	3	1	4	3	65
2	224	2nd RF	2.45	185	2.35	170	3.0	3	1.0	4	3	65
3	224	3rd RF	2.45	185	2.35	170	3.0	3	1.6	4	3	65
4	227	Det.	2.45	150	2.35	130	18.0	18.0	1.8	3	1.2	-
5	227	1st AF	2.45	110	2.35	160	10.0	10	7.4	9	1.5	-
6	245	Pwr.	2.45	285	2.36	230	45	-	26	30	4	-

20, (A.C.)



CX-380
Rect.
C-324
1st R.F.
C-324
2nd R.F.
CX-345
2nd A.F.
C-327
1st A.F.
C-324
3rd R.F.
CX-345
2nd A.F.
C-327
Det.

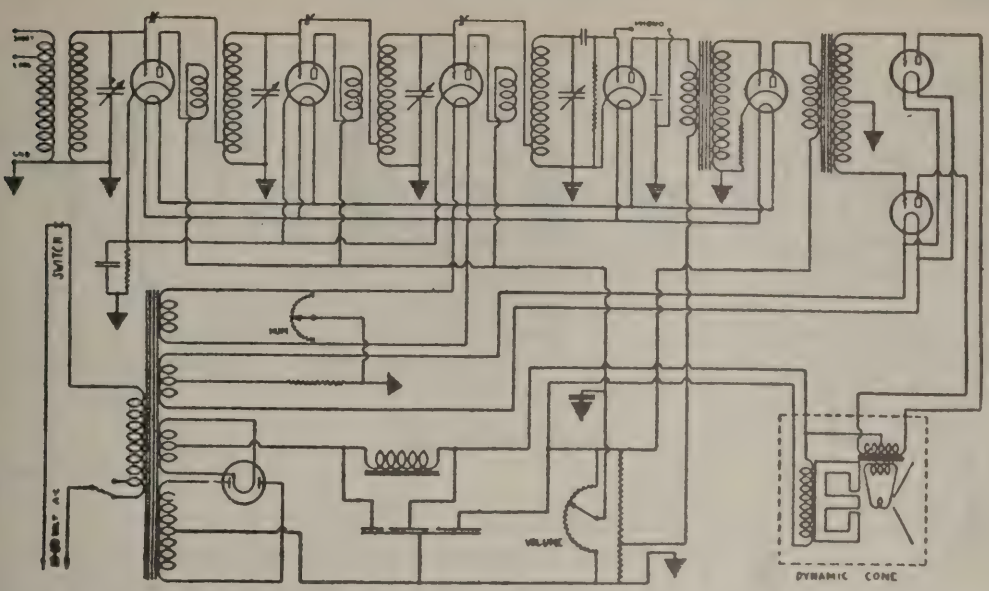
10 (A.C.



1 RF C-327
2 RF C-327
3 RF C-327
DET. C-327
1AF C-327
RECT. CX380
2AF CX-345

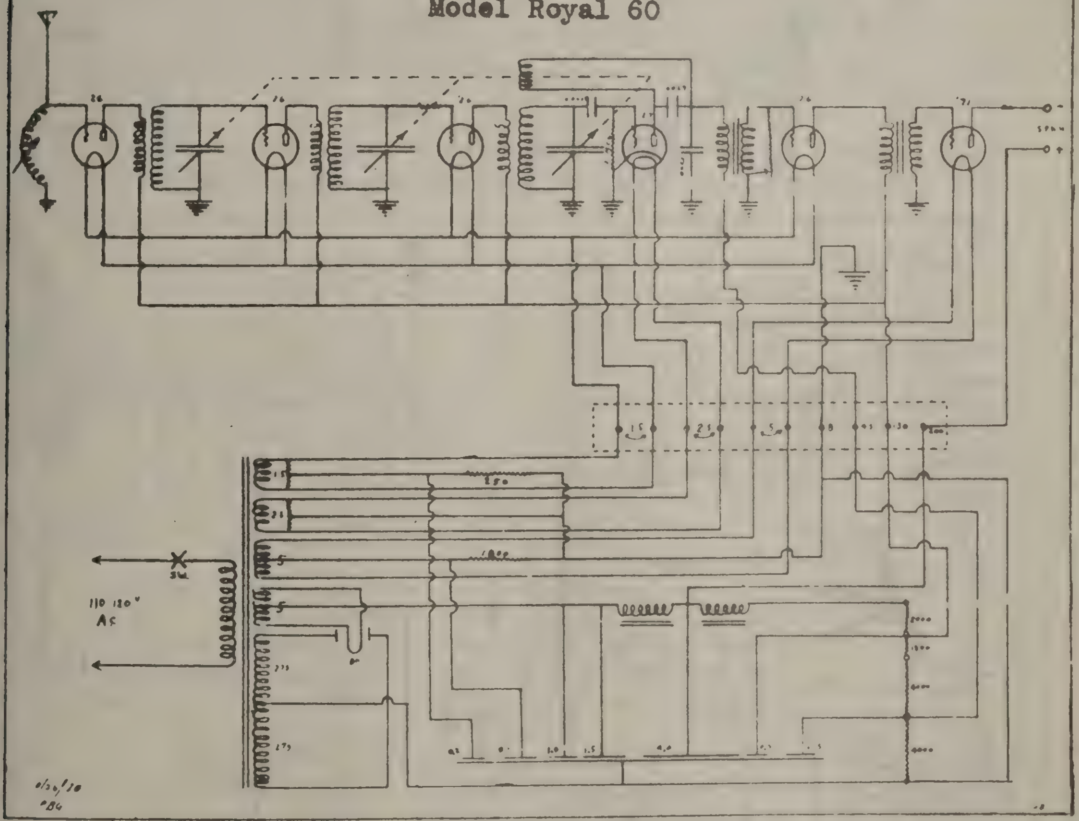
COLIN B. KENNEDY CORP.

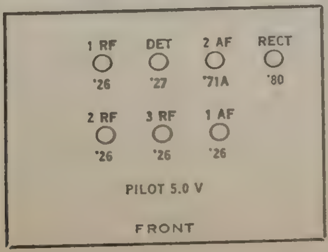
MODEL Royal
MODEL Royal 60


SWITCH
HUM
PHONO
VOLUME
DYNAMIC CONE

Model Royal

Model Royal 60


SPKR
SW.
110 120 V
AC


1 RF
'26
DET
'27
2 AF
'71A
RECT
'80
2 RF
'26
3 RF
'26
1 AF
'26
PILOT 5.0 V
FRONT

MODEL 26
Schematic
Chassis,Notes

COLIN B. KENNEDY CORP.

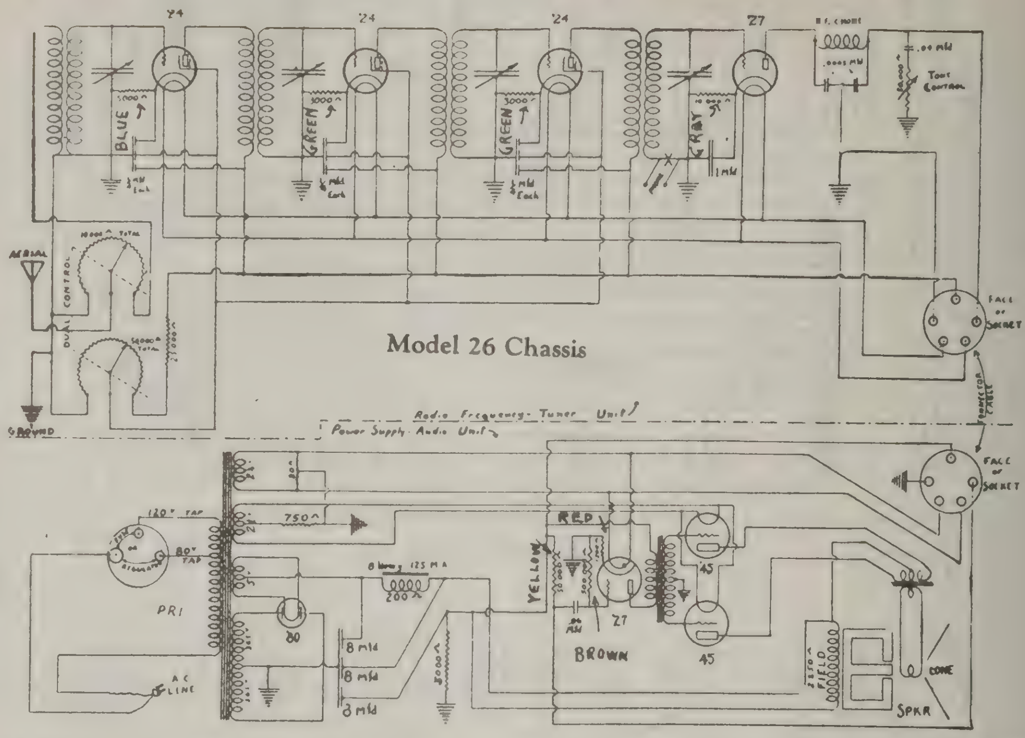
Special Note—Regulator Tubes

The Duresite type 415 line voltage regulator tube has been recommended for Kennedy Model 26 receivers. This tube is unsatisfactory for the model 826-B, however, as the short wave receiver adds to the current draw. The proper Duresite regulator tube for the long wave-short wave chassis only (model 826-B) is type 449.

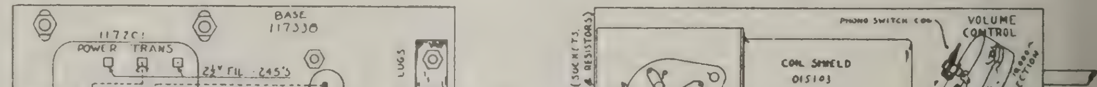
The chassis model 26 is provided with an extra socket for a voltage regulator tube. Receivers are shipped with a plug in this socket which contains a line fuse. The plug automatically connects the line through the fuse, onto the 120 volt primary tap. Thus transformer tap will provide sufficiently accurate voltages to the set between line voltages of about 108 to 125.

The resistance values of the various colored biasing resistors employed are as follows

Green	3,000 ohms	Yellow	50,000 ohms
Blue	5,000 ohms	Brown	500,000 ohms
Grey	10,000 ohms	Red	1,500 ohms


'24
'24
'24
'27
R.F. CHOKE
.0001 Mfd
.0001 Mfd
Tone Control
BLUE
GREEN
GREEN
GREY
3000
1 Mfd
AERIAL
GROUND
DUAL CONTROL
10000 Ω TOTAL
Face of Socket
Connector Cable
Radio Frequency Tuner Unit
Power Supply Audio Unit
120V TAP
80V TAP
REGULATOR
PRI
AC LINE
750Ω
200Ω
125 MA
RED
YELLOW
BROWN
'80
'27
'45
'45
8 Mfd
8 Mfd
8 Mfd
5000Ω
2350Ω FIELD
CONE
SPKR

Model 26 Chassis


BASE 117338
117201 POWER TRANS
2½V FIL. 245'S
5V FIL. RECT.
GND
HIGH VOLTAGE
2½V FIL RF DET & 1st AF
120V TAP
REG TAP
COMMON
DEAD LUG
113202 CHOKE
AC CORD ANCHOR LUGS
TO AC LINE
REG
TO 120V TAP
TO REG. TAP
280
VOLTAGE DIVIDER 5730Ω RESISTOR
8 MFD
8 MFD
8 MFD
GND.
245
245
RESISTANCE COUPLING ASSEMBLY
CONNECTOR CABLE SOCKET BOTH UNITS BOTTOM VIEW
DET PLATE
POS B VOLTS
GROUND
FILAMENTS
PUSH-PULL AUDIO TRANS 117204
TO PLATE 245
TO PLATE 245
TO VOLTAGE DIVIDER
TO CHOKE
BROWN
BROWN
BLACK
RED
SPEAKER TERMINALS 115301
227
PHONO SWITCH COIL
VOLUME CONTROL
COIL SHIELD 015103
R.F. SUB BASE ASSEMBLY —(SOCKETS, COILS, SHIELDS, CONDENSERS & RESISTORS)
224
224
224
227
4 SECTION BY PASS CONDENSER
4 SECTION BY PASS CONDENSER
2 SECTION BY PASS CONDENSER
TUNING CONDENSER GANG
SHIELD LOCKING BOLT
TUNING & VOLUME CONTROL SHAFTS
PHONO-SWITCH PUSH ROD
OUTPUT FILTER
PHONO-PICKUP JACKS 115196
BASE 117337
GND
ANT.
115197
113590 PHONO-SWITCH

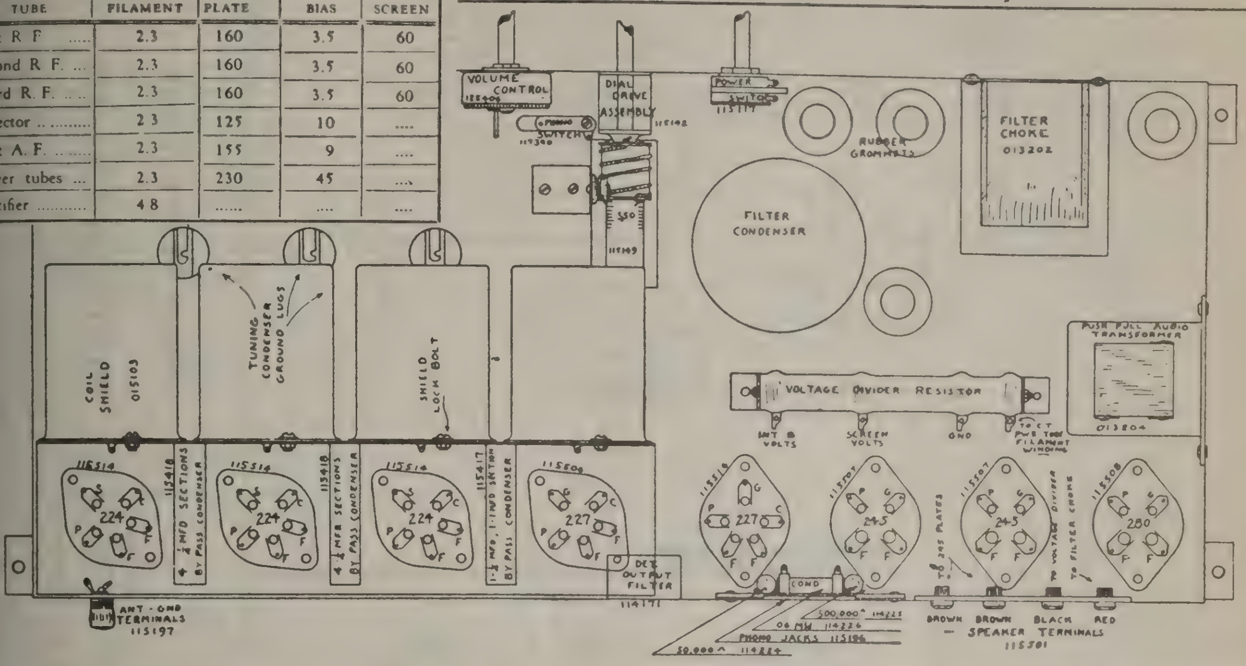
Model 26 Chassis

COLIN B. KENNEDY CORP.

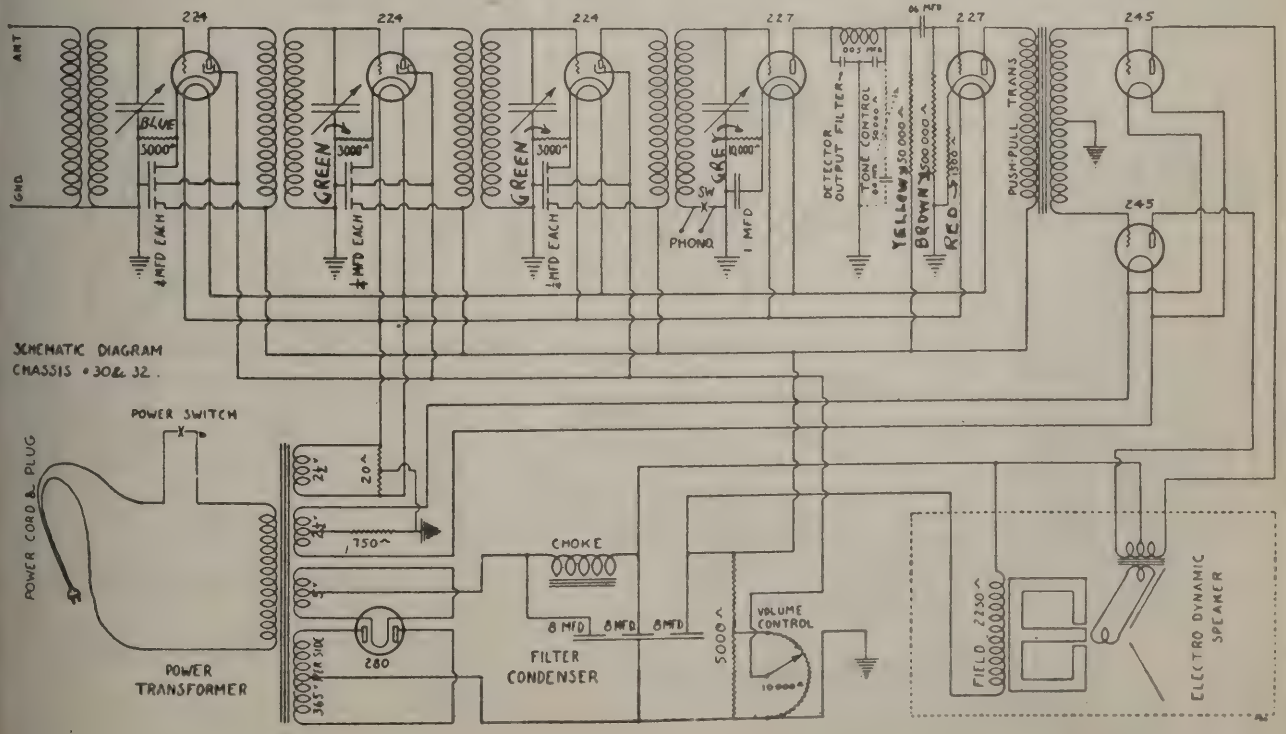
MODEL 30 & 32
Schematic
Chassis

Socket and Transformer Terminal Diagram of Model 30 and 32 Chassis

TUBE	FILAMENT	PLATE	BIAS	SCREEN
First R F	2.3	160	3.5	60
Second R F. ...	2.3	160	3.5	60
Third R. F.	2.3	160	3.5	60
Detector	2 3	125	10	....
First A. F.	2.3	155	9	....
Power tubes ...	2.3	230	45	....
Rectifier	4 8	......	....	....


VOLUME CONTROL
PHONO SWITCH
117300
DIAL DRIVE ASSEMBLY
115192
POWER SWITCH
RUBBER GROMMETS
FILTER CHOKE
013202
FILTER CONDENSER
PUSH PULL AUDIO TRANSFORMER
013204
VOLTAGE DIVIDER RESISTOR
INT. B VOLTS
SCREEN VOLTS
GND
TO C.T. 245 TUBE FILAMENT WINDING
COIL SHIELD
015103
TUNING CONDENSER GROUND LUGS
SHIELD LOCK BOLT
115514
224
115410
¼ MFD SECTIONS BY PASS CONDENSER
115417
1-1 MFD 1-1MFD SECTION BY PASS CONDENSER
115509
227
DET. OUTPUT FILTER
114171
245
280
245 PLATES
TO VOLTAGE DIVIDER
TO FILTER CHOKE
COND
500,000Ω 114221
.06 MFD 114226
PHONO JACKS 115196
50,000Ω 114224
BROWN
BROWN
BLACK
RED
— SPEAKER TERMINALS
115301
ANT - GND TERMINALS
115197

Schematic Circuit Diagram of Model 30 and 32 Chassis


ANT
GND
224
224
224
227
227
245
245
BLUE
GREEN
GREEN
GREY
3000Ω
3000Ω
3000Ω
10,000Ω
¼ MFD EACH
¼ MFD EACH
¼ MFD EACH
SW
PHONO
1 MFD
.06 MFD
.005 MFD
DETECTOR OUTPUT FILTER
TONE CONTROL 50000Ω
50,000Ω
500,000Ω
1380Ω
YELLOW
BROWN
RED
PUSH-PULL TRANS
SCHEMATIC DIAGRAM CHASSIS #30 & 32.
POWER SWITCH
POWER CORD & PLUG
POWER TRANSFORMER
2½V
2½V
20Ω
750Ω
5V
365V PER SIDE
280
CHOKE
8 MFD
8 MFD
8 MFD
FILTER CONDENSER
5000Ω
VOLUME CONTROL
10000Ω
FIELD 2250Ω
ELECTRO DYNAMIC SPEAKER

MODEL 34
Schematic
Voltage

COLIN B. KENNEDY CORP.

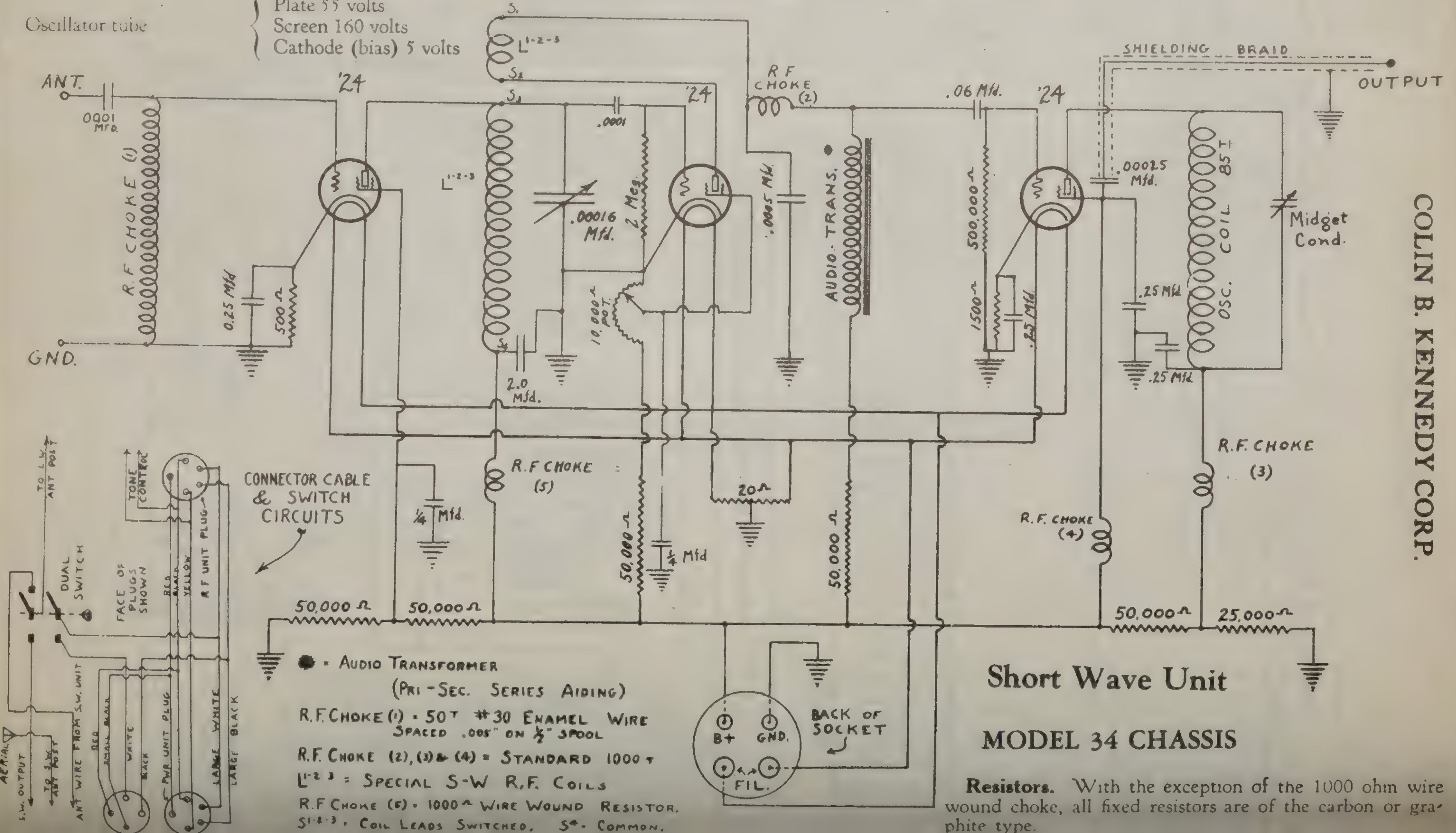
Radio frequency tube:
- Plate 160 volts
- Screen 70 volts
- Cathode (bias) 1.1 volts

Detector tube:
- Plate 140 volts
- Screen 30 volts
- (Volume on Maximum)

Oscillator tube
- Plate 55 volts
- Screen 160 volts
- Cathode (bias) 5 volts

Yellow	50,000	ohms
Red	1,500	ohms
Red (large)	2	megohms
Grey	25,000	ohms
Brown	500,000	ohms
Black	500	ohm

(Flexible covered resistor)


ANT.
.0001 MFD.
GND.
R.F. CHOKE (1)
'24
0.25 Mfd
500 Ω
S1
L1-2-3
S2
S3
S4
L1-2-3
.00016 Mfd.
.0001
2 Meg.
'24
10,000 Ω POT.
2.0 Mfd.
R F CHOKE (2)
.0005 Mfd.
AUDIO. TRANS.
.06 Mfd.
500,000 Ω
1500 Ω
.25 Mfd
'24
.00025 Mfd.
.25 Mfd
.25 Mfd
OSC. COIL 85T
Midget Cond.
SHIELDING BRAID
OUTPUT
R.F. CHOKE (3)
R.F. CHOKE (4)
R.F CHOKE (5)
¼ Mfd.
¼ Mfd
50,000 Ω
20 Ω
50,000 Ω
50,000 Ω
50,000 Ω
50,000 Ω
25,000 Ω
CONNECTOR CABLE & SWITCH CIRCUITS
TO L.W. ANT POST
TONE CONTROL
DUAL SWITCH
FACE OF PLUGS SHOWN
RED
BLACK
YELLOW
R F UNIT PLUG
AERIAL
S.W. OUTPUT
TO S.W. ANT POST
ANT WIRE FROM S.W. UNIT
RED
SMALL BLACK
WHITE
BLACK
PWR UNIT PLUG
LARGE WHITE
LARGE BLACK
B+
GND.
FIL.
BACK OF SOCKET

● = Audio Transformer
(Pri-Sec. Series Aiding)

R.F. Choke (1) = 50T #30 Enamel Wire
Spaced .005" on ½" spool

R.F. Choke (2), (3) & (4) = Standard 1000 T

L1-2-3 = Special S-W R.F. Coils

R.F Choke (5) = 1000 Ω Wire Wound Resistor.

S1-2-3 = Coil Leads Switched. S4 = Common.

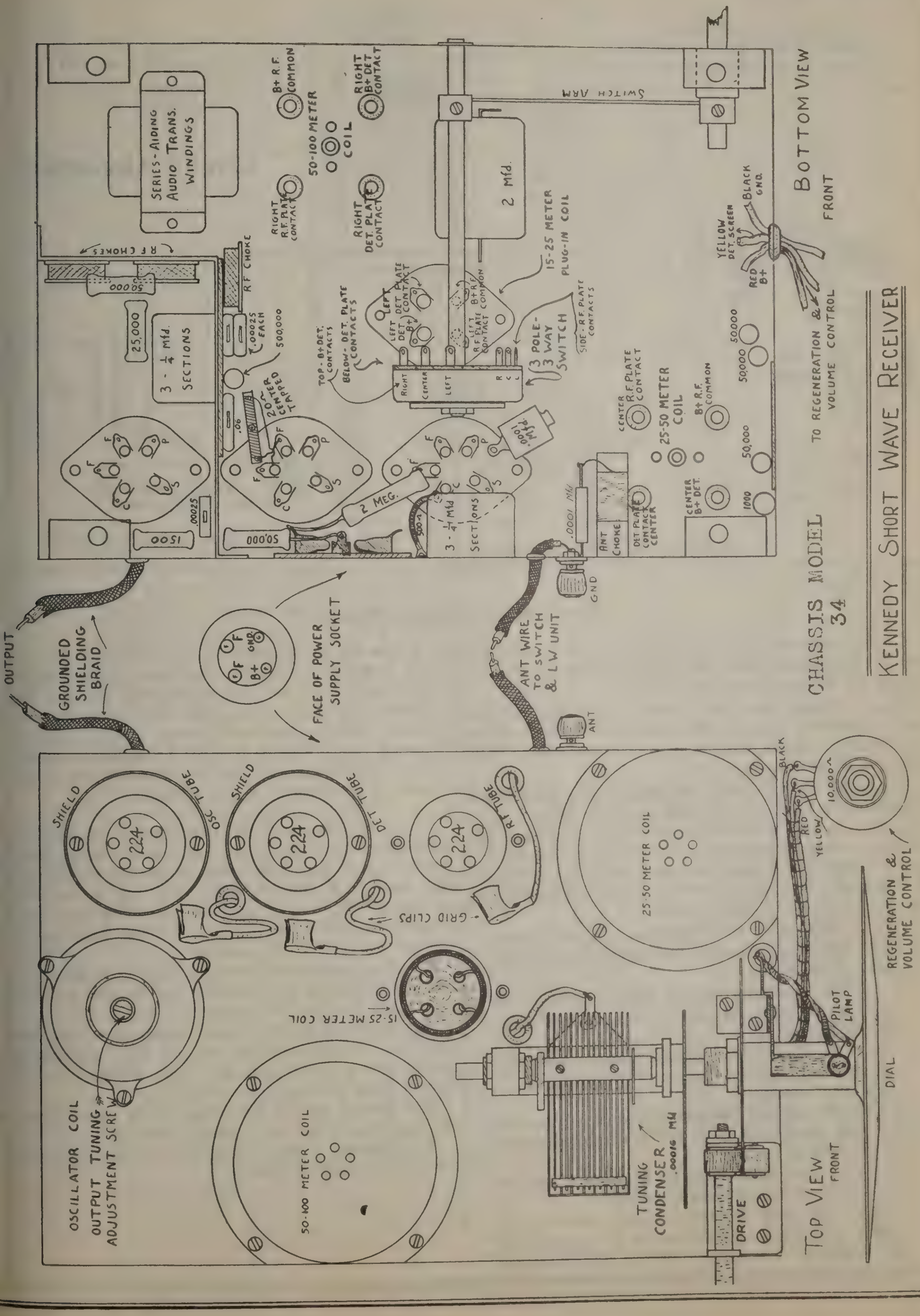
Short Wave Unit

MODEL 34 CHASSIS

Resistors. With the exception of the 1000 ohm wire wound choke, all fixed resistors are of the carbon or graphite type.

COLIN B. KENNEDY CORP.

MODEL 34
Chassis



KENNEDY SHORT WAVE RECEIVER

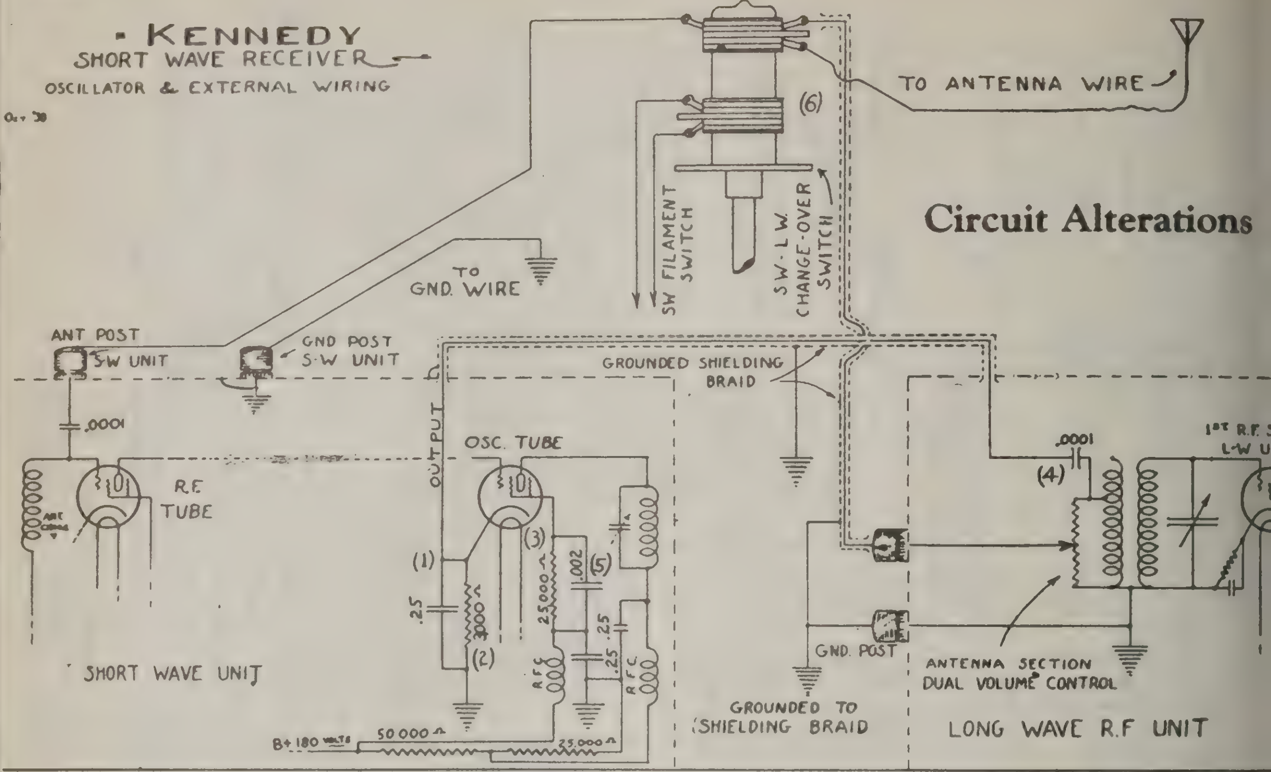
CHASSIS MODEL 34

BOTTOM VIEW
FRONT
SERIES-AIDING AUDIO TRANS. WINDINGS
RF CHOKES
50,000
25,000
3 - ¼ Mfd. SECTIONS
RF CHOKE
.00025 EACH
500,000
20 OHM CENTER TAPPED
.06
.00025
1500
50,000
2 MEG.
500,000
3 - ¼ Mfd. SECTIONS
.0001 Mfd.
.0001 Mfd.
B+ R.F. COMMON
50-100 METER COIL
RIGHT B+ DET CONTACT
RIGHT R.F. PLATE CONTACT
RIGHT DET. PLATE CONTACT
SWITCH ARM
2 Mfd.
15-25 METER PLUG-IN COIL
LEFT DET B+
LEFT DET. PLATE CONTACT
B+ R.F. COMMON
LEFT R.F. PLATE CONTACT
TOP - B+ DET. CONTACTS
BELOW - DET. PLATE CONTACTS
3 POLE-3 WAY SWITCH
SIDE - R.F. PLATE CONTACTS
RIGHT
CENTER
LEFT
R C L
F P S C
YELLOW DET. SCREEN
BLACK GND.
RED B+
TO REGENERATION & VOLUME CONTROL
50,000
50,000
50,000
1000
CENTER R.F. PLATE CONTACT
25-50 METER COIL
B+ R.F. COMMON
CENTER B+ DET.
DET PLATE CONTACT CENTER
ANT CHOKE
GND
ANT
OUTPUT
GROUNDED SHIELDING BRAID
FACE OF POWER SUPPLY SOCKET
F GND F B+
ANT WIRE TO SWITCH & LW UNIT
SHIELD
OSC TUBE
224
SHIELD
DET TUBE
224
R.F. TUBE
224
GRID CLIPS
25-50 METER COIL
BLACK
RED
YELLOW
10,000 Ω
REGENERATION & VOLUME CONTROL
15-25 METER COIL
OSCILLATOR COIL
OUTPUT TUNING ADJUSTMENT SCREW
50-100 METER COIL
TUNING CONDENSER .00016 Mfd
PILOT LAMP
DIAL
DRIVE
TOP VIEW
FRONT

MODEL 34
Oscillator
Data

COLIN B. KENNEDY CORP.

Circuit Alterations


• KENNEDY
SHORT WAVE RECEIVER
OSCILLATOR & EXTERNAL WIRING
TO ANTENNA WIRE
(6)
SW FILAMENT SWITCH
SW-L.W. CHANGE-OVER SWITCH
TO GND. WIRE
ANT POST SW UNIT
GND POST S-W UNIT
GROUNDED SHIELDING BRAID
.0001
OUTPUT
OSC. TUBE
R.F. TUBE
(1)
(2)
(3)
(5)
.25
3000
25000
.002
.25
.25
R.F.C.
R.F.C.
SHORT WAVE UNIT
B+ 180 VOLTS
50 000
25,000
GND. POST
GROUNDED TO SHIELDING BRAID
.0001
(4)
1ST R.F.
L-W U
ANTENNA SECTION DUAL VOLUME CONTROL
LONG WAVE R.F UNIT

Short Wave Chassis Model 34

Certain minor alterations in wiring, as well as the addition of a few small parts, have been made in the production of the short wave chassis, model 34.

These changes have been made as they increase the ease in handling and the efficiency of the unit, but are not recommended for units built prior to the time of their adoption in production.

Variations in the circuit diagram in this booklet are shown in the illustration on this page. It will be noted that the changes have been made in the oscillator and external wiring circuits only—the short wave radio frequency stage and detector remaining entirely as previously indicated. The changes are as follows, numbers corresponding to those on illustration.

(1) The short wave oscillator output is now taken from the cathode of the oscillator tube instead of the screen.

(2) A 3,000-ohm biasing resistor replaces the 1,500-ohm resistor previously indicated at the oscillator cathode.

(3) A 25,000-ohm graphite resistor has been placed in the screen circuit between the R. F. choke and screen.

(4) A .0001 mfd. condenser has been placed in the long wave R. F. unit, at the ungrounded end of the volume control.

(5) A .002 mfd. condenser is placed across the 25,000-ohm screen grid series resistor.

(6) The long wave-short wave change over switch is rewired as indicated in the accompanying diagram. The portion of the switch utilized in turning the filaments of the S-W unit on and off remains unchanged. The other portion, single pole-double throw, is now rewired so that the antenna is thrown to either short wave or long wave units as required, being entirely disconnected from the unit it is not intended to connect to. The antenna is now connected to the center pole of this switch, as per diagram.

———o———

It will be noted that the short wave unit output nc connects permanently to the long wave antenna coil p mary through the .0001 mfd. condenser located in t long wave R. F. unit, without being cut in and out l the change over switch, as formerly. This does not ac a noticeable load to this circuit, for long wave receptic so does not need to be switched.

Shielding braid is used over the short wave output wi and the wire from the switch to the antenna post of t long wave unit.

The 10,000-ohm wire wound regeneration and volur control, in the short wave unit, has been replaced by 10,000-ohm graphite control. This provides a smoo control—less inclined to be noisy.

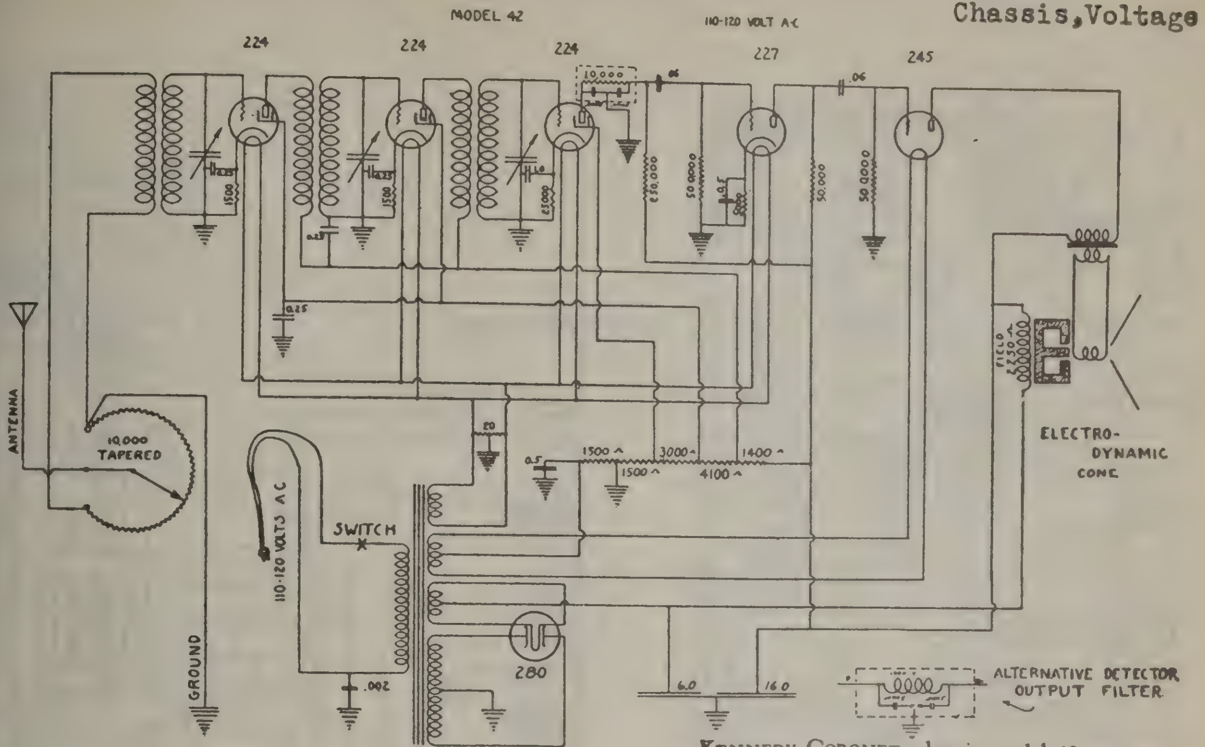
The ground wire is connected to the ground post the short wave unit, as formerly indicated.

The antenna is now connected to the wire leadi from the changeover switch.

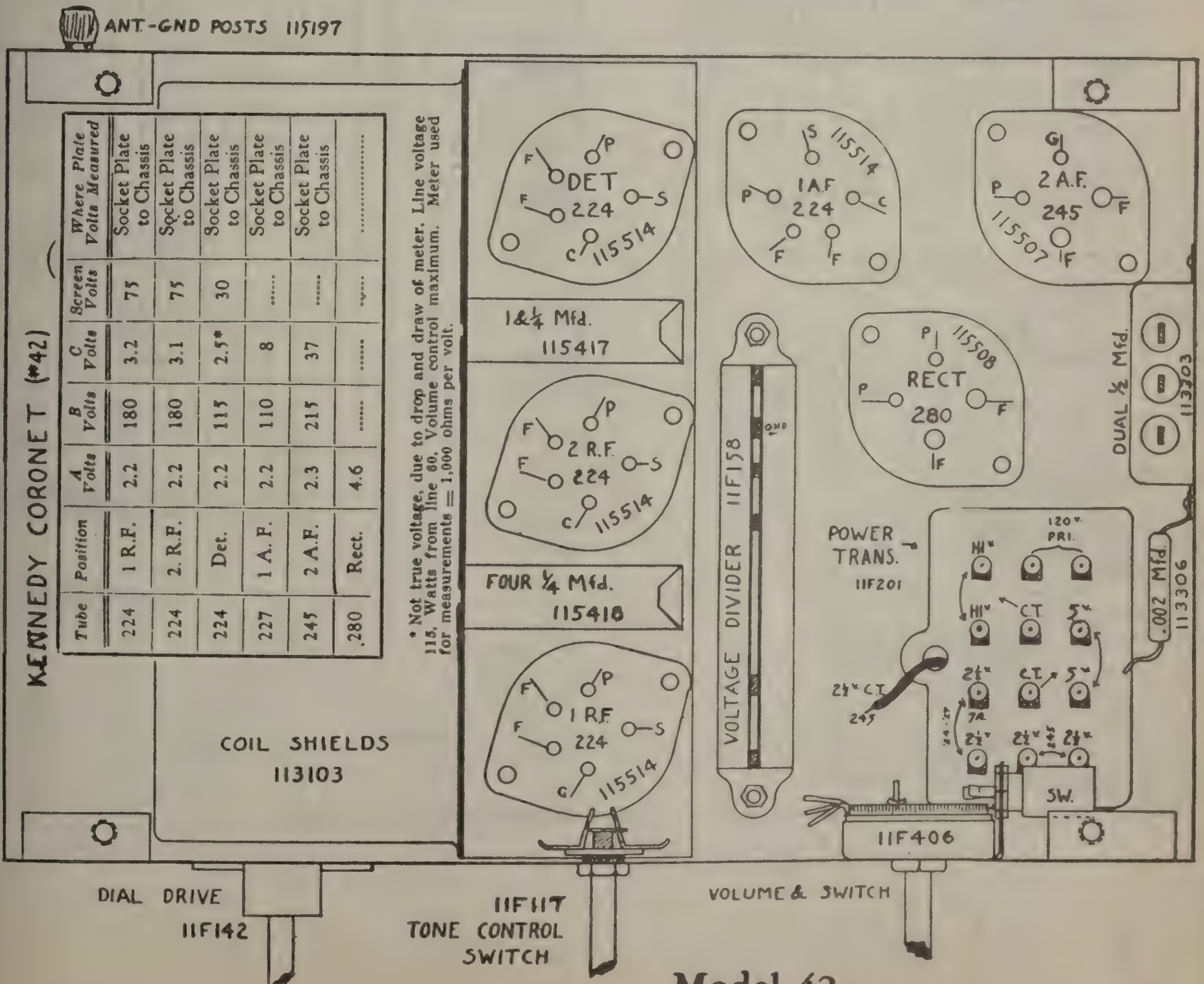
———o———

COLIN B. KENNEDY CORP

MODEL Coronet 42
Schematic
Chassis,Voltage


MODEL 42
110-120 VOLT A-C
224
224
224
227
245
10,000
.06
.06
1500
1500
25000
250,000
50,000
0.5
50,000
50,000
.25
ANTENNA
10,000 TAPERED
GROUND
110-120 VOLTS A-C
SWITCH
.002
20
0.5
1500 ^
3000 ^
1400 ^
1500 ^
4100 ^
280
6.0
16.0
FIELD
ELECTRO-DYNAMIC CONE
ALTERNATIVE DETECTOR OUTPUT FILTER

KENNEDY CORONET, chassis model 42



KENNEDY CORONET (#42)

Tube	Position	A Volts	B Volts	C Volts	Screen Volts	Where Plate Volts Measured
224	1 R.F.	2.2	180	3.2	75	Socket Plate to Chassis
224	2. R.F.	2.2	180	3.1	75	Socket Plate to Chassis
224	Det.	2.2	115	2.5*	30	Socket Plate to Chassis
227	1 A. F.	2.2	110	8	......	Socket Plate to Chassis
245	2 A.F.	2.3	215	37	......	Socket Plate to Chassis
280	Rect.	4.6	......	......	......	....

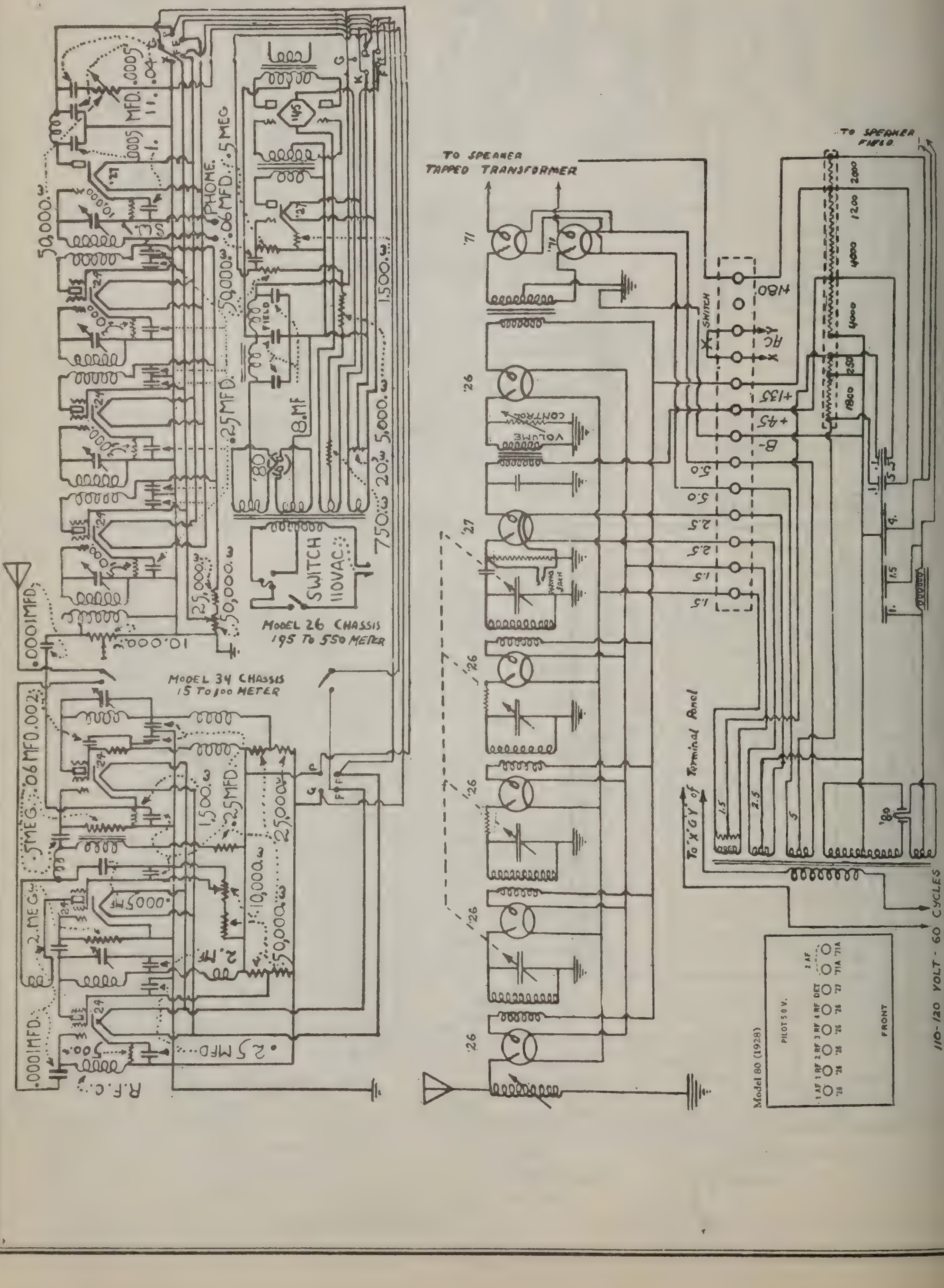
* Not true voltage, due to drop and draw of meter. Line voltage 115. Watts from line 60. Volume control maximum. Meter used for measurements = 1,000 ohms per volt.

ANT.-GND POSTS 115197
COIL SHIELDS
113103
DET 224 115514
2 R.F. 224 115514
1 R.F. 224 115514
1&¼ Mfd. 115417
FOUR ¼ Mfd. 115418
1AF 224 115514
2 A.F. 245 115507
RECT 280 115508
VOLTAGE DIVIDER 11F158
GND
DUAL ½ Mfd. 113303
.002 Mfd. 113306
POWER TRANS. 11F201
120V PRI.
HI V
HI V
C.T.
5V
2½V C.T. 245
2½V
C.T.
5V
2½V
2½V
2½V
SW.
11F406
DIAL DRIVE 11F142
11F117 TONE CONTROL SWITCH
VOLUME & SWITCH
P
F
S
C
G

Model 42

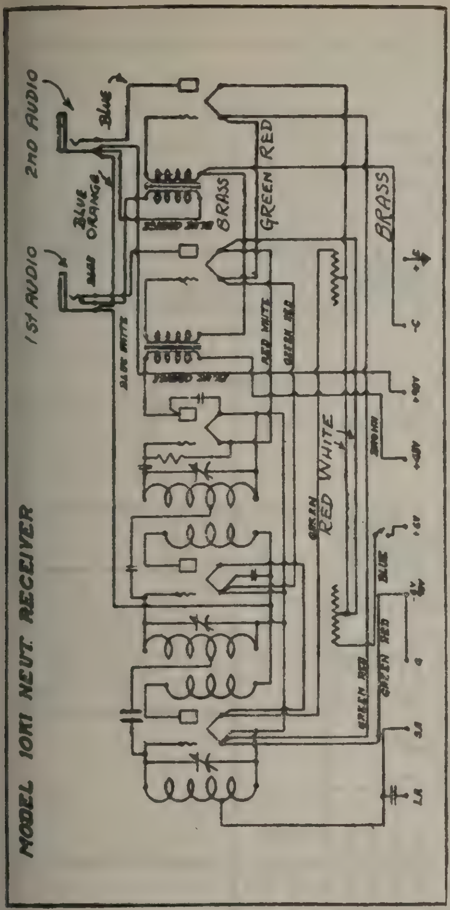
COLIN B. KENNEDY CORP.

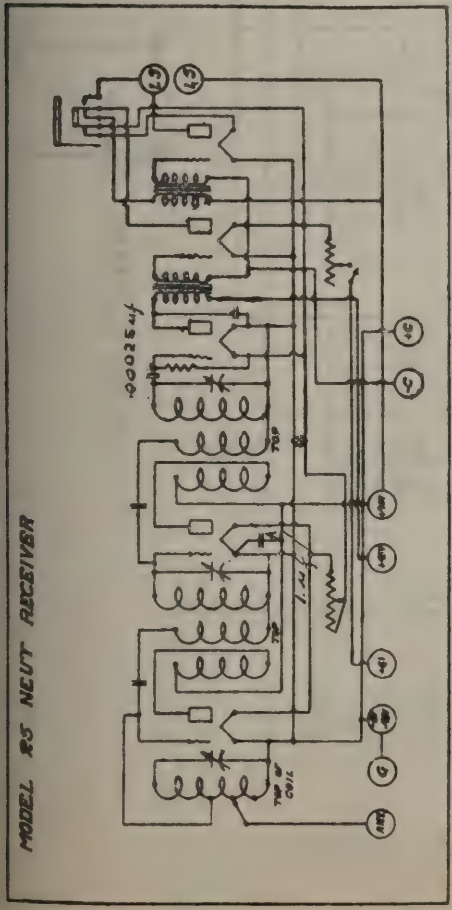
MODEL Royal 80
MODEL 826-B

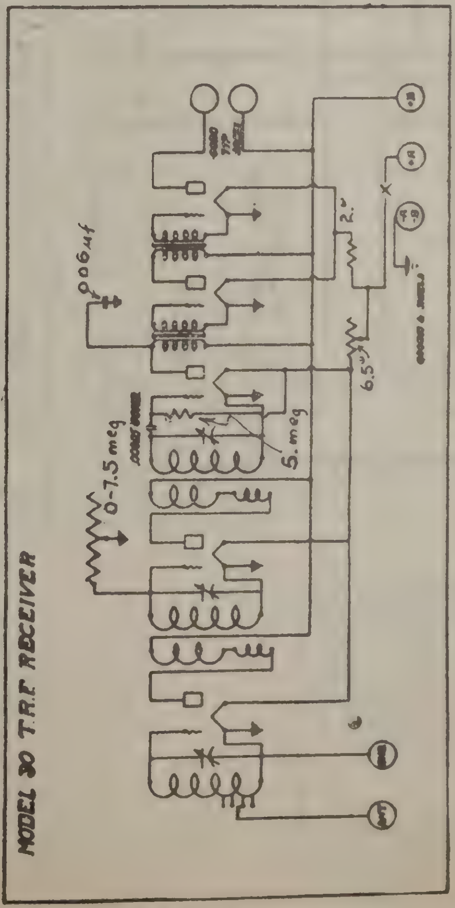

MODEL 26 CHASSIS 195 To 550 METER
MODEL 34 CHASSIS 15 To 100 METER
SWITCH 110VAC
PHONE
.0005
MFD.
.04
.06 MFD.
.5 MEG
.25 MFD.
50,000 Ω
10,000 Ω
25,000 Ω
1,500 Ω
5,000 Ω
20 Ω
750 Ω
8. MF
FIELD
'80
'27
'24
.0001 MFD.
.002
.06 MFD
.5 MEG.
2. MEG
2. MF
R.F.C.
TO SPEAKER TAPPED TRANSFORMER
TO SPEAKER FIELD
'71
'26
VOLUME CONTROL
SWITCH
+180
AC
+135
+45
B-
5.0
2.5
1.5
2000
1200
4000
1800
250
5.5
4.
1.5
1.
To 'X' 'G' 'Y' of Terminal Panel
110-120 VOLT - 60 CYCLES ALTERNATING CURRENT.
Model 80 (1928)
PILOT 5.0 V.
1 AF 1 RF 2 RF 3 RF 4 RF DET 2 AF
'26 '26 '26 '26 '26 '27 '71A '71A
FRONT

KING MFG. CORP.

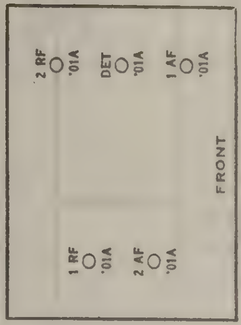
MODEL 10 K1,10 SK
MODEL 25
MODEL 30


MODEL 10KI NEUT. RECEIVER
1st AUDIO
2ND AUDIO
BLUE
BLUE
ORANGE
BRASS
GREEN
RED
BRASS
RED WHITE
GREEN RED
GREEN
RED
WHITE
BLUE
GREEN RED
GREEN RED
-C
+90V
+45V
+6V
A-
G
LA

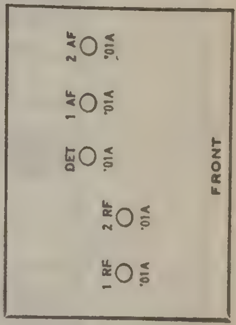

MODEL 25 NEUT RECEIVER
LS
LS
.00025 uf
TOP
TOP
1.M
TOP OF COIL
+C
-C
G
ANT


MODEL 30 T.R.F. RECEIVER
.006 uf
0-7.5 meg
5. meg
6.5"
2"
+B
+A
-A -B
ANT

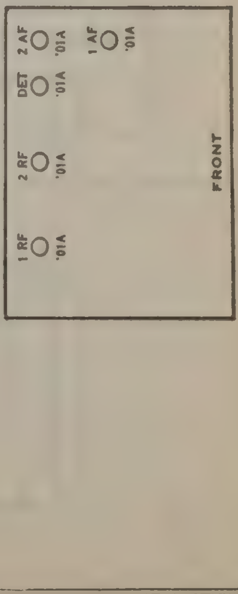
Models 10KI, 10SK


2 RF
'01A
DET
'01A
1 AF
'01A
1 RF
'01A
2 AF
'01A
FRONT

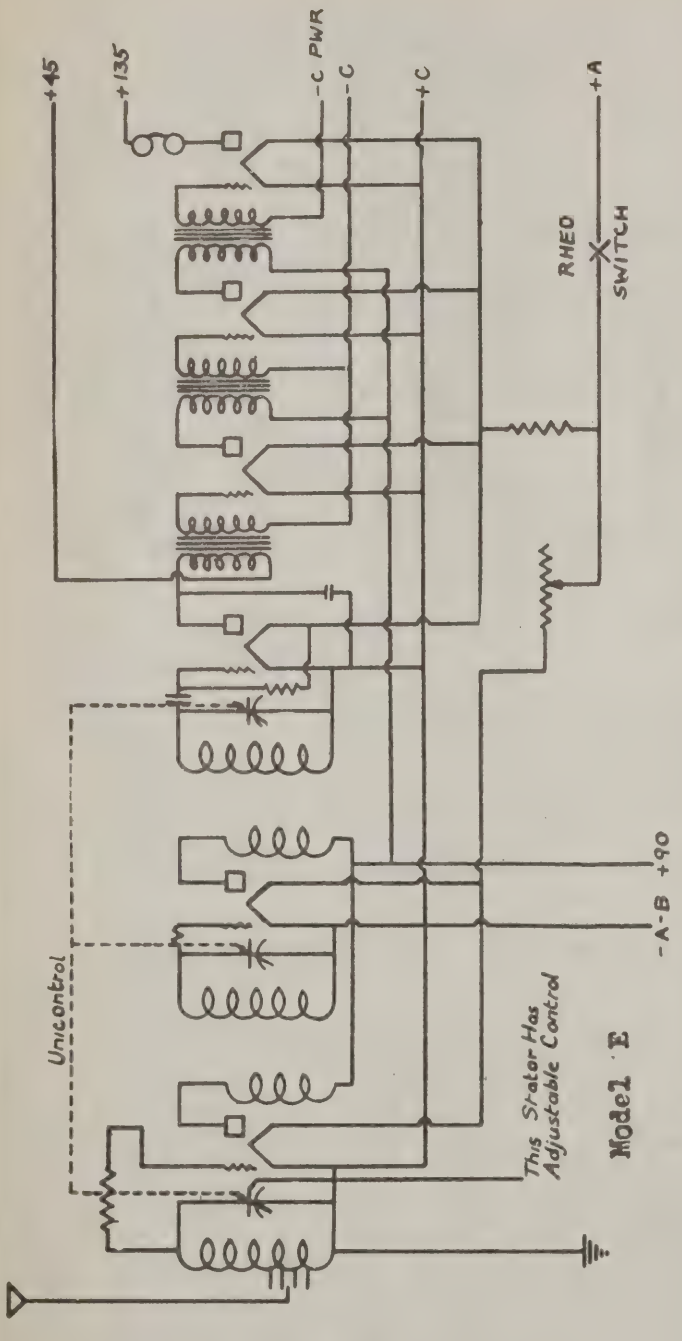
Model 25


2 AF
'01A
1 AF
'01A
DET
'01A
2 RF
'01A
1 RF
'01A
FRONT

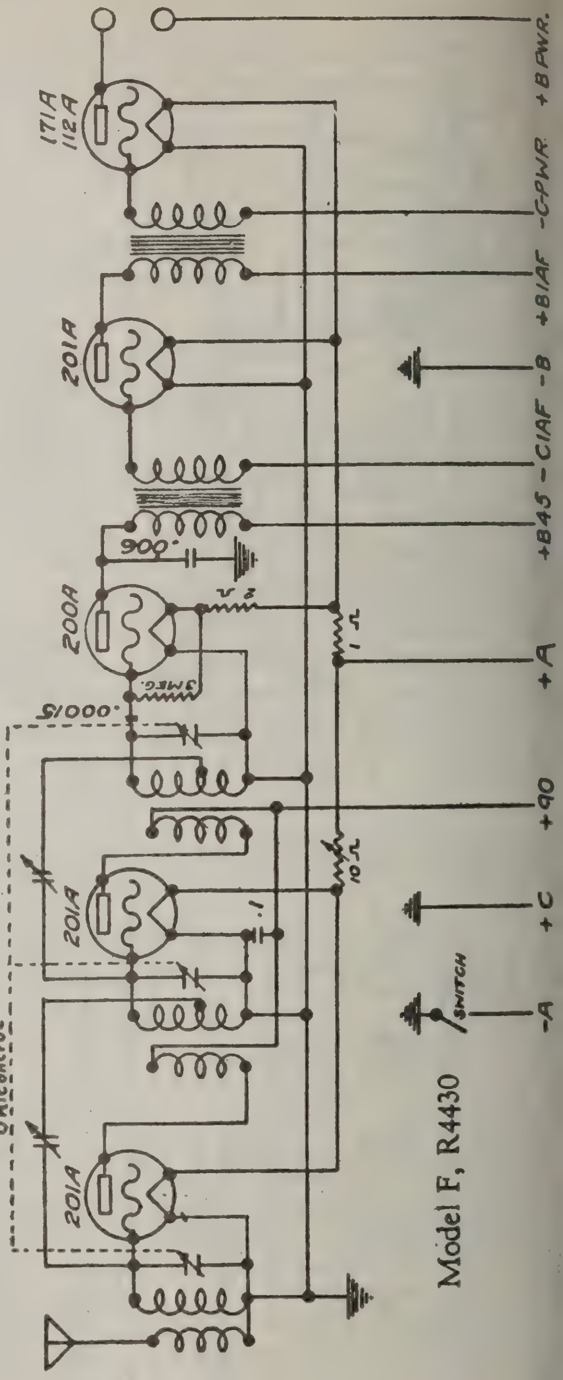
Models 30, 40


2 AF
'01A
DET
'01A
1 AF
'01A
2 RF
'01A
1 RF
'01A
FRONT

KING MFG. CORP.

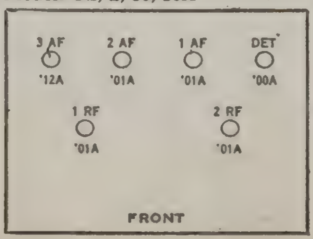

+45
+135
-C PWR
-C
+C
+A
RHEO
SWITCH
+90
-A-B
Unicontrol
This Stator Has Adjustable Control

Model E

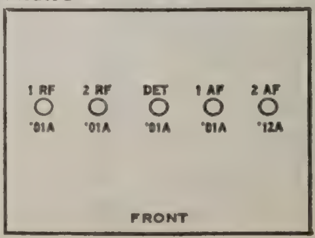

171A
112A
201A
200A
201A
201A
.006
2Ω
3 MEG.
.00015
1Ω
.1
10Ω
Unicontrol
+B PWR.
-C PWR
+B1AF
-B
-C1AF
+B45
+A
+90
+C
-A
SWITCH

Model F, R4430

Models OE, E, 80, 80A

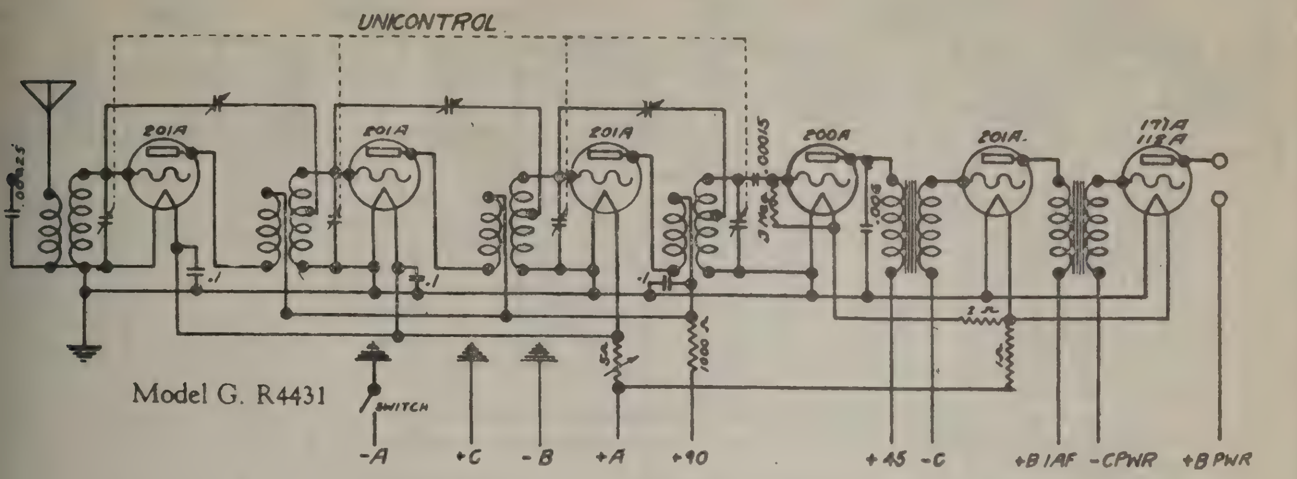

3 AF
'12A
2 AF
'01A
1 AF
'01A
DET
'00A
1 RF
'01A
2 RF
'01A
FRONT

Model F

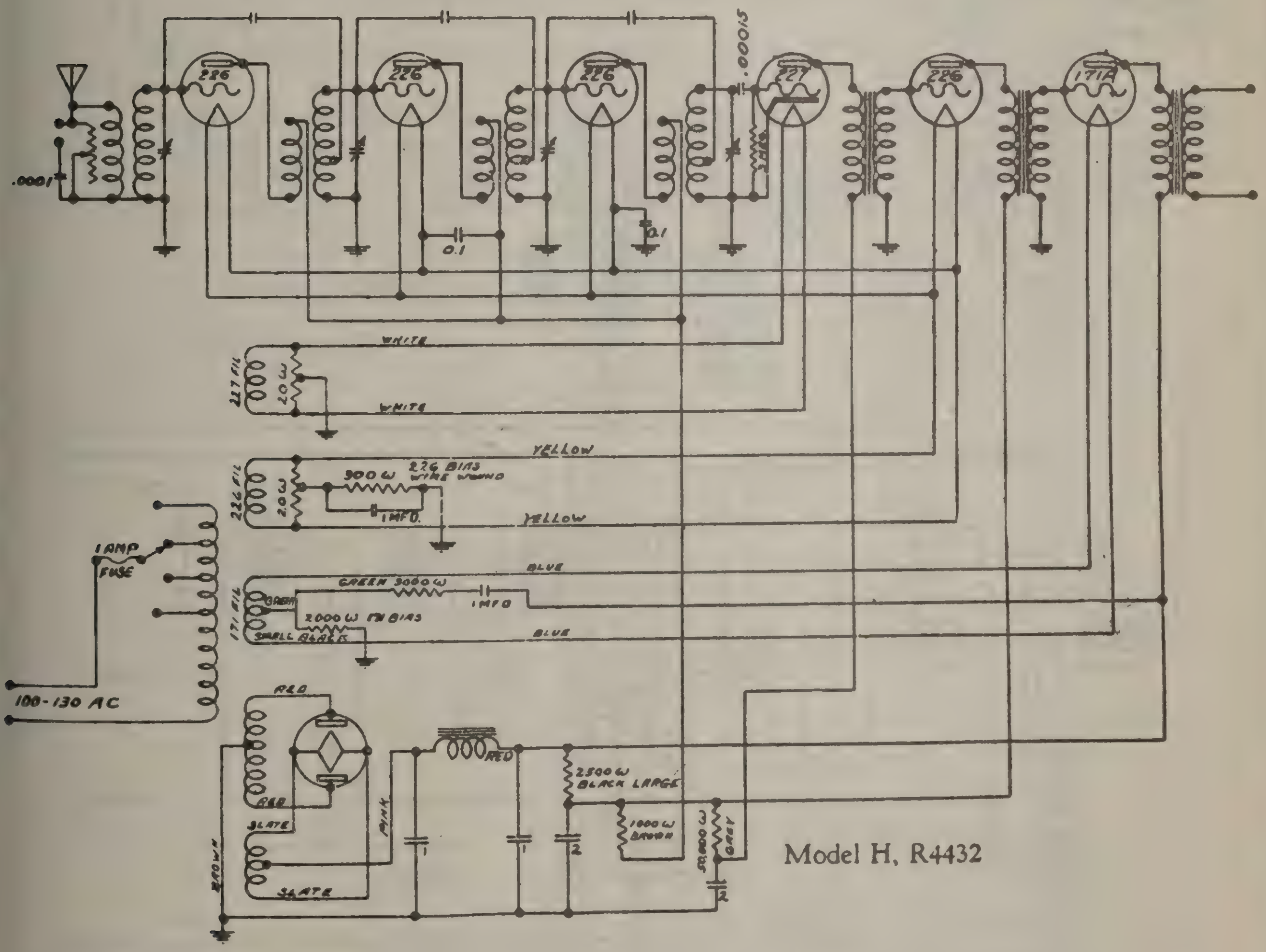

1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'12A
FRONT

KING MFG. CORP.

MODEL G
MODEL H

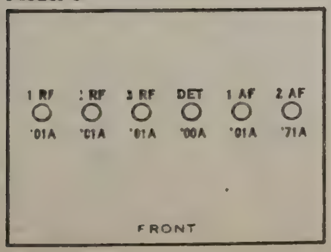

UNICONTROL
201A
201A
201A
200A
201A
171A
112A
.00025
.1
.1
.1
.00015
3 meg
.006
2Ω
5Ω
1000Ω
SWITCH
-A
+C
-B
+A
+90
+45
-C
+B IAF
-C PWR
+B PWR

Model G. R4431

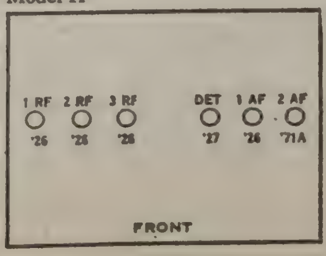

.0001
226
226
226
227
226
171A
.00015
3 meg
0.1
0.1
WHITE
227 FIL
20Ω
WHITE
YELLOW
226 FIL
20Ω
300Ω
226 BIAS WIRE WOUND
1 MFD.
YELLOW
1 AMP FUSE
BLUE
GREEN 3000Ω
1 MFD
171 FIL
GREEN
2000Ω FIL BIAS
SMALL BLACK
BLUE
100-130 AC
RED
RED
SLATE
SLATE
BROWN
PINK
RED
2500Ω BLACK LARGE
1000Ω BROWN
30,000Ω GREY
1
1
2
2

Model H, R4432

Model G

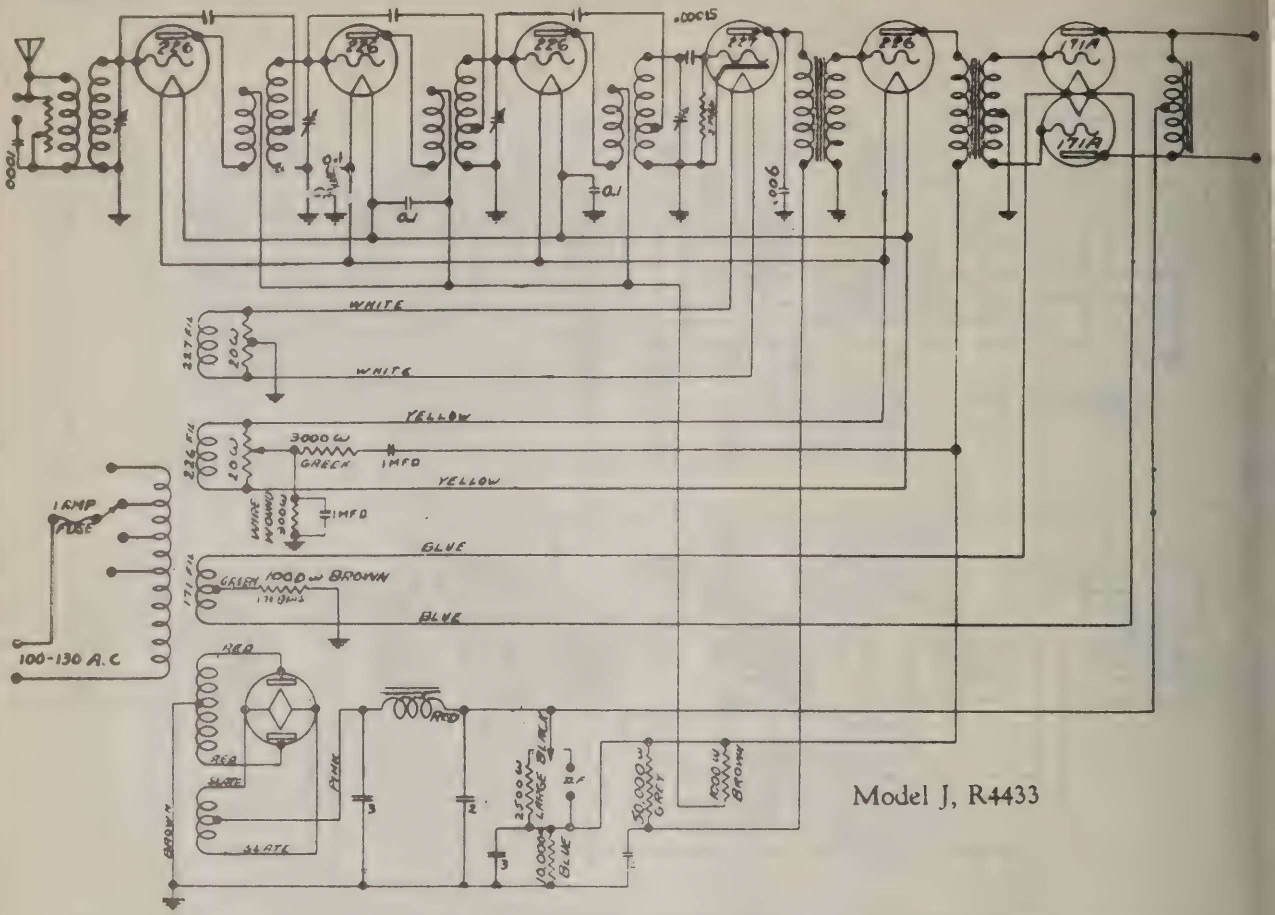

1 RF
2 RF
3 RF
DET
1 AF
2 AF
'01A
'01A
'01A
'00A
'01A
'71A
FRONT

Model H

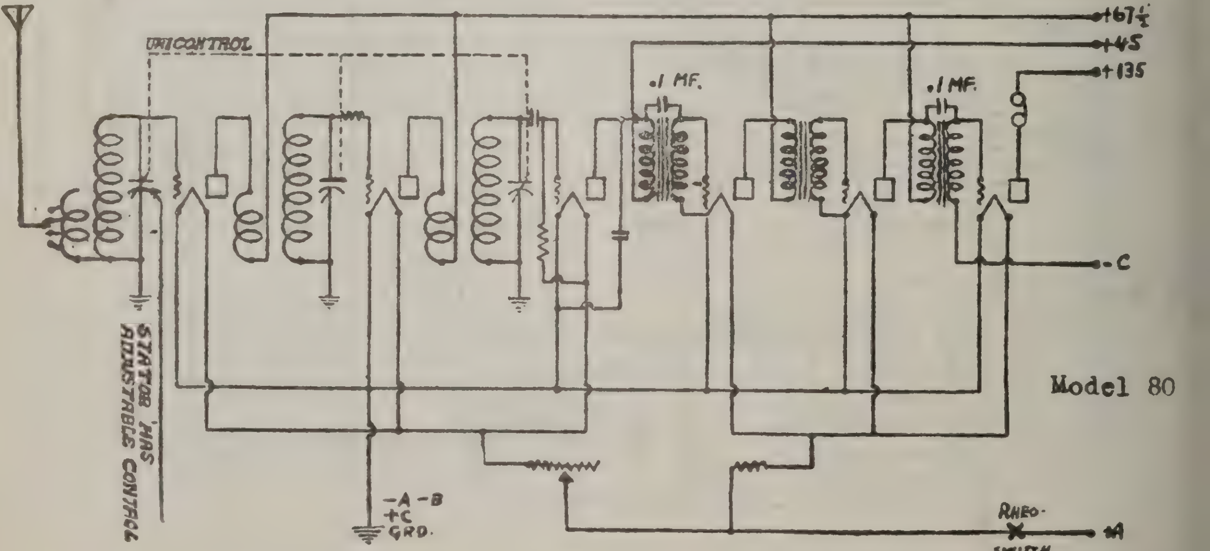

1 RF
2 RF
3 RF
DET
1 AF
2 AF
'26
'26
'26
'27
'26
'71A
FRONT

MODEL J
MODEL 80

KING MFG. CORP.

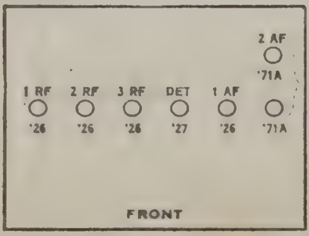

226
226
226
227
226
171A
171A
.001
.0-1
.01
.01
.00015
.006
227 FIL
20Ω
WHITE
WHITE
226 FIL
20Ω
3000Ω
GREEN
1MFD
YELLOW
YELLOW
WIRE WOUND 300Ω
1MFD
1AMP FUSE
BLUE
171 FIL
GREEN
1000Ω
BROWN
171 BIAS
BLUE
100-130 A.C
RED
RED
SLATE
SLATE
BROWN
PINK
RED
3
2
3
2500Ω LARGE BLACK
10,000Ω BLUE
50,000Ω GREY
1000Ω BROWN

Model J, R4433


UNICONTROL
.1 MF.
.1 MF.
+67½
+45
+135
-C
STATOR HAS ADJUSTABLE CONTACT
-A -B
+C
GRD.
RHEO-
SWITCH
+A

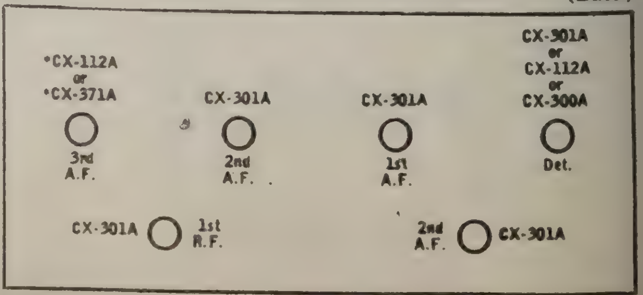
Model 80

Model J


2 AF
'71A
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
'71A
FRONT

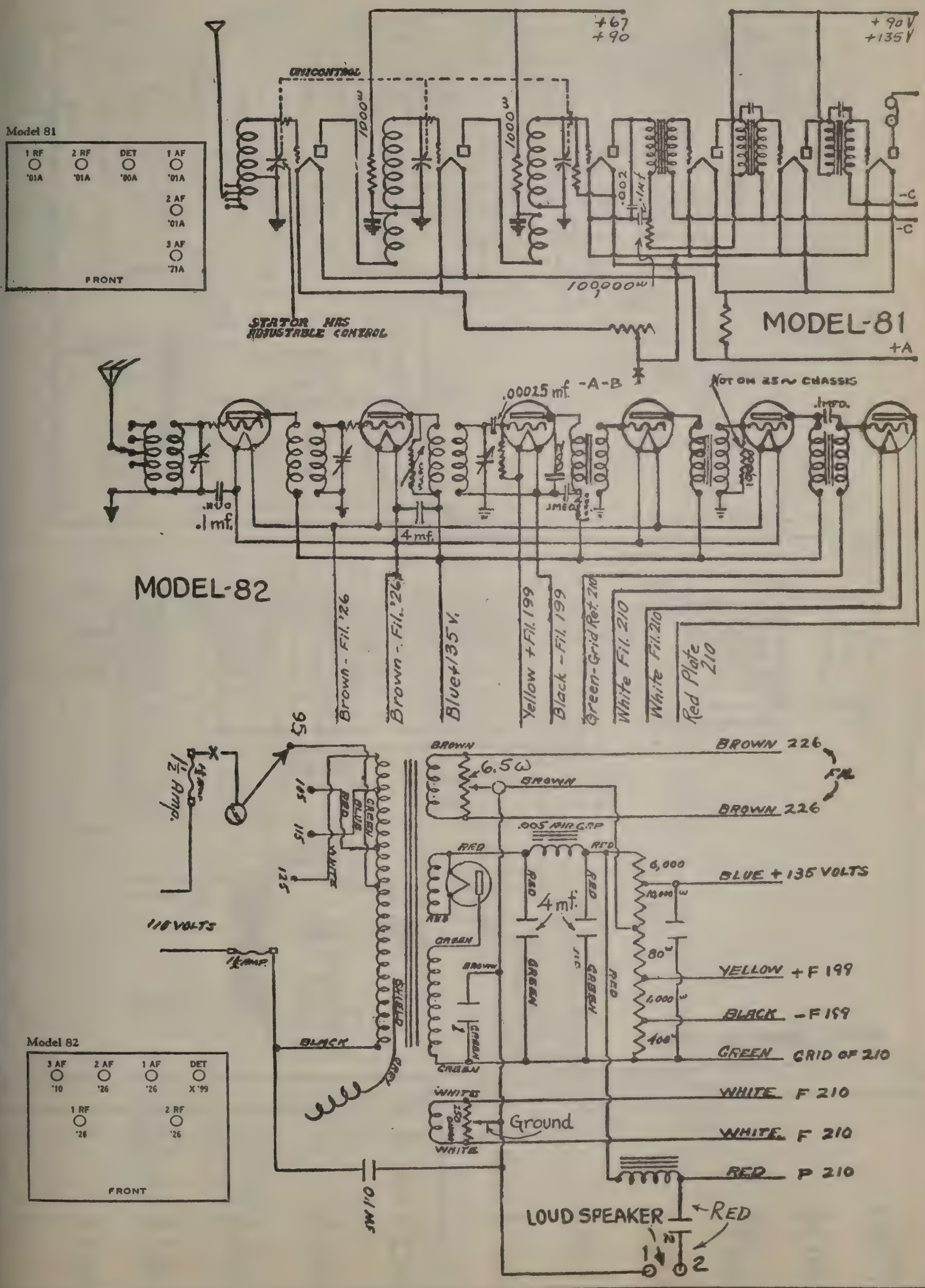
80

(Batt.)


*CX-112A
or
*CX-371A
3rd
A.F.
CX-301A
2nd
A.F.
CX-301A
1st
A.F.
CX-301A
or
CX-112A
or
CX-300A
Det.
CX-301A
1st
R.F.
2nd
A.F.
CX-301A

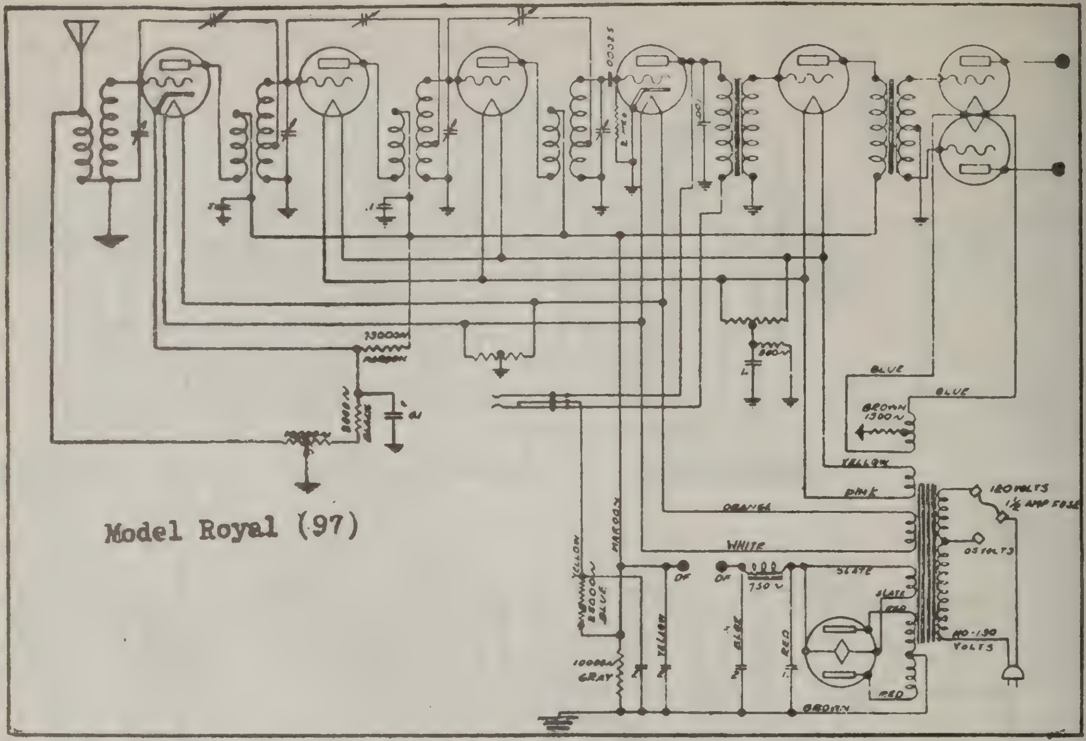
KING MFG CORP.

MODEL 81
MODEL 82

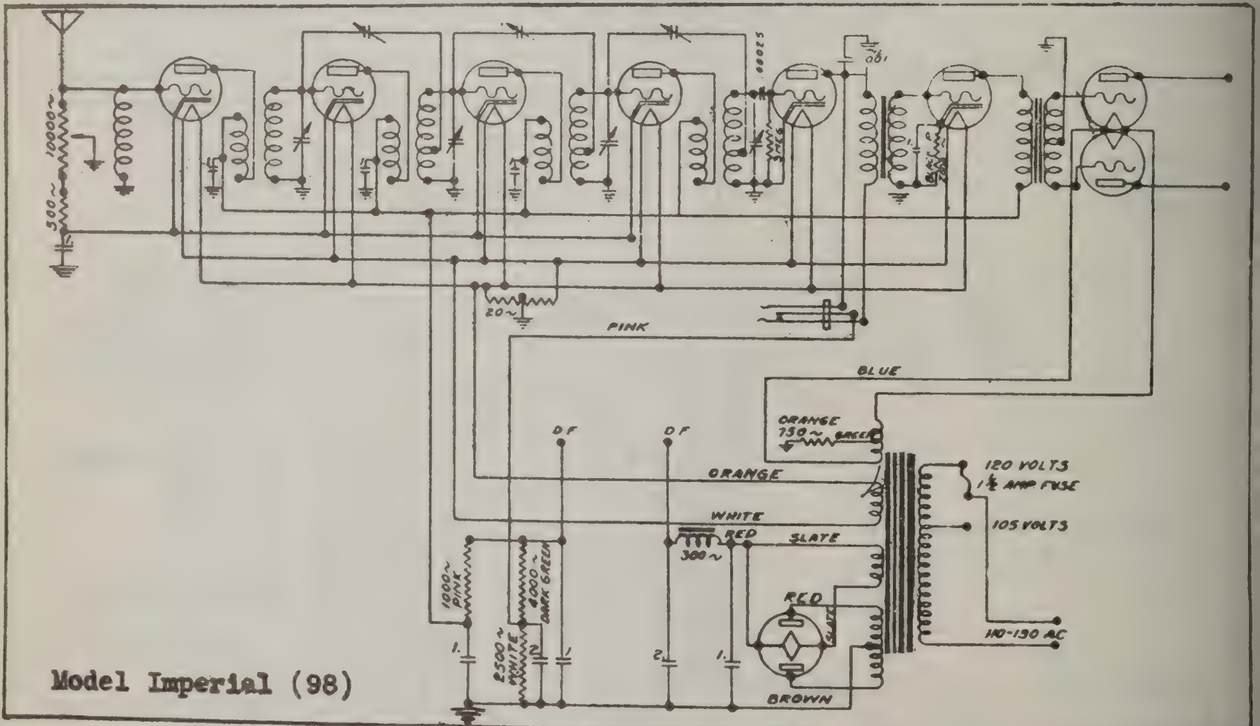

Model 81
1 RF
'01A
2 RF
'01A
DET
'00A
1 AF
'01A
2 AF
'01A
3 AF
'71A
FRONT
UNICONTROL
1000ω
1000ω
+67
+90
+90V
+135V
.002
.1mf
100,000ω
-C
-C
STATOR HAS ADJUSTABLE CONTROL
MODEL-81
+A
-A-B
.00015 mf.
NOT ON 25~ CHASSIS
.1mfd.
.1mf.
1MEG
4 mf.
MODEL-82
Brown - Fil. '26
Brown - Fil. '26
Blue+135 V.
Yellow +Fil. 199
Black -Fil. 199
Green-Grid Ret. 210
White Fil. 210
White Fil. 210
Red Plate 210
95
105
115
125
1½ Amp.
RED
BLUE
GREEN
WHITE
BROWN
6.5ω
BROWN
BROWN 226
FIL
BROWN 226
.005 AIR GAP
RED
RED
RED
4 mf.
RED
RED
6,000
10,000ω
BLUE +135 VOLTS
110 VOLTS
1½ AMP.
GREEN
BROWN
GREEN
GREEN
GREEN
RED
80ω
YELLOW +F 199
1,000ω
BLACK -F 199
400ω
GREEN GRID OF 210
SHIELD
BLACK
WHITE
WHITE F 210
Ground
WHITE F 210
WHITE
RED P 210
.1 MF
LOUD SPEAKER
RED
1
2
Model 82
3 AF
'10
2 AF
'26
1 AF
'26
DET
X '99
1 RF
'26
2 RF
'26
FRONT

MODEL ROYAL (97)
MODEL IMPERIAL (98)

KING MFG. CORP.

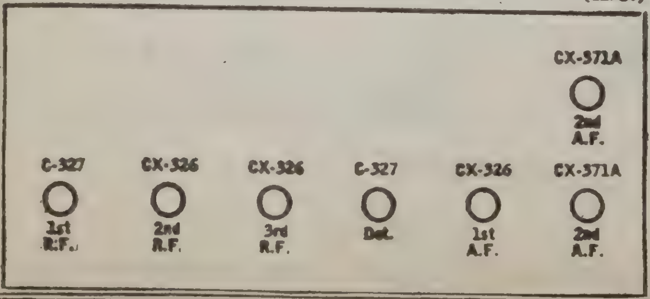

.00025
13000~ MAROON
BLUE
BLUE
BROWN 1300~
YELLOW
PINK
120 VOLTS 1½ AMP FUSE
ORANGE
WHITE
05 VOLTS
YELLOW
MAROON
DF
DF
750~
SLATE
SLATE
RED
2500~ BLUE
110-130 VOLTS
10000~ GRAY
YELLOW
BLUE
RED
RED
BROWN

Model Royal (97)

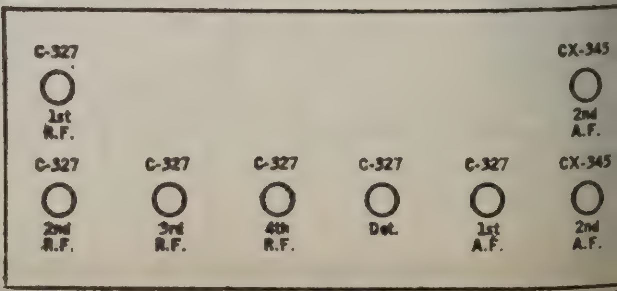

10000~
300~
.00025
.001
20~
PINK
BLUE
ORANGE 750~ GREEN
DF
DF
120 VOLTS
1½ AMP FUSE
ORANGE
105 VOLTS
WHITE
RED
SLATE
300~
1000~ PINK
4000~ DARK GREEN
2500~ WHITE
RED
SLATE
110-130 AC
1.
2.
1
2.
1.
BROWN

Model Imperial (98)

97 (A.C.)

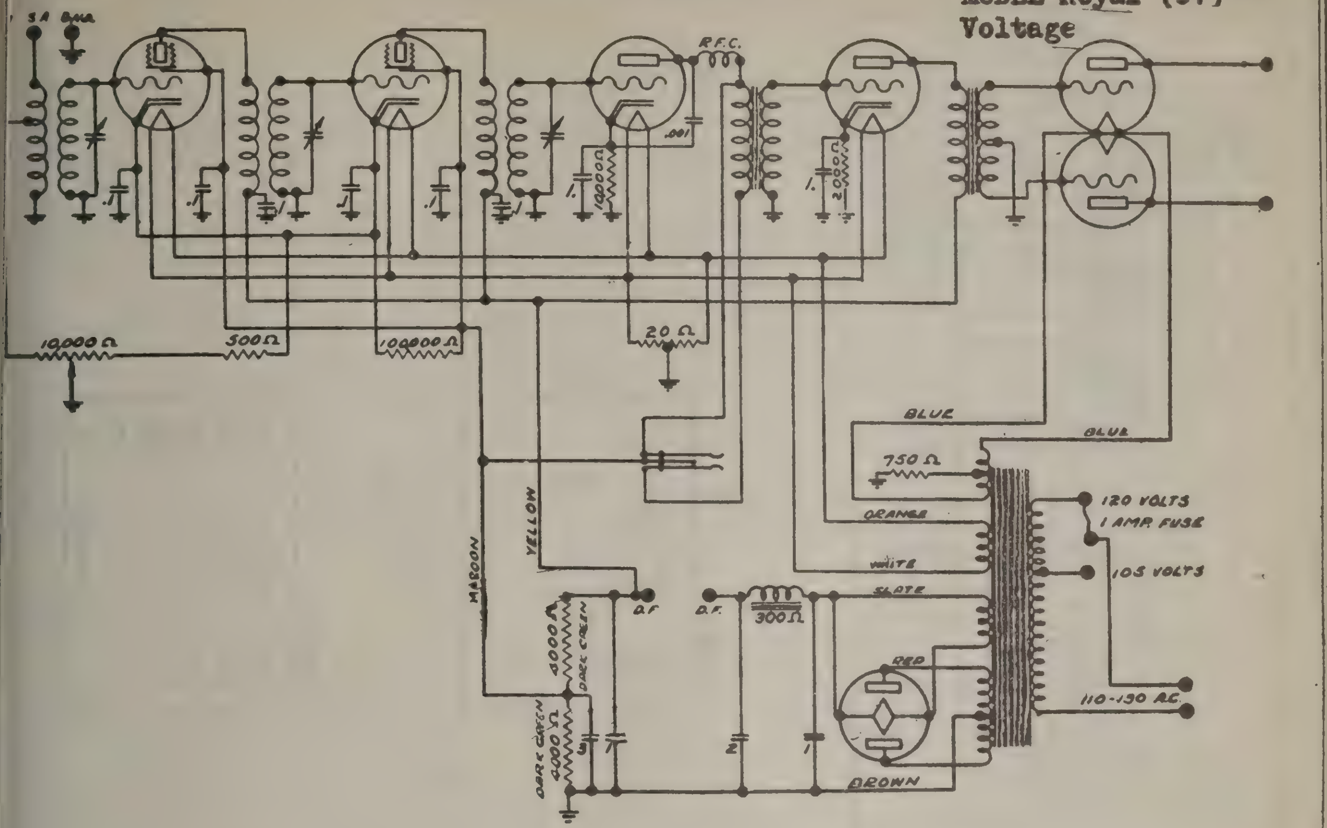

CX-371A
2nd A.F.
C-327
1st R.F.
CX-326
2nd R.F.
CX-326
3rd R.F.
C-327
Det.
CX-326
1st A.F.
CX-371A
2nd A.F.

98 (A.C


C-327
1st R.F.
CX-345
2nd A.F.
C-327
2nd R.F.
C-327
3rd R.F.
C-327
4th R.F.
C-327
Det.
C-327
1st A.F.
CX-345
2nd A.F.

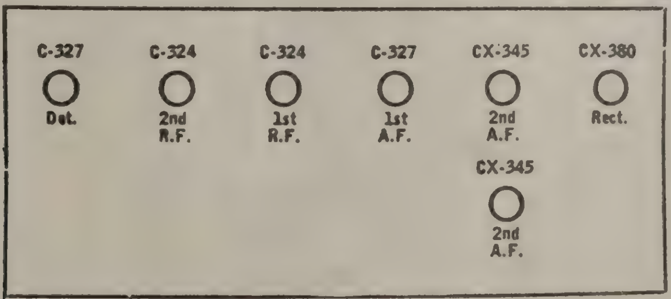
KING MFG. CORP.

MODEL Monarch (101)
Schematic - Voltage
MODEL Royal (97)
Voltage


SA
Ant.
R.F.C.
.001
10000 Ω
2000 Ω
10,000 Ω
500 Ω
100,000 Ω
20 Ω
BLUE
BLUE
750 Ω
120 VOLTS
1 AMP. FUSE
105 VOLTS
ORANGE
WHITE
SLATE
RED
BROWN
110-130 A.C.
YELLOW
MAROON
D.F.
D.F.
300 Ω
3000 Ω
DARK GREEN
DARK GREEN
4000 Ω
1
2
3

MONARCH Model 101.					
Tube	Stage	Fil. V.	Plate V.	Screen. Grid V.	Control Grid V.
'24	1 R.F.	2.5	180	85	3.5
'24	2 R.F.	2.5	180	85	3.5
'27	Det.	2.5	90	-----	10.
'27	1 A.F.	2.5	170	-----	13.
'45	2 A.F.	2.5	220	-----	50.
'45	2 A.F.	2.5	220	-----	50.

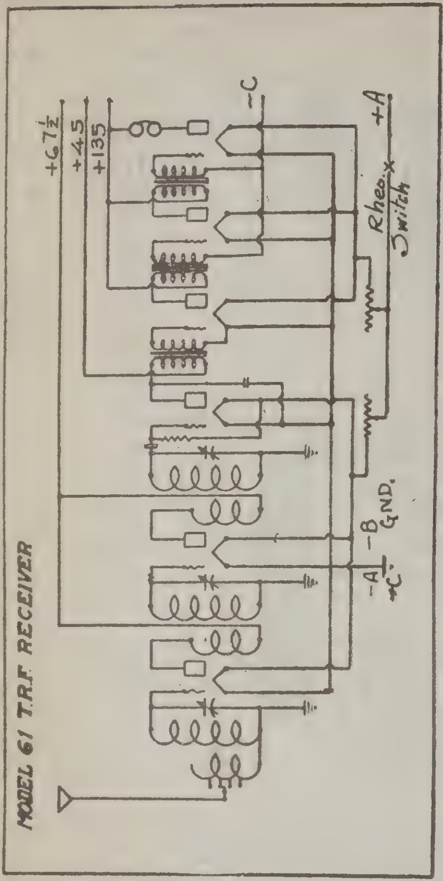
101 (A.C.)

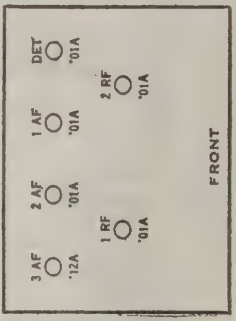

C-327
Det.
C-324
2nd R.F.
C-324
1st R.F.
C-327
1st A.F.
CX-345
2nd A.F.
CX-380
Rect.
CX-345
2nd A.F.

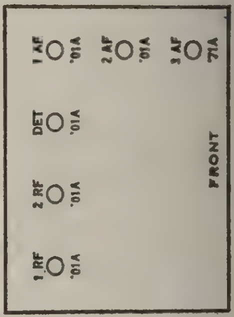
Model 97 Line: 105 Volts.					
Tube	Stage	Fil.V.	Plate V.	Grid V.	Cath.V.
'27	1 R.F.	2.4	136	11.	-----
'26	2 R.F.	1.6	136	10	
'26	3 R.F.	1.6	136	10	
'27	Det.	2.4	52	-----	------
'26	1 A.F.	1.6	127	8.	
'71	2 A.F.	5.1	184	36	
'71	2 A.F.	5.1	184	36	

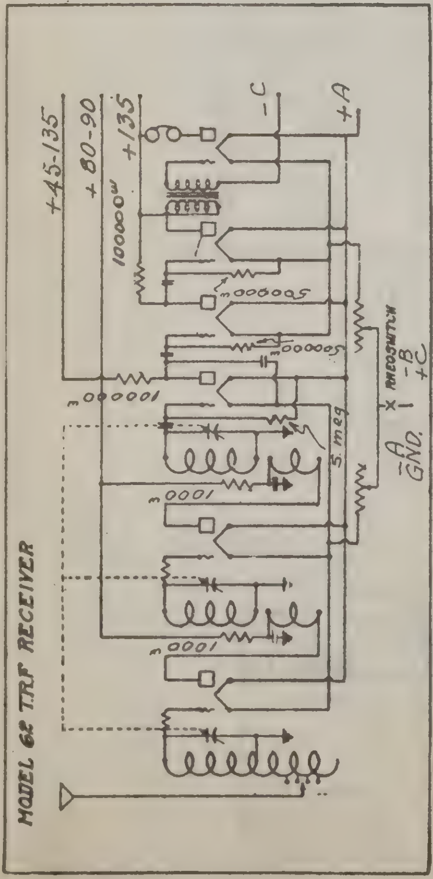
MODEL 61
MODEL 62,63
MODEL 71

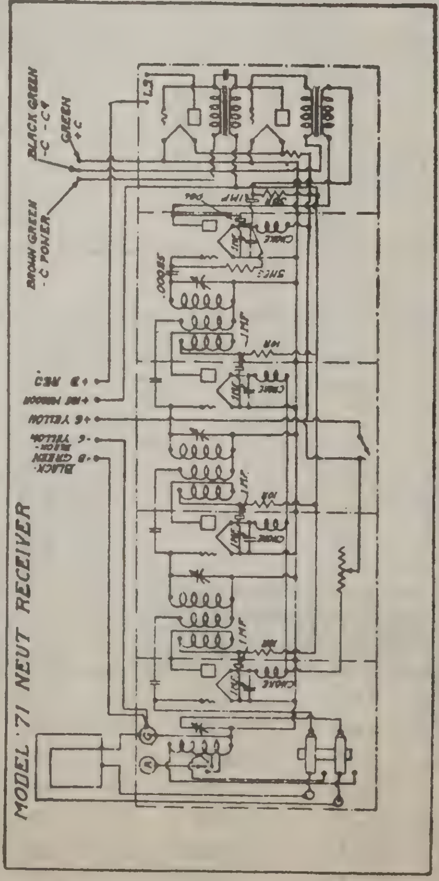
KING MFG. CORP.

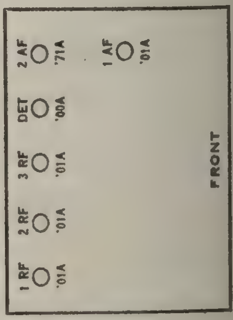

MODEL 61 T.R.F. RECEIVER
+67½
+45
+135
-C
+A
Rheo.
Switch
-B
GND.
-A
+C


Model 61
3 AF
'12A
2 AF
'01A
1 AF
'01A
DET
'01A
1 RF
'01A
2 RF
'01A
FRONT


Models 62, 63
1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'01A
3 AF
'71A
FRONT

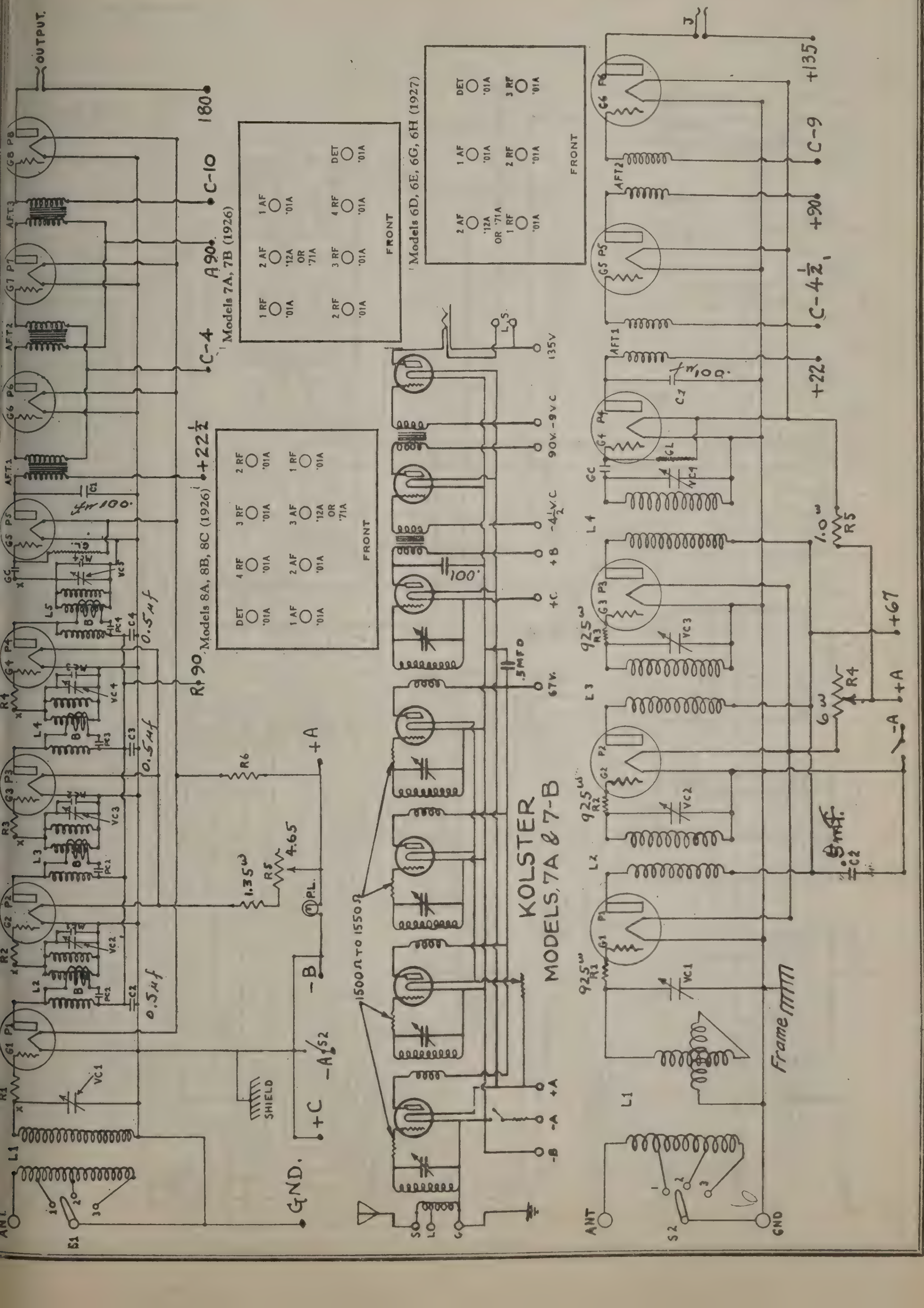

MODEL 62 T.R.F. RECEIVER
+45-135
+80-90
+135
100000Ω
-C
+A
.00005
.00005
RHEOSWITCH
-B
+C
-A
GND.
.00001
5 meg
.0001
.0001


MODEL 71 NEUT RECEIVER
BLACK GREEN
-C -C4
GREEN
+C
BROWN GREEN
-C POWER
L3
CHOKE
1MF
+6 YELLOW
-6
BLACK
-B GREEN


Model 71
1 RF
'01A
2 RF
'01A
3 RF
'01A
DET
'00A
2 AF
'71A
1 AF
'01A
FRONT

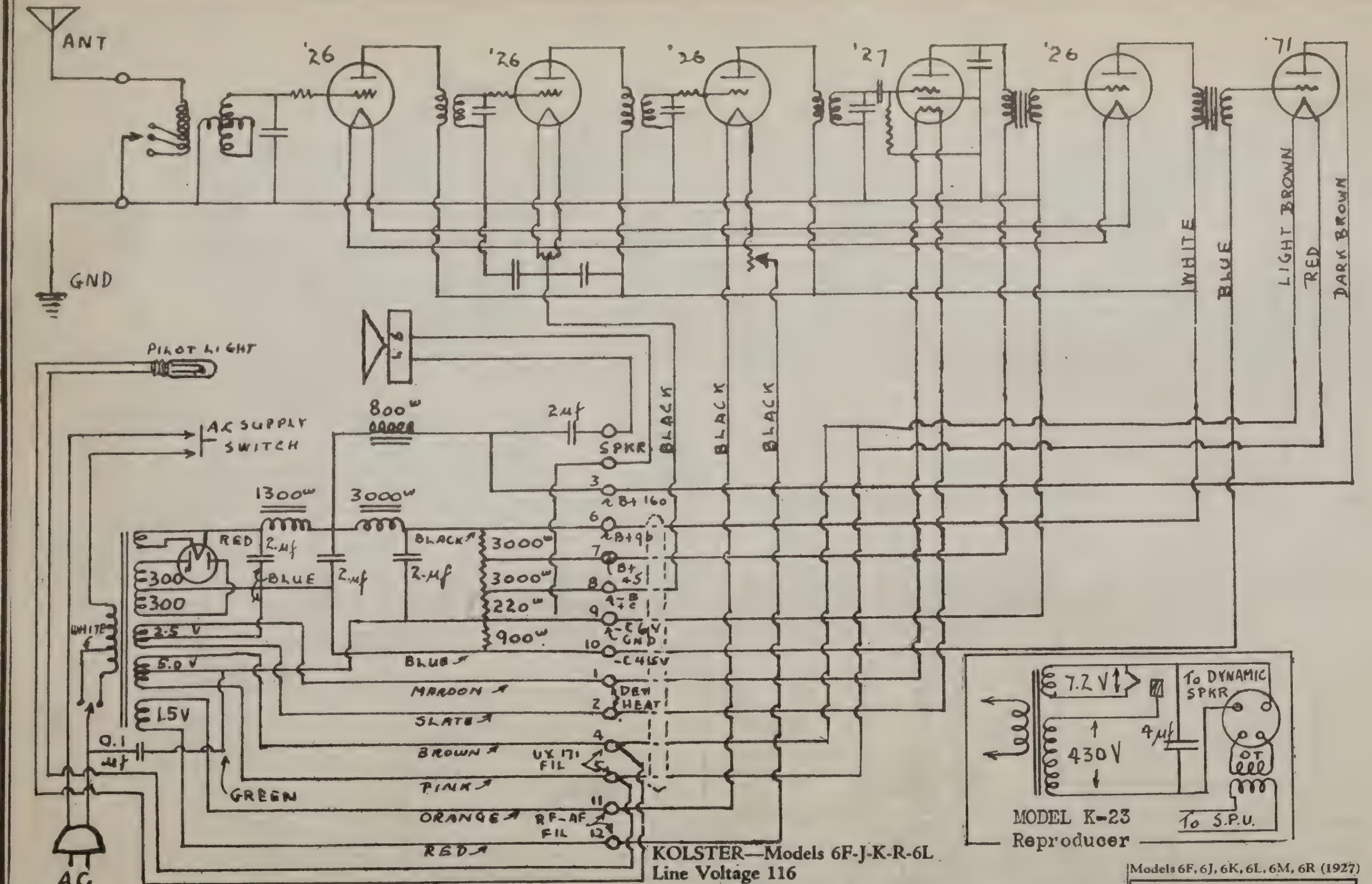
KOLSTER RADIO, INC.

MODELS 6D,6E,6G,6H (1927)
MODELS 7A,7B (1926)
MODELS 8A,8B,8C (1926)


OUTPUT
180
C-10
A90
C-4
+22½
R 90
GND.
+C
-A S2
-B
+A
R6
1.35ω
R5
4.65
P.L.
SHIELD
ANT
S1
L1
R1
VC1
G1 P1
R2
L2
VC2
G2 P2
R3
L3
VC3
G3 P3
R4
L4
VC4
G4 P4
L5
VC5
G5 P5
GC
AFT.1
G6 P6
AFT.2
G7 P7
AFT.3
G8 P8
0.5μf
0.5μf
0.5μf
C1
C2
C3
C4
PC1
PC2
PC3
PC4
B
4μ100
Models 7A, 7B (1926)
1 RF '01A
2 RF '01A
2 AF '12A OR '71A
3 RF '01A
1 AF '01A
4 RF '01A
DET '01A
FRONT
Models 8A, 8B, 8C (1926)
DET '01A
1 AF '01A
4 RF '01A
2 AF '01A
3 RF '01A
3 AF '12A OR '71A
2 RF '01A
1 RF '01A
FRONT
Models 6D, 6E, 6G, 6H (1927)
2 AF '12A OR '71A
1 RF '01A
1 AF '01A
2 RF '01A
DET '01A
3 RF '01A
FRONT
L.S.
135V
90V. -9VC
-4½VC
+B
+C
100'
.5MFD
67V.
1500Ω TO 1550Ω
KOLSTER
MODELS 7A & 7-B
+A
-A
-B
S
LO
G
J
G6 P6
+135
C-9
AFT2
+90
G5 P5
C-4½
AFT1
+22
C1
4μ100
G4 P4
GL
GC
VC4
L4
1.0ω
R5
925ω
R3
G3 P3
VC3
+67
L3
6ω
R4
+A
-A
925ω
R2
G2 P2
VC2
.5mf
C2
L2
925ω
R1
G1 P1
VC1
Frame
L1
ANT
S2
1
2
3
GND

KOLSTER RADIO, INC.

MODEL 6-F,6-J,6-K
6-L,6-M,6-R
MODEL K-23
Reproducer
Schematic


ANT
GND
'26
'26
'26
'27
'26
'71
WHITE
BLUE
LIGHT BROWN
RED
DARK BROWN
BLACK
BLACK
BLACK
PILOT LIGHT
AC SUPPLY SWITCH
800w
2μf
SPKR
1300w
3000w
3
B+ 160
6
B+ 96
7
B+ 45
8
+B -C
9
-C 4V GND
10
-C 4.5V
3000w
3000w
220w
900w
BLACK
RED
2μf
BLUE
2μf
2μf
300
300
2.5 V
5.0 V
1.5V
WHITE
0.1 μf
GREEN
A.C
BLUE
MAROON
SLATE
BROWN
PINK
ORANGE
RED
1
DET HEAT
2
4
UX 171 FIL
5
11
RF-AF FIL
12
7.2 V
430V
4μf
To DYNAMIC SPKR
OT
To S.P.U.

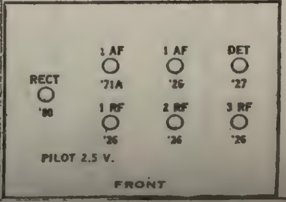
MODEL K-23
Reproducer

Model 6-F,6-J,6-K
6-L,6-M,6-R

KOLSTER—Models 6F-J-K-R-6L
Line Voltage 116

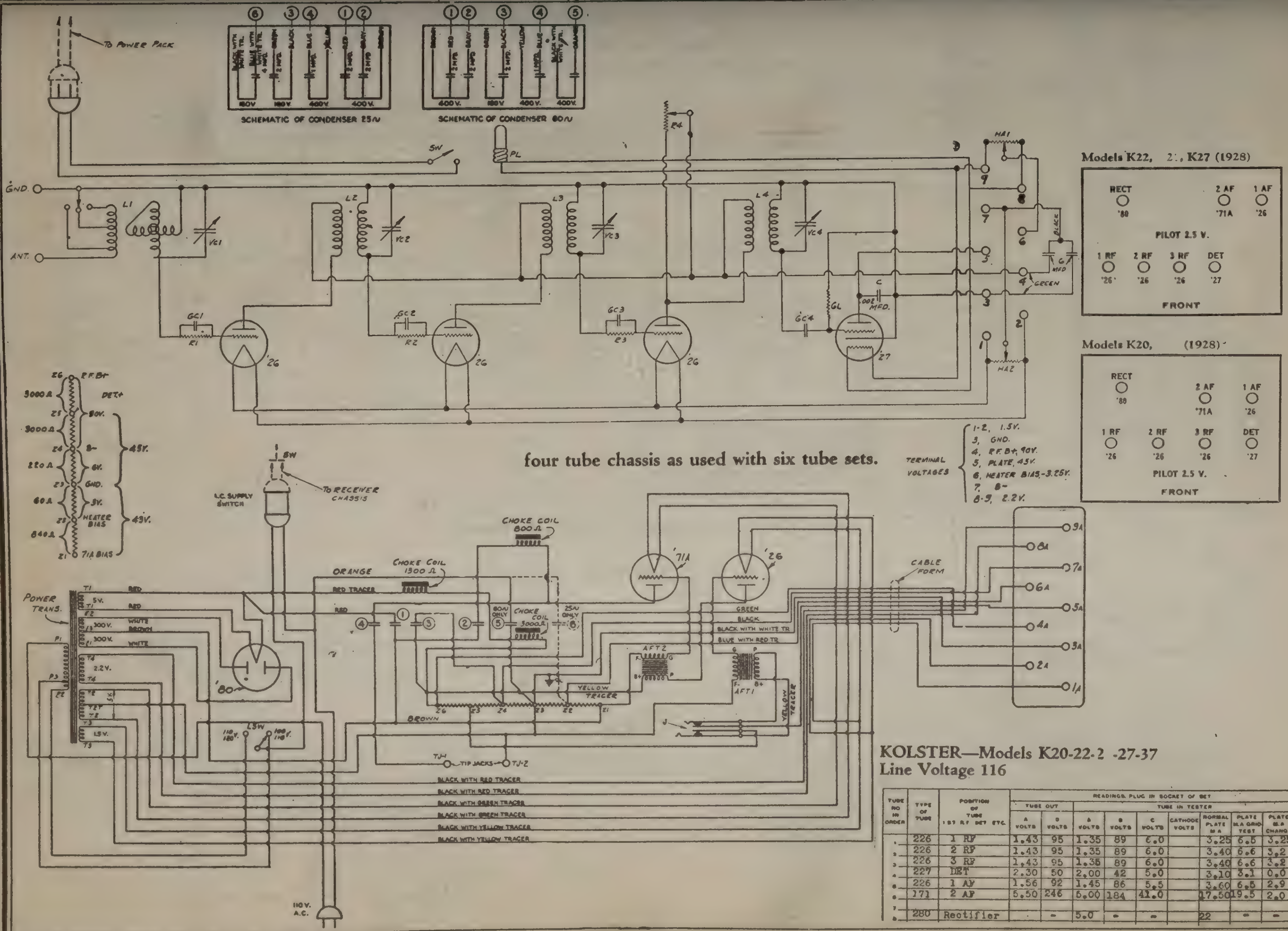
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1RF	1.5	104	1.35	90	6.5	-	3.2	7.4	4.2
2	226	2RF	1.5	104	1.35	90	6.5		3.2	7.4	4.2
3	226	3RF	1.5	104	1.35	90	6.5		3.2	7.4	4.2
4	227	DET	3.0	55	2.0	42	6.5		2.75	-	-
5	226	1AF	1.5	90	1.35	84	6.5		2.8	6.2	3.8
6	171	2AF	5.5	240	5.0	178	36.0		17.0	18.5	1.5
7											
8	280	Rectifier	-	-	3.0	-	-		20	-	-

Models 6F, 6J, 6K, 6L, 6M, 6R (1927)


RECT
'80
1 AF
'71A
1 RF
'26
1 AF
'26
2 RF
'26
DET
'27
3 RF
'26
PILOT 2.5 V.
FRONT

MODEL K-20,K-22,K-27
Schematic, Voltage

KOLSTER RADIO, INC.


TO POWER PACK
SCHEMATIC OF CONDENSER 25~
SCHEMATIC OF CONDENSER 60~
GND.
ANT.
L1
L2
L3
L4
VC1
VC2
VC3
VC4
GC1
GC2
GC3
GC4
R1
R2
R3
R4
GL
'26
'27
C .002 MFD.
SW
PL
HA1
HA2
GREEN
BLACK
G .1 MFD
Models K22, 2:, K27 (1928)
RECT '80
2 AF '71A
1 AF '26
PILOT 2.5 V.
1 RF '26
2 RF '26
3 RF '26
DET '27
FRONT
Models K20, (1928)
26 R.F.B+
DET+
3000 Ω
Z5 90V.
Z4 B-
45V.
220 Ω
6V.
Z3 GND.
60 Ω
3V.
Z2 HEATER BIAS
840 Ω
Z1 71A BIAS
TERMINAL VOLTAGES
1-2, 1.5V.
3, GND.
4, R.F. B+, 90V.
5, PLATE, 45V.
6, HEATER BIAS-3.25V.
7, B-
8-9, 2.2V.
L.C. SUPPLY SWITCH
TO RECEIVER CHASSIS
CHOKE COIL 800 Ω
CHOKE COIL 1300 Ω
CHOKE COIL 3000 Ω
60~ ONLY
25~ ONLY
ORANGE
RED TRACER
RED
WHITE
BROWN
POWER TRANS.
5V.
300V.
2.2V.
1.5V.
'80
'71A
CABLE FORM
9A
8A
7A
6A
5A
4A
3A
2A
1A
AFT1
AFT2
YELLOW TRACER
GREEN
BLACK
BLACK WITH WHITE TR
BLUE WITH RED TR
LSW
110 120V.
100 110V.
TIP JACKS
TJ-1
TJ-2
BLACK WITH RED TRACER
BLACK WITH GREEN TRACER
BLACK WITH YELLOW TRACER
110 V. A.C.

four tube chassis as used with six tube sets.

KOLSTER—Models K20-22-2 -27-37
Line Voltage 116

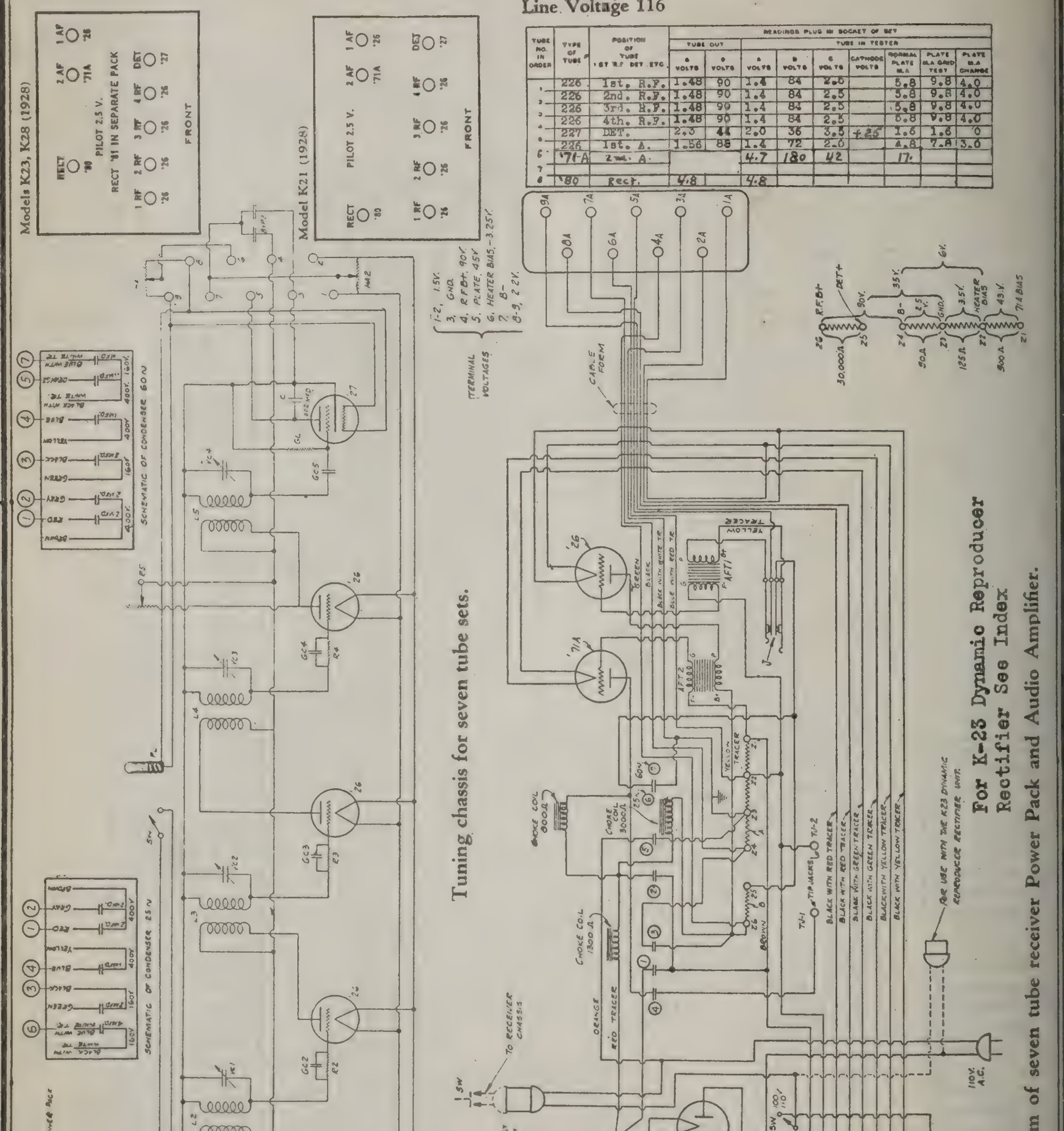
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1 RF	1.43	95	1.35	89	6.0		3.25	6.5	3.25
2	226	2 RF	1.43	95	1.35	89	6.0		3.40	6.6	3.2
3	226	3 RF	1.43	95	1.35	89	6.0		3.40	6.6	3.2
4	227	DET	2.30	50	2.00	42	5.0		3.10	3.1	0.0
5	226	1 AF	1.56	92	1.45	86	5.5		3.60	6.5	2.9
6	171	2 AF	5.50	246	5.00	184	41.0		17.50	19.5	2.0
7											
8	280	Rectifier	-	-	5.0	-	-		22	-	-

KOLSTER RADIO, INC.

MODEL K-21,K-23,K-28
Schematic,Voltage

KOLSTER—Models K21-23
Line Voltage 116

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET. ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
2	226	2nd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
3	226	3rd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
4	226	4th. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
5	227	DET.	2.3	44	2.0	36	3.5	+25	1.6	1.6	0
	226	1st. A.	1.56	88	1.4	72	2.0		4.8	7.8	3.0
6	'71-A	2nd. A.			4.7	180	42		17.		
7											
8	'80	Rect.	4.8		4.8						


Models K23, K28 (1928)
RECT '80
1 RF '26
2 RF '26
3 RF '26
4 RF '26
DET '27
2 AF '71A
1 AF '28
PILOT 2.5 V.
RECT '81 IN SEPARATE PACK
FRONT
Model K21 (1928)
RECT '80
1 RF '26
2 RF '26
3 RF '26
4 RF '26
DET '27
2 AF '71A
1 AF '26
PILOT 2.5 V.
FRONT
SCHEMATIC OF CONDENSER 60N
SCHEMATIC OF CONDENSER 25N
TO POWER PACK
GND
ANT
L1
L2
L3
L4
L5
VC1
VC2
VC3
VC4
GC2
GC3
GC4
GC5
R2
R3
R4
BYP1
SW
TERMINAL VOLTAGES
1-2, 1.5V.
3, GND.
4, R.F.B+, 90V.
5, PLATE, 45V.
6, HEATER BIAS, -3.25V.
7, B-
8-9, 2.2V.
9A
8A
7A
6A
5A
4A
3A
2A
1A
CABLE FORM
'26
'71A
'80
GREEN
BLACK
BLACK WITH WHITE TR.
BLUE WITH RED TR.
YELLOW TRACER
AFT1
AFT2
J
R.F.B+
DET+
90V.
B-
2.5V.
GND.
3.5V. HEATER BIAS
43.V. 71A BIAS
35V.
6V.
30,000Ω
90Ω
125Ω
900Ω
Z1
Z2
Z3
Z4
Z5
Z6
CHOKE COIL 800Ω
CHOKE COIL 3000Ω
CHOKE COIL 1300Ω
TIP JACKS
TJ-1
TJ-2
BLACK WITH RED TRACER
BLACK WITH GREEN TRACER
BLACK WITH YELLOW TRACER
BROWN
ORANGE
RED TRACER
FOR USE WITH THE K23 DYNAMIC REPRODUCER RECTIFIER UNIT.
110V. A.C.
TO RECEIVER CHASSIS
A.C. SUPPLY SWITCH
LSW
110V 120
POWER TRANS
RED
WHITE
300V
2.2V
5V
P1
P2
P3
T1
T2
T3
T4

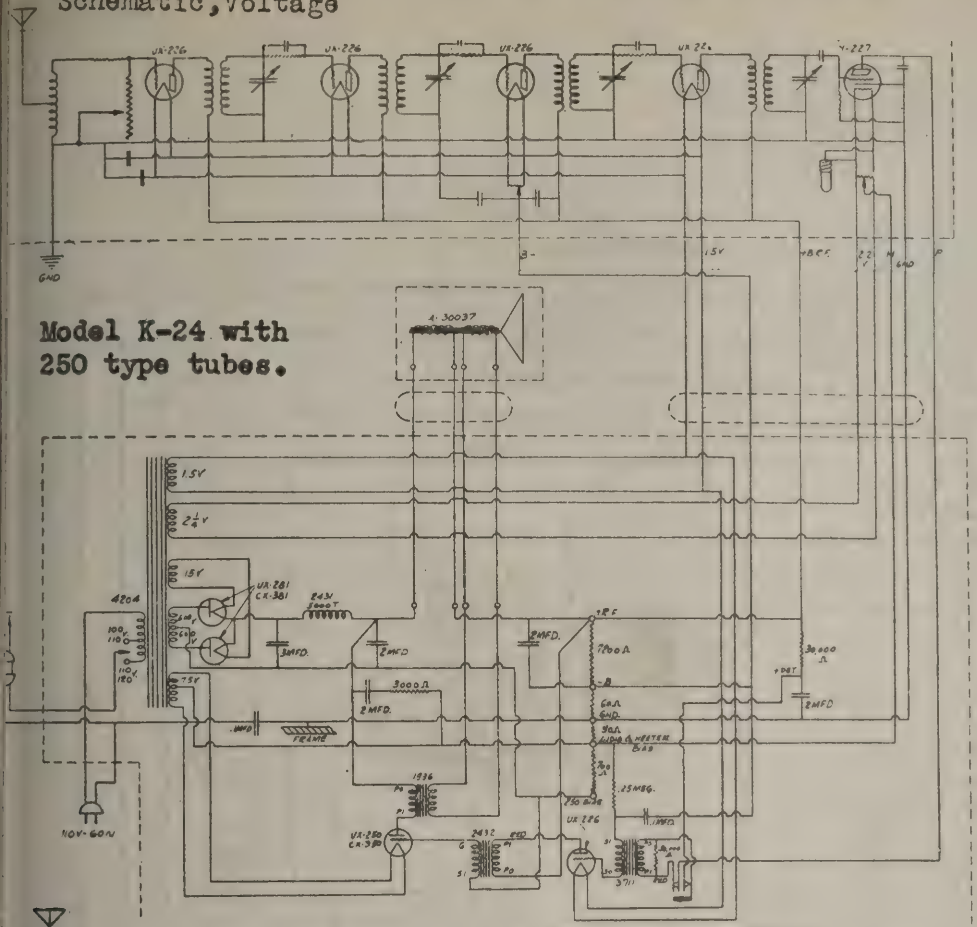
Tuning chassis for seven tube sets.

For K-23 Dynamic Reproducer
Rectifier See Index

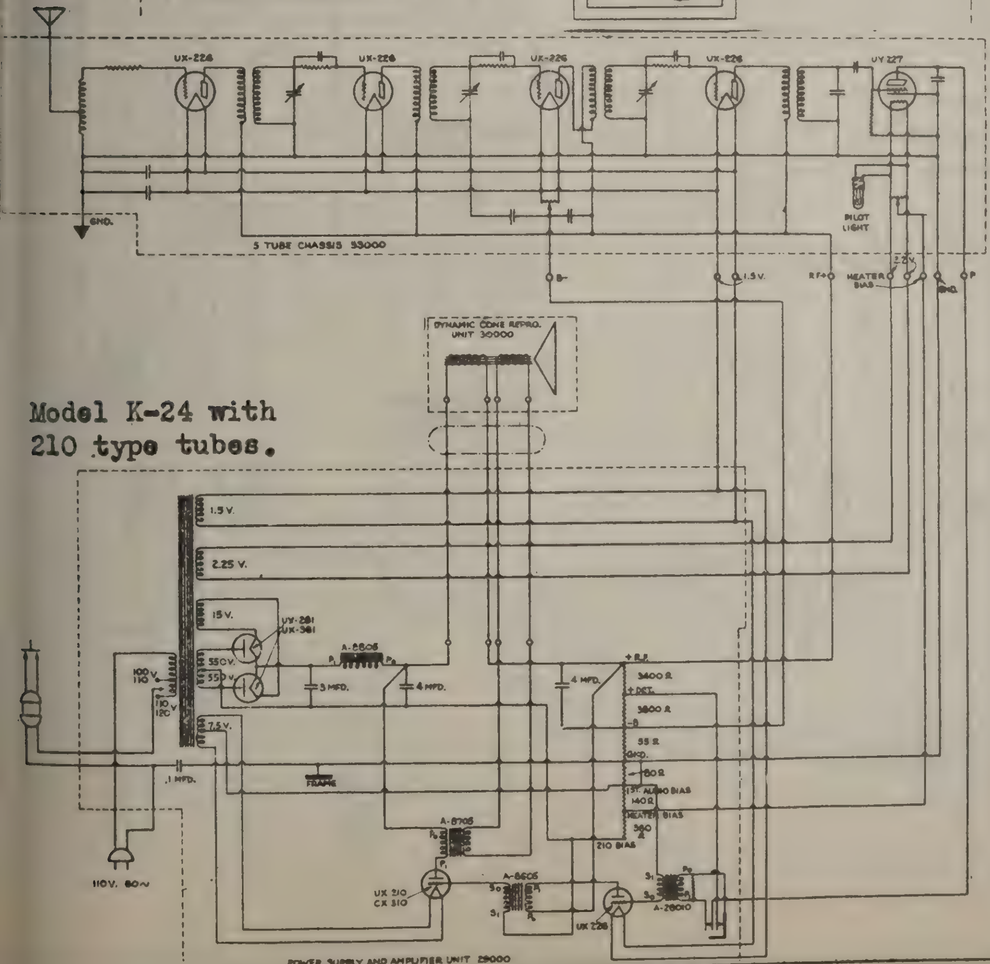
Schematic diagram of seven tube receiver Power Pack and Audio Amplifier.

MODEL K-24(250)
MODEL K-24(210)
Schematic,Voltage

KOLSTER RADIO, INC.


UX-226
UX-226
UX-226
UX-226
Y-227
GND
B-
15V
22
GND
P
A-30037
1.5V
2¼V
15V
UX-281
CX-381
420A
100
110
120
7.5V
2431
2000T
3MFD
2MFD
2MFD
3000Ω
.1MFD
FRAME
+RF
7800Ω
-B
60Ω
GND
90Ω
AUDIO & HEATER BIAS
.25MEG.
750 BIAS
+DET
30,000Ω
2MFD
1936
UX-250
CX-350
2412
UX-226
3711
.1MFD
110V-60~

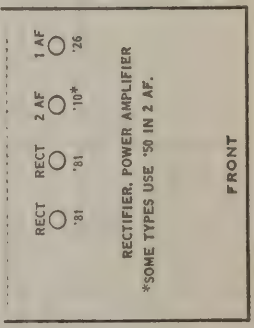
Model K-24 with
250 type tubes.


UX-226
UX-226
UX-226
UX-226
UY 227
GND.
5 TUBE CHASSIS 33000
PILOT LIGHT
B-
1.5V.
RF+
HEATER BIAS
2.2V
GND
P
DYNAMIC CONE REPRO. UNIT 30000
1.5V.
2.25V.
15V.
UY-281
UX-381
A-8605
550V.
550V.
3 MFD.
4 MFD.
4 MFD.
100V.
110V.
120V.
7.5V.
.1 MFD.
FRAME
+RF
3400Ω
+DET.
3800Ω
-B
55Ω
GND.
180Ω
1ST AUDIO BIAS
140Ω
HEATER BIAS
360Ω
210 BIAS
A-8705
UX 310
CX 310
A-8605
UX 226
A-28010
110V. 60~
POWER SUPPLY AND AMPLIFIER UNIT 29000

Model K-24 with
210 type tubes.

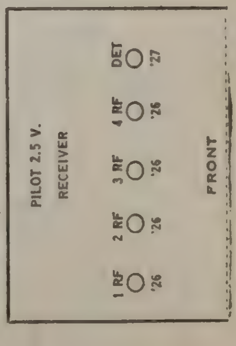
Line Voltage 116

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A. CHANGE
1	226	1st. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
2	226	2nd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
3	226	3rd. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
4	226	4th. R.F.	1.48	90	1.4	84	2.5		5.8	9.8	4.0
5	227	DET.	2.3	44	2.0	36	3.5		1.6	1.6	0
6	226	1st. A.	1.56	88	1.4	72	2.0		4.8	7.8	3.0
7	210	2nd. A.	7.9	512	7.4	430	32.5		24.	28.	4.0
8											
9	281	Rect.	-	-	7.0	-	-		28.0	-	-
10	281	Rect.	-	-	7.4	-	-		28.0	-	-


RECT
'81
RECT
'81
2 AF
'10*
1 AF
'26
FRONT

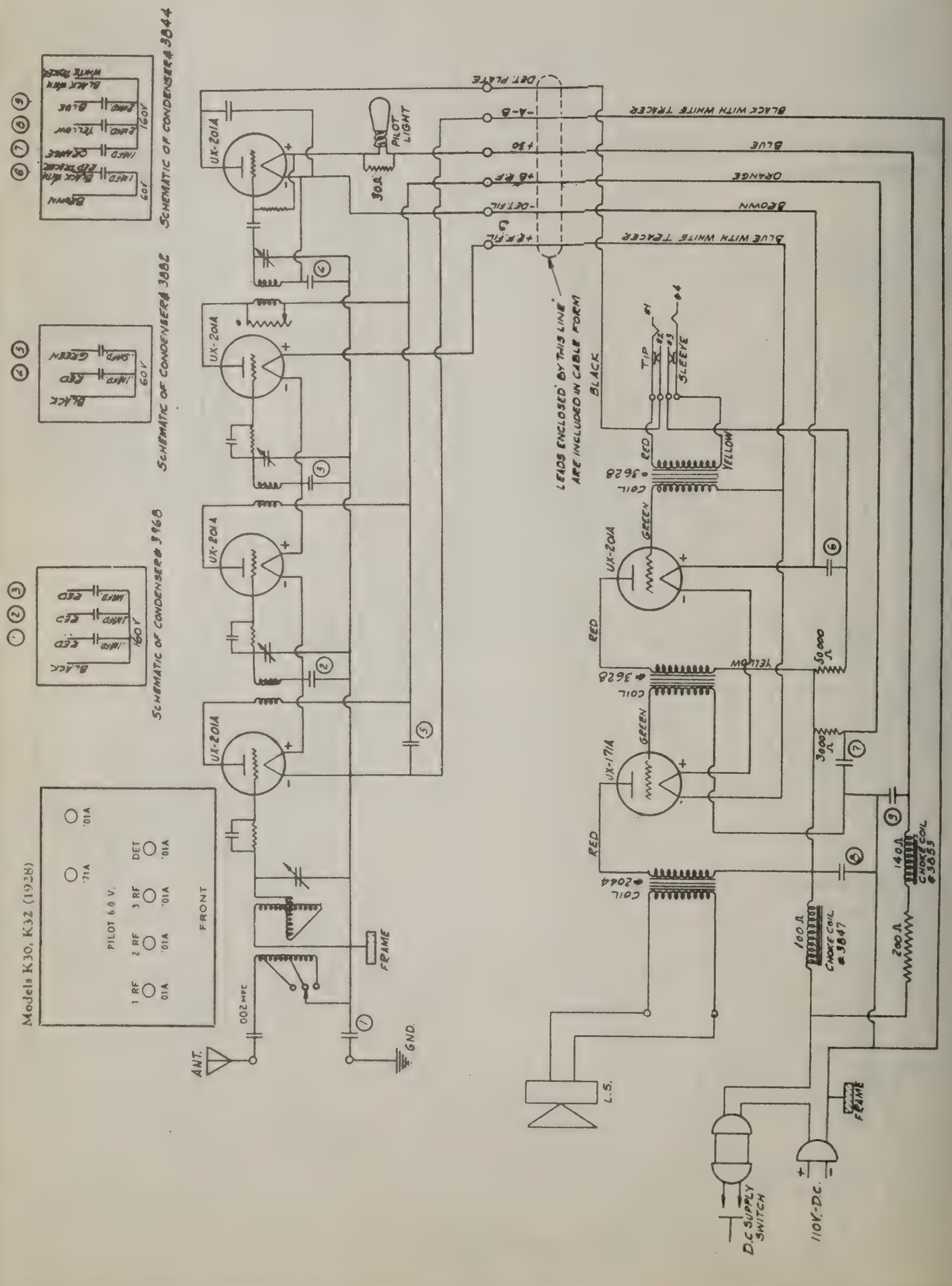
RECTIFIER, POWER AMPLIFIER
*SOME TYPES USE '50 IN 2 AF.

Model K24 (1928)


PILOT 2.5 V.
RECEIVER
1 RF
'26
2 RF
'26
3 RF
'26
4 RF
'26
DET
'27
FRONT

MODELS K-30,K-32 (1928)

KOLSTER RADIO, INC.


SCHEMATIC OF CONDENSER #3844
1MFD
2MFD
BROWN
BLACK WITH RED TRACER
ORANGE
YELLOW
BLUE
BLACK WITH WHITE TRACER
60V
160V
SCHEMATIC OF CONDENSER #3882
BLACK
RED
GREEN
60V
SCHEMATIC OF CONDENSER #3968
BLACK
RED
160V
UX-201A
UX-201A
UX-201A
UX-201A
UX-201A
UX-171A
DET PLATE
-A-B
+90
+B RF
-DET FIL
+RF FIL
PILOT LIGHT
30 Ω
LEADS ENCLOSED BY THIS LINE ARE INCLUDED IN CABLE FORM
BLACK
BLACK WITH WHITE TRACER
BLUE
ORANGE
BROWN
BLUE WITH WHITE TRACER
TIP
SLEEVE
#1
#2
#3
#4
RED
YELLOW
COIL #3628
GREEN
RED
YELLOW
COIL #3628
GREEN
50,000 Ω
3000 Ω
RED
COIL #2044
100 Ω
CHOKE COIL #3847
140 Ω
CHOKE COIL #3853
200 Ω
L.S.
FRAME
D.C SUPPLY SWITCH
110V-D.C.
FRAME
ANT.
.002 MFD
GND.
Models K30, K32 (1928)
PILOT 6.0 V.
1 RF
2 RF
3 RF
DET
01A
01A
01A
01A
71A
01A
FRONT

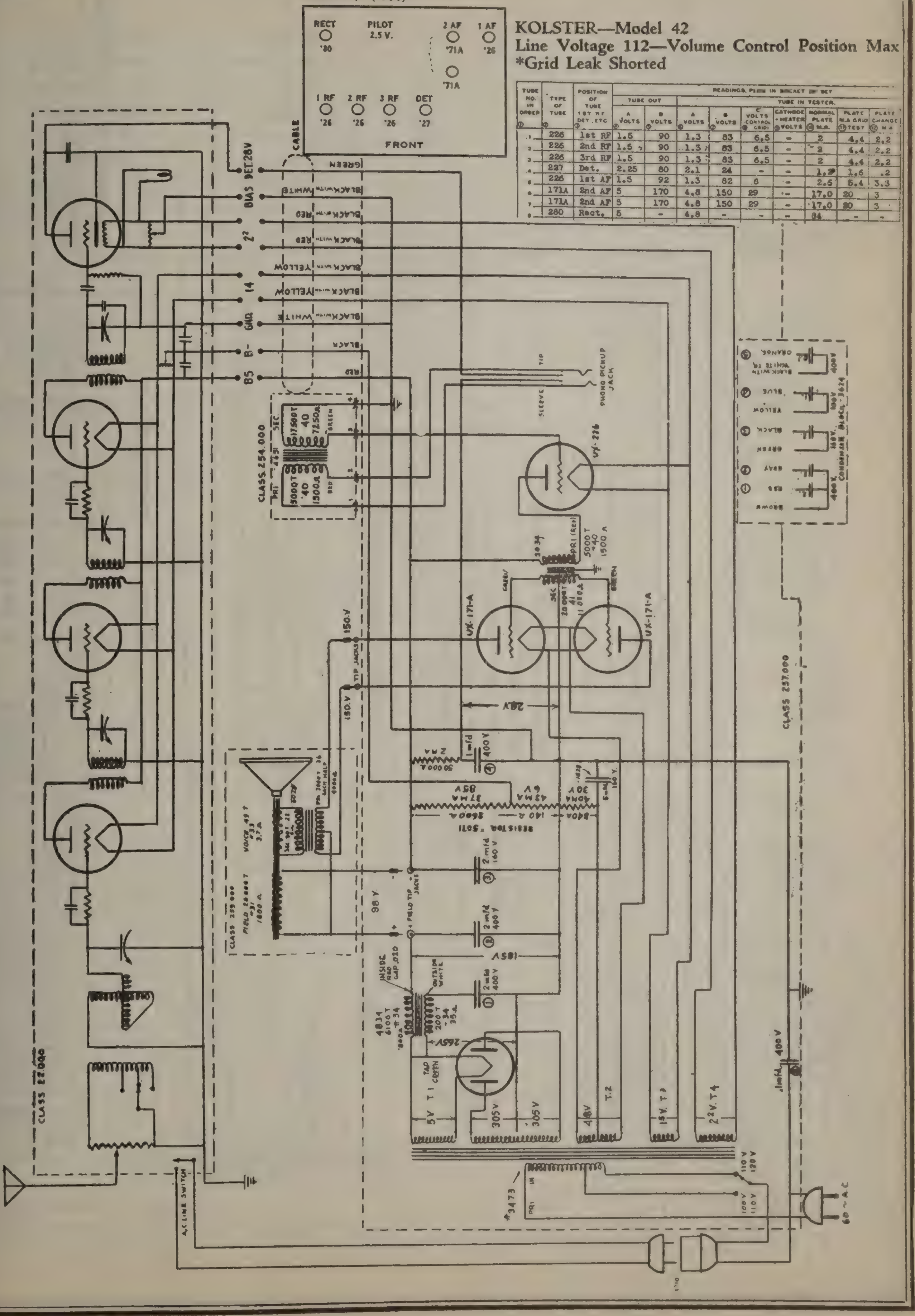
MODEL K-42
Schematic
Voltage

KOLSTER RADIO, INC.

Model K42 (1930)

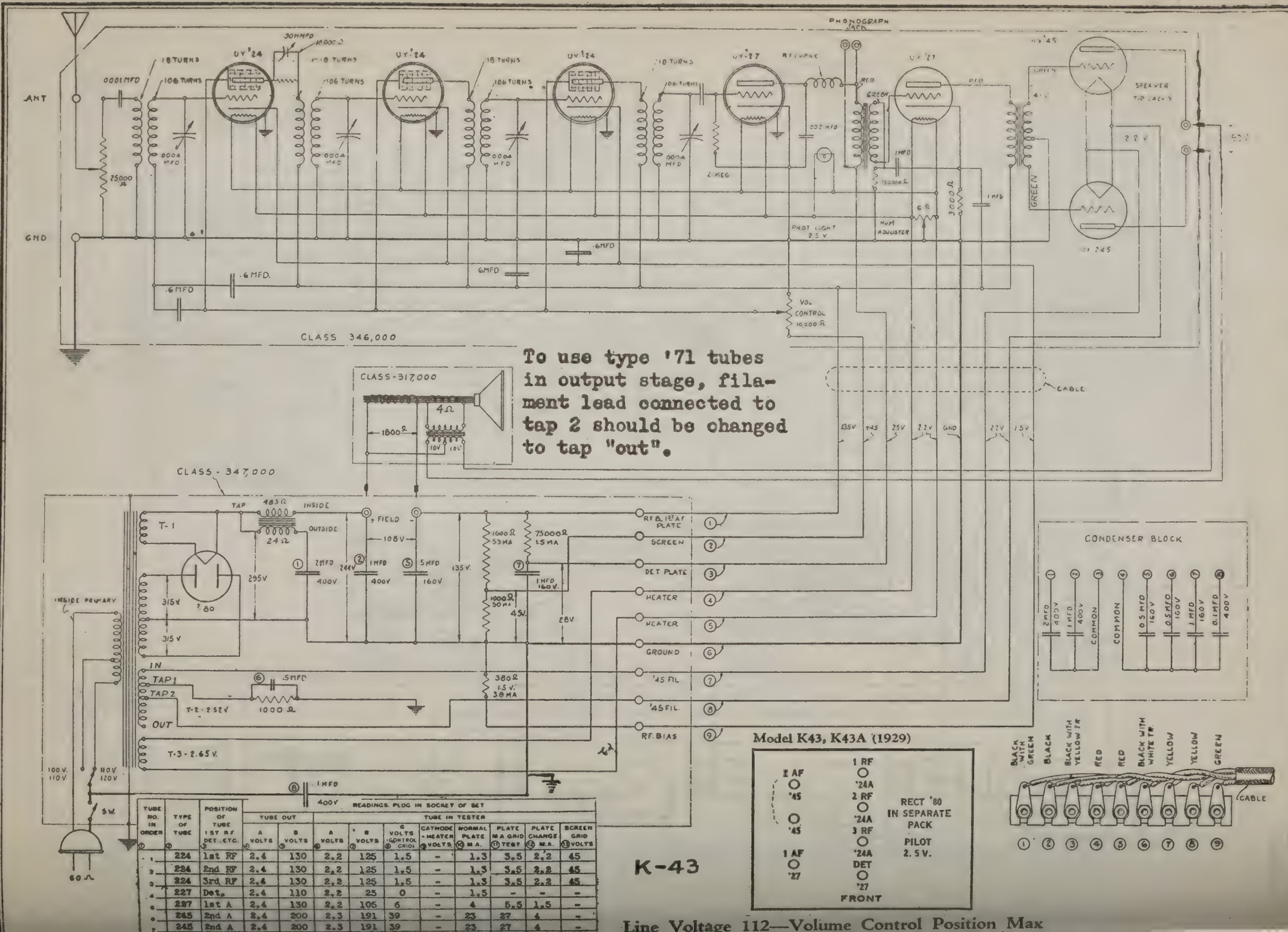
KOLSTER—Model 42
Line Voltage 112—Volume Control Position Max
***Grid Leak Shorted**

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET. ETC ③	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M.A. ⑩	PLATE M.A GRID TEST ⑪	PLATE CHANGE M.A ⑫
1	226	1st RF	1.5	90	1.3	83	6.5	-	2	4.4	2.2
2	226	2nd RF	1.5	90	1.3	83	6.5	-	2	4.4	2.2
3	226	3rd RF	1.5	90	1.3	83	6.5	-	2	4.4	2.2
4	227	Det.	2.25	80	2.1	24	-	-	1.2	1.6	.2
5	226	1st AF	1.5	92	1.3	82	6	-	2.6	5.4	3.3
6	171A	2nd AF	5	170	4.8	150	29	-	17.0	20	3
7	171A	2nd AF	5	170	4.8	150	29	-	17.0	20	3
8	280	Rect.	5	-	4.8	-	-	-	84	-	-


RECT
'80
PILOT
2.5 V.
2 AF
'71A
1 AF
'26
'71A
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
FRONT
CABLE
DET.28V
BIAS
22
14
GND.
B-
85
GREEN
BLACK WITH WHITE
BLACK WITH RED
BLACK WITH RED
BLACK WITH YELLOW
BLACK WITH YELLOW
BLACK WITH WHITE
BLACK
RED
CLASS 254,000
PRI
SEC
5000T
40
1500Ω
17500T
40
7250Ω
GREEN
RED
TIP
SLEEVE
PHONO PICKUP JACK
UY-226
3034
PRI (RED)
5000 T
40
1500 Ω
SEC
20000T
41
11000Ω
GREEN
UX-171-A
UX-171-A
150 V
TIP JACKS
150 V
28V
2 MA
50000Ω
1 mfd
400 V
④
85V
37 MA
6V
43 MA
30V
40MA
2600Ω
140 Ω
840Ω
RESISTOR #3011
6 mfd
160 V
2 mfd
160 V
③
98 V
FIELD TIP JACKS
2 mfd
400 V
②
185V
INSIDE
RED
GAP .020
OUTSIDE
WHITE
2 mfd
400 V
①
4834
6100T
#34
900Ω
200 T
34
35 Ω
265V
TAP
GREEN
5V T1
305V
305V
48V
T.2
15V. T3
22V. T4
CLASS 259,000
FIELD 20000T
31
1800 Ω
VOICE 49 T
#33
3.7Ω
CLASS 257,000
ORANGE
BLACK WITH WHITE TR.
BLUE
YELLOW
BLACK
GREEN
GRAY
RED
BROWN
400V
160V
160V
400V
CONDENSER BLOCK 3624
400 V
.1 mfd
#3473
PRI
110 V
120 V
100 V
110 V
60 ~ A.C.
A.C. LINE SWITCH
CLASS 22,000

KOLSTER RADIO, INC.

MODELS K-43,K-43A (1929)
Schematic,Voltage


ANT
GND
.0001 MFD
18 TURNS
106 TURNS
25000 Ω
.0004 MFD
UY'24
30 MMFD
10,000 Ω
UY'27
R.F. CHOKE
PHONOGRAPH JACK
RED
GREEN
.002 MFD
2 MEG
PILOT LIGHT 2.5 V
1 MFD
150000 Ω
HUM ADJUSTER
6 Ω
3000 Ω
UY'45
SPEAKER TIP JACKS
2.2 V
.6 MFD
6 MFD
VOL CONTROL 10,000 Ω
CLASS 346,000
CLASS-317,000
4 Ω
1800 Ω
10V
CABLE
13.5V
+45
2.5V
2.2V
GND
1.5V
CLASS-347,000
TAP
483 Ω
INSIDE
OUTSIDE
24 Ω
+ FIELD
108V
T-1
'80
295V
315V
2 MFD 400V
1 MFD 400V
5 MFD 160V
244V
135V
1600 Ω 53 MA
75000 Ω 1.5 MA
1 MFD 160V
1000 Ω 50 MA
45V
28V
380 Ω 1.5V 38 MA
INSIDE PRIMARY
IN
TAP 1
TAP 2
T-2-2.52V
.5 MFD
1000 Ω
OUT
T-3-2.65V
100V 110V
110V 120V
SW.
60 ∿
.1 MFD 400V
RF & 1st AF PLATE
SCREEN
DET PLATE
HEATER
HEATER
GROUND
'45 FIL
'45 FIL.
RF. BIAS
CONDENSER BLOCK
2 MFD 400V
1 MFD 400V
COMMON
COMMON
0.5 MFD 160V
0.5 MFD 160V
1 MFD 160V
0.1 MFD 400V
BLACK WITH GREEN
BLACK
BLACK WITH YELLOW TR.
RED
RED
BLACK WITH WHITE TR.
YELLOW
YELLOW
GREEN
CABLE
Model K43, K43A (1929)
1 RF '24A
2 RF '24A
3 RF '24A
DET '27
I AF '45
'45
1 AF '27
RECT '80 IN SEPARATE PACK
PILOT 2.5 V.
FRONT

To use type '71 tubes in output stage, filament lead connected to tap 2 should be changed to tap "out".

K-43

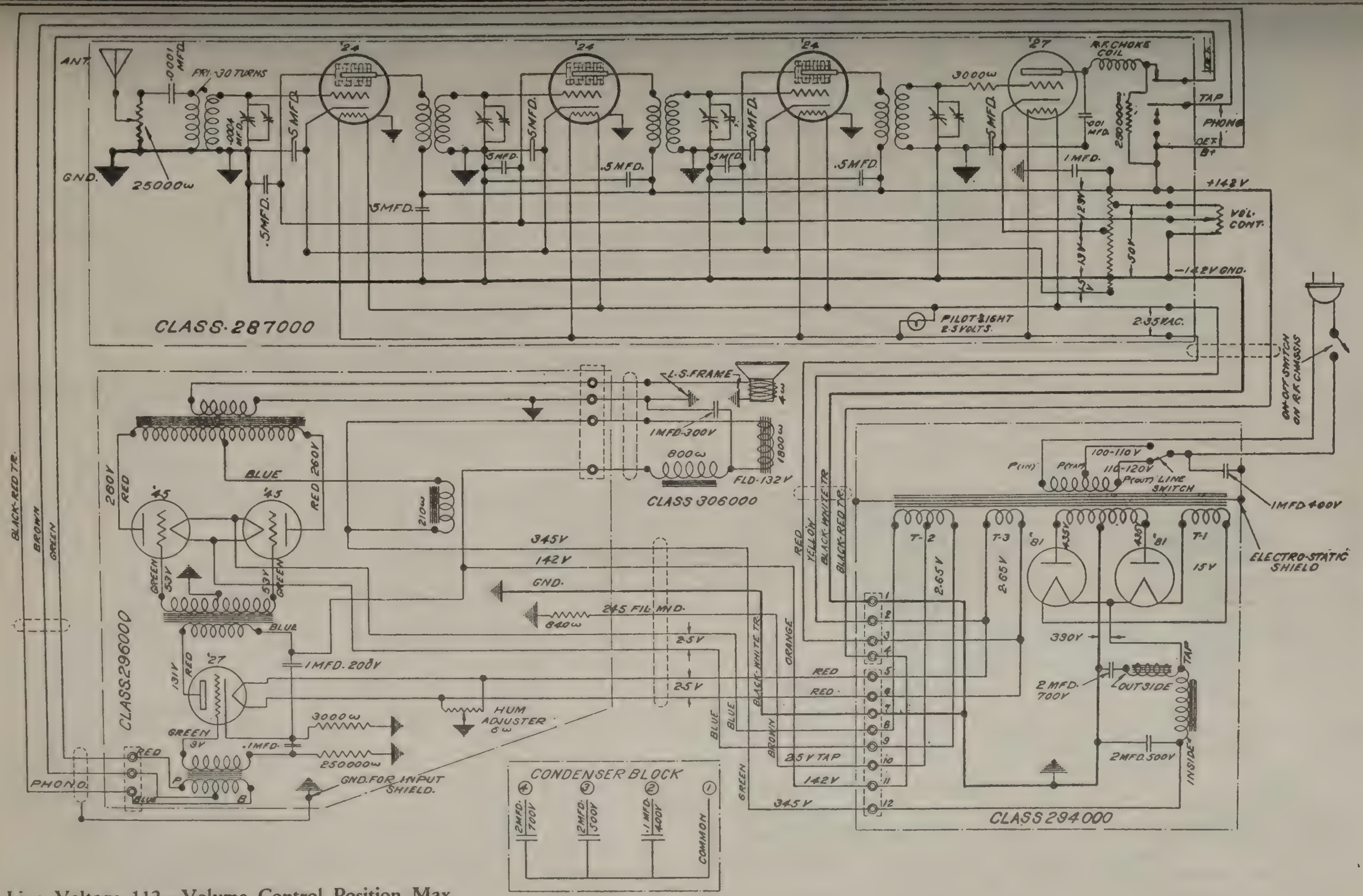
TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET. ETC. ③	TUBE OUT: A VOLTS ④	TUBE OUT: B VOLTS ⑤	TUBE IN TESTER: A VOLTS ⑥	TUBE IN TESTER: B VOLTS ⑦	TUBE IN TESTER: C VOLTS (CONTROL GRID) ⑧	TUBE IN TESTER: CATHODE-HEATER VOLTS ⑨	TUBE IN TESTER: NORMAL PLATE M.A. ⑩	TUBE IN TESTER: PLATE M.A. GRID TEST ⑪	TUBE IN TESTER: PLATE CHANGE M.A. ⑫	TUBE IN TESTER: SCREEN GRID VOLTS ⑬
1	224	1st RF	2.4	130	2.2	125	1.5	-	1.3	3.5	2.2	45
2	224	2nd RF	2.4	130	2.2	125	1.5	-	1.3	3.5	2.2	45
3	224	3rd RF	2.4	130	2.2	125	1.5	-	1.3	3.5	2.2	45
4	227	Det.	2.4	110	2.2	25	0	-	1.5	-	-	-
5	227	1st A	2.4	130	2.2	105	6	-	4	5.5	1.5	-
6	245	2nd A	2.4	200	2.3	191	39	-	23	27	4	-
7	245	2nd A	2.4	200	2.3	191	39	-	23	27	4	-

READINGS PLUG IN SOCKET OF SET

Line Voltage 112—Volume Control Position Max

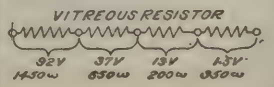
MODEL K-~~44~~ (1929)
Schematic
Voltage

KOLSTER RADIO, INC.

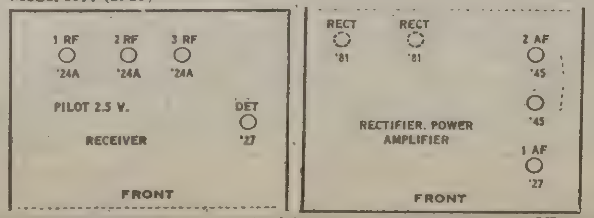

ANT.
GND.
.0001 MFD.
PRI.-30 TURNS
.0004 MFD.
25000ω
'24
'24
'24
'27
.5MFD.
.5MFD.
.5MFD.
.5MFD.
.5MFD.
.5MFD.
.5MFD.
.5MFD.
.5MFD.
3000ω
.001 MFD.
R.F. CHOKE COIL
250000ω
TAP
PHONO
DET.
B+
1MFD.
+142V
VOL. CONT.
-12V
-13V
-13V
-50V
-14.2V GND.
PILOT LIGHT 2.5 VOLTS.
2.35 VAC.
CLASS. 287000
ON-OFF SWITCH ON R.F. CHASSIS
L.S. FRAME
4ω
1MFD-300V
1800ω
800ω
FLD-132V
CLASS 306000
BLUE
260V
RED
260V
RED
'45
'45
210ω
GREEN
53V
53V
GREEN
BLUE
345V
142V
GND.
245 FIL. MID.
840ω
2.5V
2.5V
1MFD. 200V
'27
131V
RED
GREEN
3V
3000ω
.1MFD.
250000ω
HUM ADJUSTER 6ω
GND. FOR INPUT SHIELD.
CLASS296000
PHONO.
RED
BLUE
P
B
BLACK-RED TR.
BROWN
GREEN
RED
YELLOW
BLACK-WHITE TR.
BLACK-RED TR.
ORANGE
RED
RED
BLACK-WHITE TR.
BROWN
BLUE
BLUE
GREEN
2.5V TAP
142V
345V
P(IN)
P(TAP)
P(OUT)
100-110V
110-120V
LINE SWITCH
1MFD 400V
ELECTRO-STATIC SHIELD
T-2
2.65V
T-3
2.65V
'81
'81
435V
435V
T-1
15V
390V
2MFD. 700V
OUTSIDE
TAP
INSIDE
2MFD. 500V
CLASS 294000
1
2
3
4
5
6
7
8
9
10
11
12
CONDENSER BLOCK
④ 2MFD. 700V
③ 2MFD. 500V
② .1MFD. 400V
① COMMON

Line Voltage 112—Volume Control Position Max

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER ⑨ VOLTS	NORMAL PLATE ⑩ M A	PLATE M A GRID ⑪ TEST	PLATE CHANGE ⑫ M.A.	SCREEN GRID ⑬ VOLTS
1	224	1st RF	2.4	133	2.2	130	1.5	-	1.2	3	2.2	45
2	224	2nd RF	2.4	133	2.2	130	1.5	-	1.2	3	2.2	45
3	224	3rd RF	2.4	133	2.2	130	1.5	-	1.2	3	2.2	45
4	227	Det.	2.4	125	2.2	120	10	-	2	4	2	-
5	227	1st A	2.4	135	2.2	108	6	-	5	6.5	1.5	-
6	245	2nd A	2.4	280	2.3	250	50	-	35	39	4	-
7	245	2nd A	2.4	280	2.3	250	50	-	35	39	4	-
8	281	Rect.	7.5	-	7.3	-	-	-	-	55	-	-
9	281	Rect.	7.5	-	7.3	-	-	-	-	55	-	-

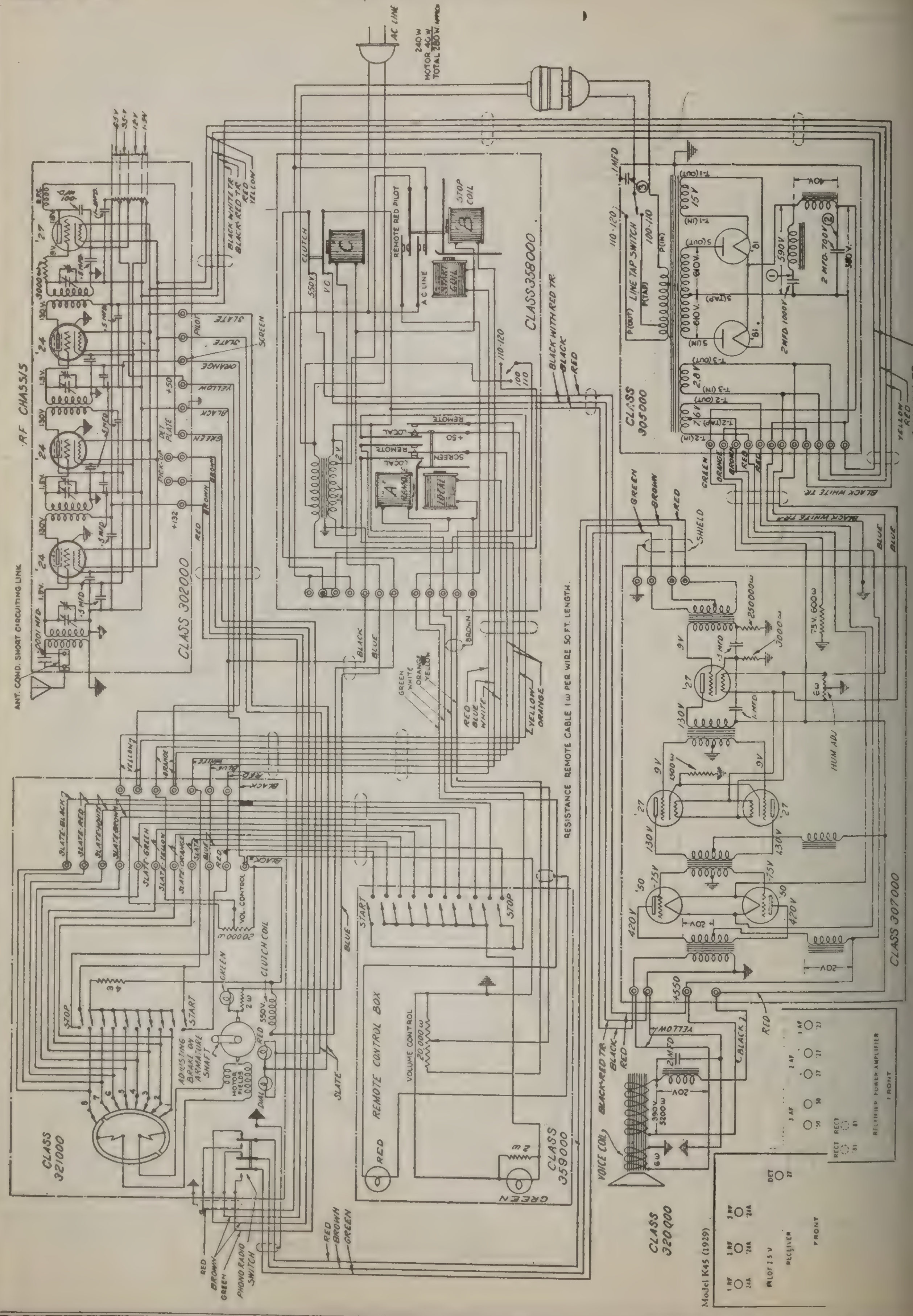

VITREOUS RESISTOR
92V
1450ω
37V
650ω
13V
200ω
13V
350ω

Model K44 (1929)


1 RF
'24A
2 RF
'24A
3 RF
'24A
PILOT 2.5 V.
DET
'27
RECEIVER
FRONT
RECT
'81
RECT
'81
2 AF
'45
'45
1 AF
'27
RECTIFIER, POWER AMPLIFIER
FRONT

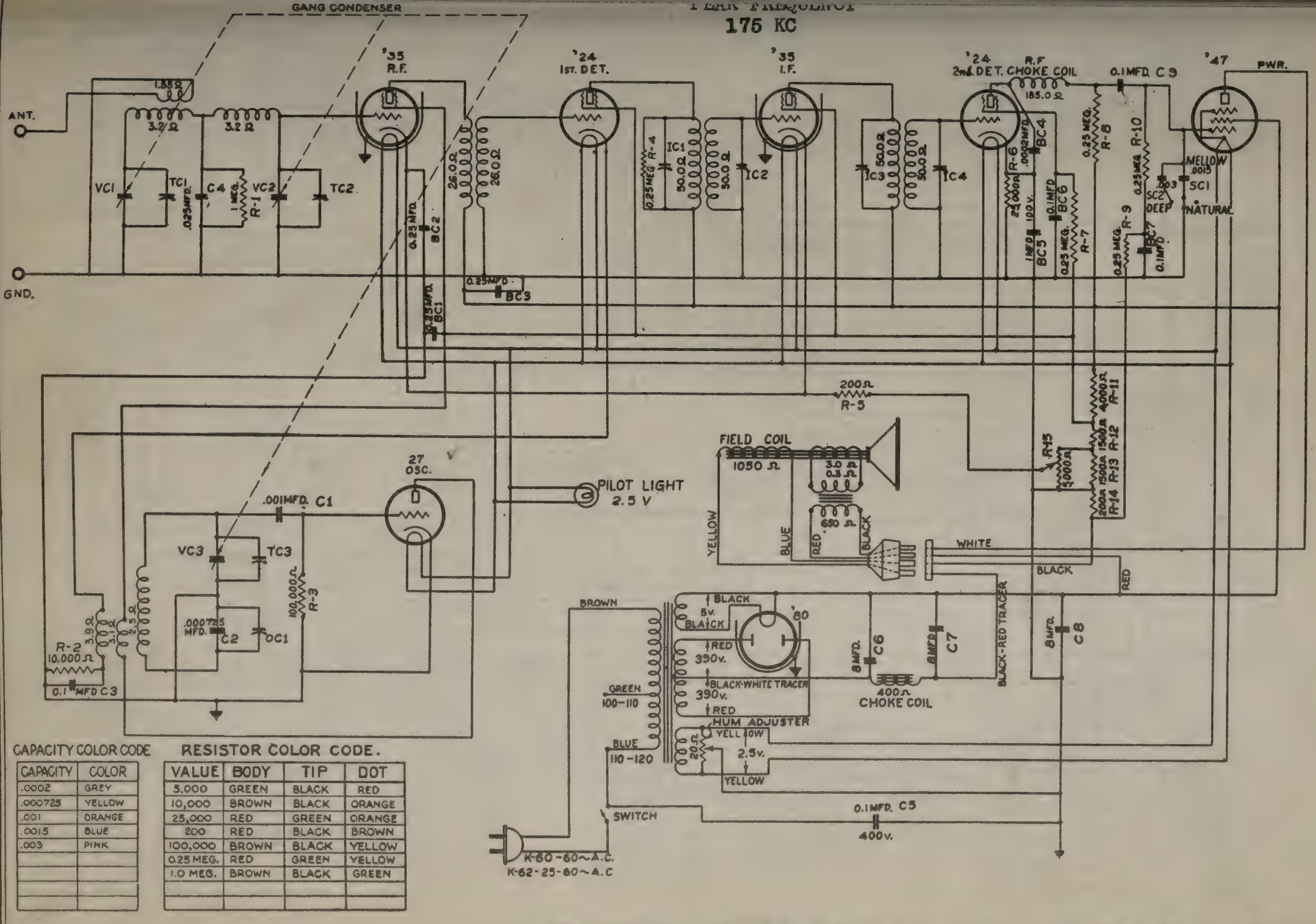
MODEL K-45

KOLSTER RADIO, INC.


AC LINE
240 W
MOTOR 40 W
TOTAL 280 W APPROX.
RF CHASSIS
CLASS 302000
ANT. COND. SHORT CIRCUITING LINK
'24
'27
PILOT
SCREEN
DET PLATE
PICK-UP
+132
+50
SLATE
ORANGE
YELLOW
BLACK
GREEN
BROWN
RED
BLACK WHITE TR.
BLACK-RED TR.
CLASS 358000
CLUTCH
STOP COIL
START COIL
REMOTE RED PILOT
REMOTE
LOCAL
110-120
100
110
BLACK WITH RED TR.
CLASS 305000
LINE TAP SWITCH
'81
590V
2 MFD. 1000V
2 MFD. 700V
RESISTANCE REMOTE CABLE 1 Ω PER WIRE 50 FT. LENGTH.
SHIELD
250000 Ω
3000 Ω
HUM ADJ
'50
CLASS 307000
VOL. CONTROL
CLUTCH COIL
START
STOP
ADJUSTING BRAKE ON ARMATURE SHAFT
MOTOR FIELDS
DIAL
PHONO RADIO SWITCH
CLASS 321000
REMOTE CONTROL BOX
VOLUME CONTROL 20,000 Ω
CLASS 359000
VOICE COIL
390V 5200 Ω
CLASS 320000
Model K45 (1929)
RECEIVER
FRONT
RECTIFIER POWER AMPLIFIER
PILOT 2.5 V

ODEL K-60,K-62

KOLSTER RADIO, INC.


175 KC
GANG CONDENSER
ANT.
GND.
1.5Ω
3.2Ω
3.2Ω
VC1
TC1
.025MFD.
C4
1 MEG.
R-1
VC2
TC2
'35
R.F.
0.25 MFD.
BC2
26.0Ω
26.0Ω
0.25MFD.
BC3
0.25MFD.
BC1
'24
1st. DET.
0.25MEG R-4
IC1
50.0Ω
50.0Ω
IC2
'35
I.F.
IC3
50.0Ω
50.0Ω
IC4
'24
2nd DET.
R.F. CHOKE COIL
185.0Ω
R-6
25000Ω
.0002MFD.
BC4
1MFD 100V.
BC5
0.1MFD
BC6
0.25 MEG.
R-7
0.25 MEG.
R-8
0.1MFD. C9
R-10
0.25 MEG.
R-9
0.25 MEG.
BC7
0.1MFD.
SC2
DEEP
.003
MELLOW
.0015
SC1
NATURAL
'47
PWR.
200Ω
R-5
4000Ω
R-11
1500Ω
R-12
1500Ω
R-13
200Ω
R-14
R-15
5000Ω
FIELD COIL
1050 Ω
3.0 Ω
0.3 Ω
650 Ω
YELLOW
BLUE
RED
BLACK
WHITE
BLACK
RED
PILOT LIGHT
2.5 V
27
OSC.
.001MFD. C1
VC3
TC3
100,000Ω
R-3
.000725 MFD.
C2
OC1
2.5Ω
3.9Ω
3.1Ω
R-2
10,000Ω
0.1 MFD C3
BROWN
BLACK
5V.
BLACK
'80
RED
390V.
BLACK-WHITE TRACER
390V.
RED
HUM ADJUSTER
YELL OW
20Ω
2.5V.
YELLOW
GREEN
100-110
BLUE
110-120
8MFD.
C6
8MFD.
C7
400Ω
CHOKE COIL
BLACK-RED TRACER
8MFD.
C8
0.1MFD. C5
400V.
SWITCH
K-60-60~A.C.
K-62-25-60~A.C

CAPACITY COLOR CODE

CAPACITY	COLOR
.0002	GREY
.000725	YELLOW
.001	ORANGE
.0015	BLUE
.003	PINK

RESISTOR COLOR CODE.

VALUE	BODY	TIP	DOT
5.000	GREEN	BLACK	RED
10,000	BROWN	BLACK	ORANGE
25,000	RED	GREEN	ORANGE
200	RED	BLACK	BROWN
100,000	BROWN	BLACK	YELLOW
0.25 MEG.	RED	GREEN	YELLOW
1.0 MEG.	BROWN	BLACK	GREEN

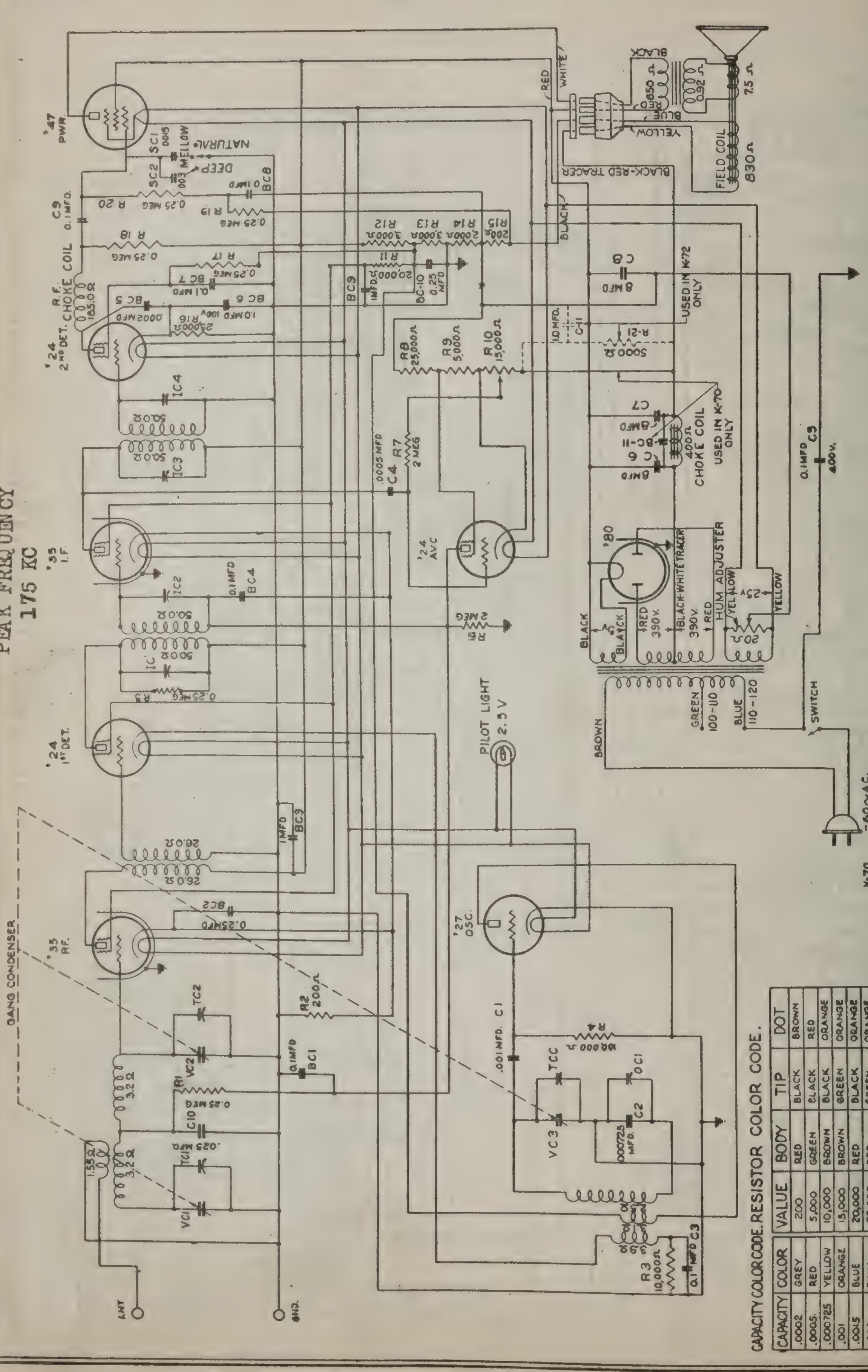
Power Consumption 95 Watt

KOLSTER — INTERNATIONAL RADIO MODELS K-60—K-62 -1931-

-1931-

MODEL K-70,K-72

KOLSTER RADIO, INC.


PEAK FREQUENCY
175 KC
'47 PWR.
'24 2ND DET.
'35 I.F.
'24 1ST DET.
'35 RF.
'24 AVC
'27 OSC.
'80
R.F. CHOKE COIL 165.0Ω
C9 0.1MFD.
R 20
R 18 0.25 MEG
R 17 0.25MEG
R 19 0.25 MEG
BC 8 0.1MFD
SC1 .0015
SC2 .003
NATURAL
MELLOW
DEEP
BC 7 .1MFD
BC 6 1.0MFD 100V
BC 5 .0002MFD
R16 25,000Ω
IC4
IC3
IC2
IC
50.0Ω
BC4 0.1MFD
R 5 0.25MEG
BC9 1MFD
R11 20,000Ω
BC-10 0.25 MFD
R12 3,000Ω
R13 3,000Ω
R14 2,000Ω
R15 200Ω
R8 25,000Ω
R9 5,000Ω
R10 15,000Ω
C4 .0005 MFD
R7 2 MEG
R6 2MEG
C 8 8MFD
USED IN K-72 ONLY
C-11 10 MFD.
R-21 5000Ω
C7 8MFD
BC-11
C 6 8MFD
400Ω CHOKE COIL
USED IN K-70 ONLY
C5 0.1MFD 400V.
RED
WHITE
BLACK
BLUE
YELLOW
850Ω
0.92Ω
7.5Ω
FIELD COIL 830Ω
BLACK-RED TRACER
BLACK-WHITE TRACER
RED 390V.
HUM ADJUSTER
2.5V
20Ω
GREEN 100-110
BLUE 110-120
BROWN
SWITCH
K-70 -60~AC.
K-72 -25-60~AC.
PILOT LIGHT 2.5 V
GANG CONDENSER
BC3 1MFD
28.0Ω
26.0Ω
BC2 0.25MFD
TC2
VC2
R1 0.25 MEG
C10 .025 MFD
TC1
VC1
3.2Ω
1.55Ω
BC1 0.1MFD
R2 200Ω
C1 .001MFD.
R4 100,000Ω
TCC
OC1
VC3
C2 .000725 MFD.
R3 10,000Ω
C3 0.1MFD
3.9Ω
ANT
GND.

CAPACITY COLOR CODE. RESISTOR COLOR CODE.

CAPACITY	COLOR
.0002	GREY
.0005.	RED
.000725	YELLOW
.001	ORANGE
.0015	BLUE
.003	PINK

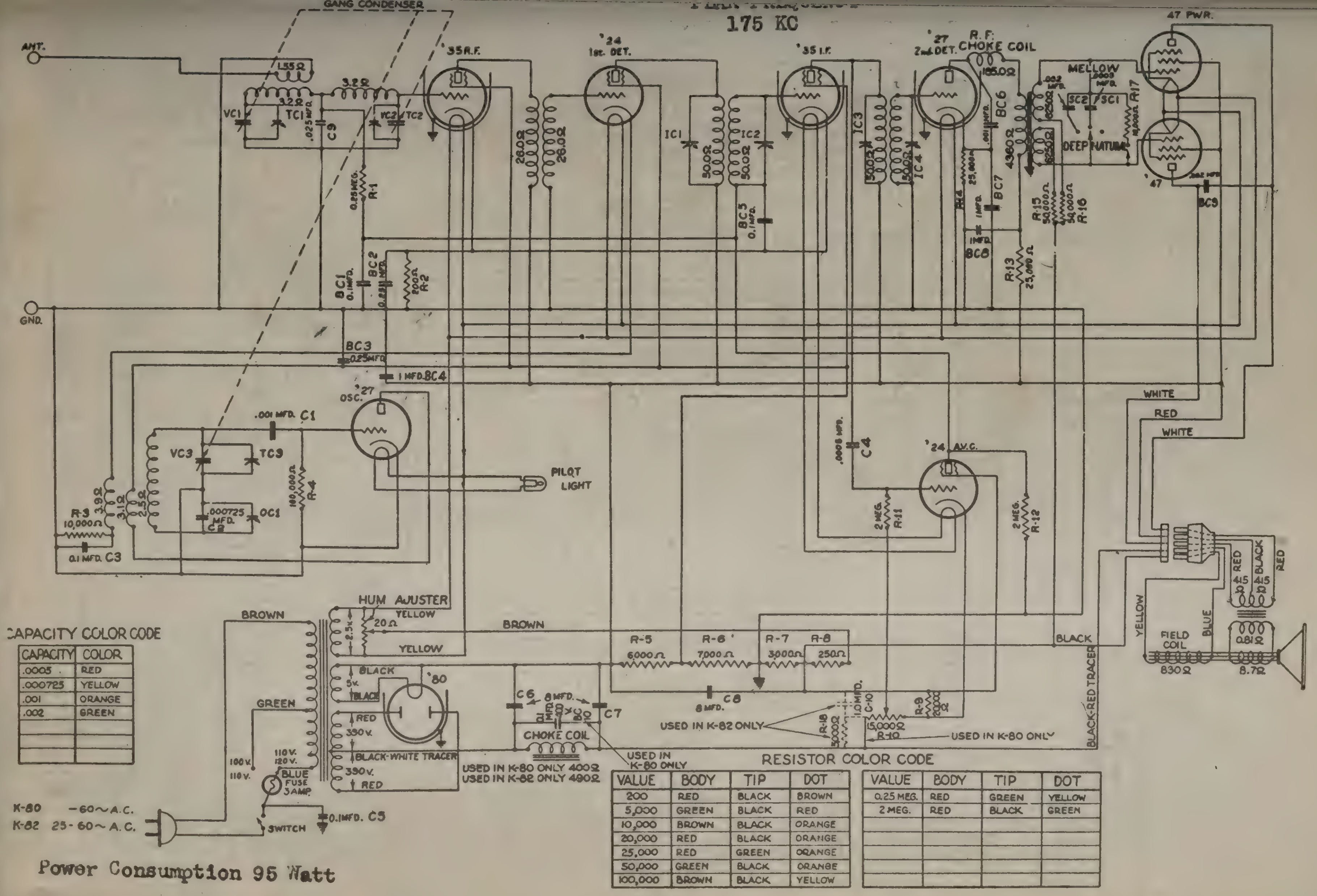
VALUE	BODY	TIP	DOT
200	RED	BLACK	BROWN
5,000	GREEN	BLACK	RED
10,000	BROWN	BLACK	ORANGE
15,000	BROWN	GREEN	ORANGE
20,000	RED	BLACK	ORANGE
25,000	RED	GREEN	ORANGE
100,000	BROWN	BLACK	YELLOW
0.25 MEG.	RED	GREEN	YELLOW
2 MEG.	RED	BLACK	GREEN

Power Consumption 95 Watt

KOLSTER — INTERNATIONAL RADIO MODELS K-70—K-72

ODEL K-80, K-82

KOLSTER RADIO, INC.


175 KC
GANG CONDENSER
ANT.
GND.
L55Ω
3.2Ω
3.2Ω
VC1
TC1
.025 MFD.
C9
VC2
TC2
'35 R.F.
'24 1st. DET.
'35 I.F.
'27 2nd. DET.
R.F. CHOKE COIL
165.0Ω
47 PWR.
'47
26.0Ω
26.0Ω
IC1
IC2
50.0Ω
50.0Ω
BC5 0.1 MFD.
IC3
IC4
50.0Ω
BC6
.001 MFD.
R-14 25,000Ω
BC7 1 MFD.
BC8 1 MFD.
436.0Ω
MELLOW
DEEP
NATURAL
SC2
SC1
R-17 10,000Ω
BC9
R-15 50,000Ω
R-16 50,000Ω
R-13 25,000Ω
0.25 MEG. R-1
BC1 0.1 MFD.
BC2 0.25 MFD.
200Ω R-2
BC3 0.25 MFD.
1 MFD. BC4
'27 OSC.
.001 MFD. C1
VC3
TC3
100,000Ω R-4
PILOT LIGHT
3.9Ω
3.1Ω
2.5Ω
R-3 10,000Ω
0.1 MFD. C3
.000725 MFD. C2
OC1
.0006 MFD. C4
'24 A.V.C.
2 MEG. R-11
2 MEG. R-12
WHITE
RED
WHITE
RED
BLACK
RED
415Ω
415Ω
YELLOW
BLUE
FIELD COIL
830Ω
0.81Ω
8.7Ω
BLACK
BLACK-RED TRACER
HUM ADJUSTER
YELLOW
20Ω
2.5K
YELLOW
BROWN
BROWN
R-5 6000Ω
R-6 7000Ω
R-7 3000Ω
R-8 250Ω
C8 8 MFD.
R-9 300Ω
15,000Ω R-10
1.0 MFD. C-10
R-18 3000Ω
USED IN K-82 ONLY
USED IN K-80 ONLY
C6
8 MFD.
C7
CHOKE COIL
USED IN K-80 ONLY
USED IN K-80 ONLY 400Ω
USED IN K-82 ONLY 490Ω
BLACK
5K
BLACK
'80
RED
390V.
BLACK-WHITE TRACER
390V.
RED
GREEN
100V.
110V.
110V.
120V.
BLUE FUSE 3 AMP.
SWITCH
0.1 MFD. C5

K-80 -60~A.C.
K-82 25-60~A.C.

Power Consumption 95 Watt

CAPACITY COLOR CODE

CAPACITY	COLOR
.0005	RED
.000725	YELLOW
.001	ORANGE
.002	GREEN

RESISTOR COLOR CODE

VALUE	BODY	TIP	DOT
200	RED	BLACK	BROWN
5,000	GREEN	BLACK	RED
10,000	BROWN	BLACK	ORANGE
20,000	RED	BLACK	ORANGE
25,000	RED	GREEN	ORANGE
50,000	GREEN	BLACK	ORANGE
100,000	BROWN	BLACK	YELLOW

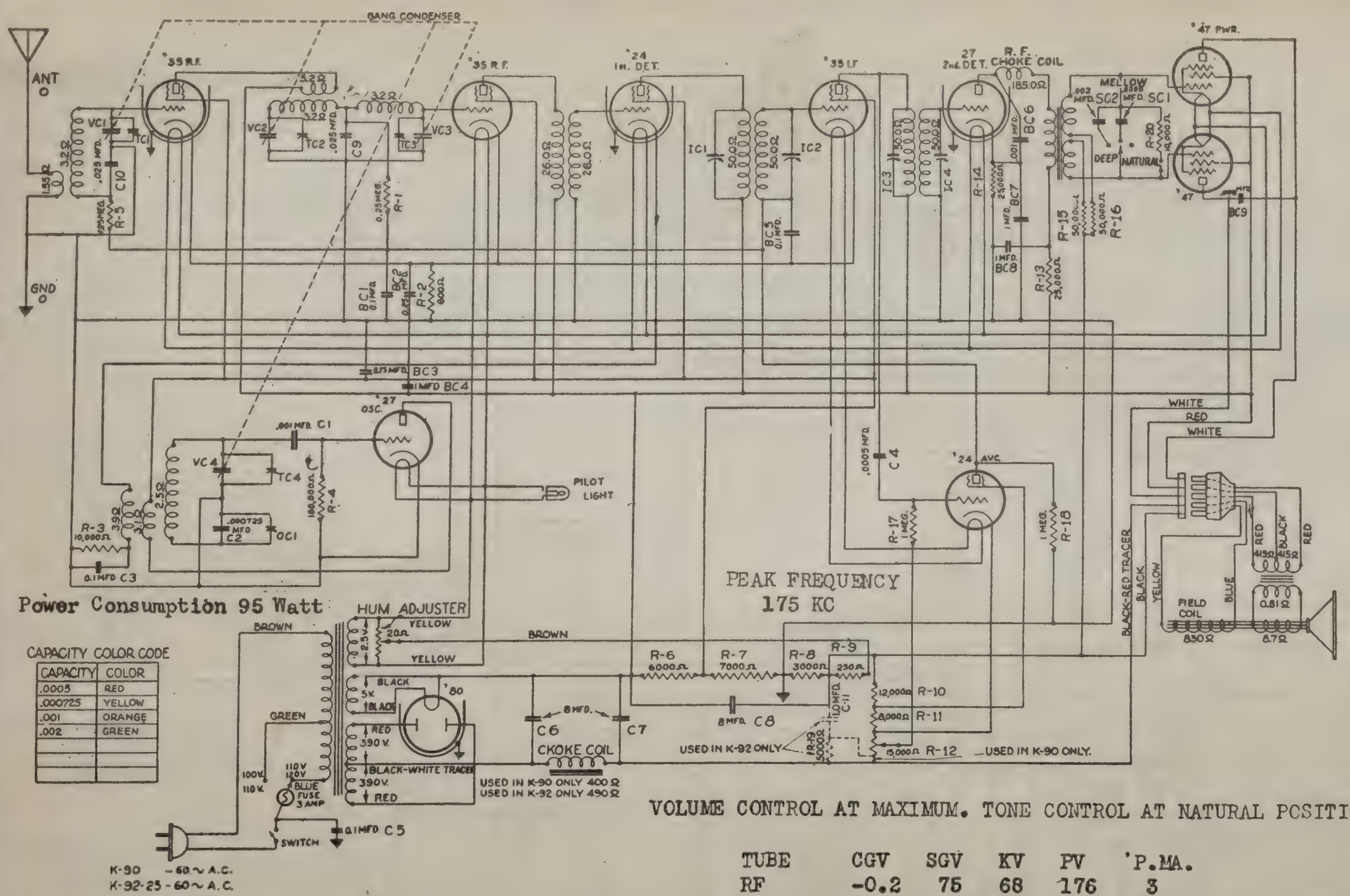
VALUE	BODY	TIP	DOT
0.25 MEG.	RED	GREEN	YELLOW
2 MEG.	RED	BLACK	GREEN

KOLSTER — INTERNATIONAL RADIO MODELS K-80—K-82

~1931~

MODEL K-90, K-92
Schematic
Voltage

KOLSTER RADIO, INC.


ANT
GND
GANG CONDENSER
'35 R.F.
'35 R.F.
'24 IN. DET.
'35 I.F.
27 2nd DET.
R.F. CHOKE COIL
185.0Ω
'47 PWR.
'47
'27 OSC.
'24 AVC
'80
VC1
VC2
VC3
VC4
TC1
TC2
TC3
TC4
OC1
IC1
IC2
IC3
IC4
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C-11
BC1
BC2
BC3
BC4
BC5
BC6
BC7
BC8
BC9
SC1
SC2
R-1
R-2
R-3
R-4
R-5
R-6
R-7
R-8
R-9
R-10
R-11
R-12
R-13
R-14
R-15
R-16
R-17
R-18
R-19
R-20
MELLOW
DEEP
NATURAL
PILOT LIGHT
HUM ADJUSTER
FIELD COIL
WHITE
RED
WHITE
BLACK-RED TRACER
BLACK
YELLOW
BLUE
BROWN
GREEN
BLACK-WHITE TRACER
390 V.
5 V.
2.5 V.
20Ω
BLUE FUSE 3 AMP
SWITCH
100V.
110V.
120V.
CHOKE COIL
USED IN K-90 ONLY 400Ω
USED IN K-92 ONLY 490Ω
USED IN K-92 ONLY
USED IN K-90 ONLY
K-90 - 60 ~ A.C.
K-92-25 - 60 ~ A.C.
PEAK FREQUENCY 175 KC
Power Consumption 95 Watt

Power Consumption 95 Watt

PEAK FREQUENCY
175 KC

CAPACITY COLOR CODE

CAPACITY	COLOR
.0005	RED
.000725	YELLOW
.001	ORANGE
.002	GREEN

RESISTOR COLOR CODE

VALUE	BODY	TIP	DOT
600	BLUE	BLACK	BROWN
8,000	GRAY	BLACK	RED
10,000	BROWN	BLACK	ORANGE
12,000	BROWN	RED	ORANGE
25,000	RED	GREEN	ORANGE
50,000	GREEN	BLACK	ORANGE
100,000	BROWN	BLACK	YELLOW

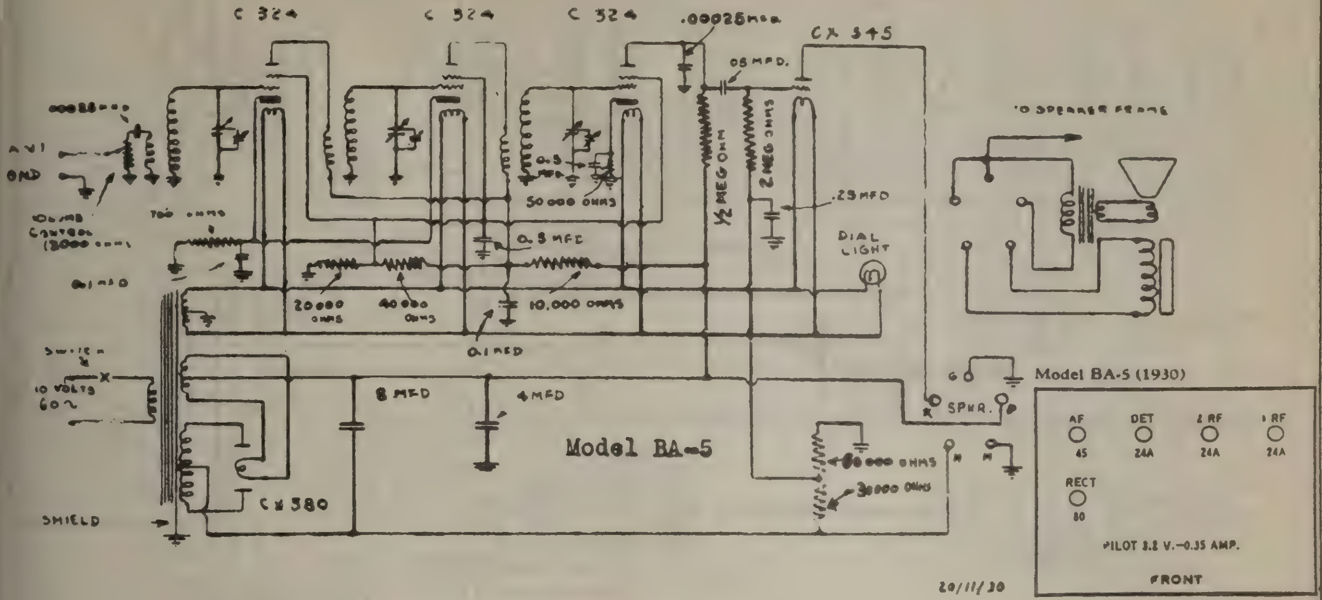
VALUE	BODY	TIP	DOT
0.25 MEG.	RED	GREEN	YELLOW
1 MEG.	BROWN	BLACK	GREEN
5,000	GREEN	BLACK	RED

VOLUME CONTROL AT MAXIMUM. TONE CONTROL AT NATURAL POSITION.

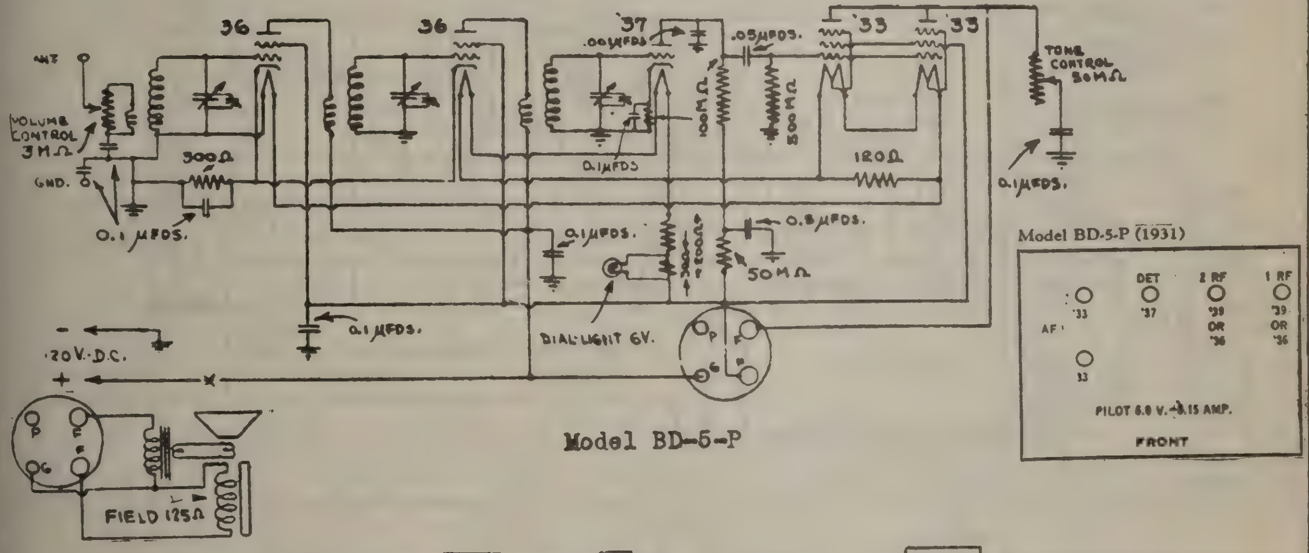
TUBE	CGV	SGV	KV	PV	'P.MA.
RF	-0.2	75	68	176	3
Osc.	0	-	62	73	5.5
1st.Det.	-5.6	72	68	175	.52
IF	-0.4	75	68	177	2.6
2nd.Det.	-15	-	76	145	.65
AVC	-0.5	44	-58	67	0
Pwer.	-12	250	-	228	28
Rect.	-	-	-	-	47

LANG RADIO CC

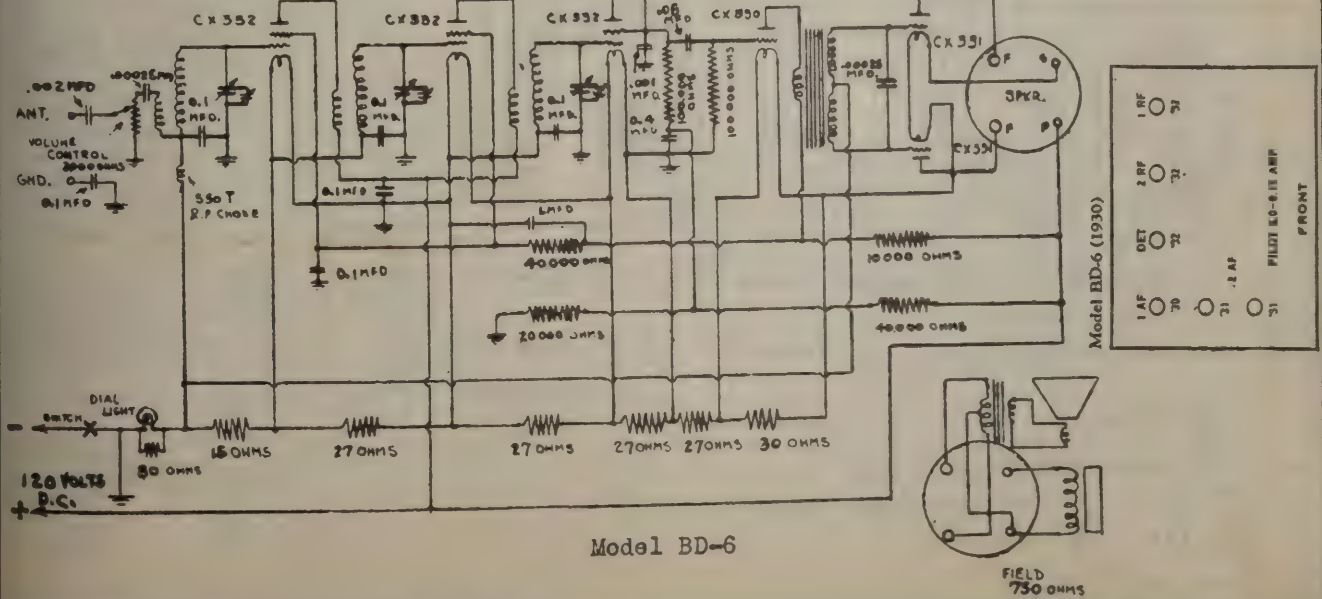
MODEL BA-5
MODEL BD-5-P
MODEL BD-6


C 324
C 324
C 324
.00025 MFD.
CX 345
.05 MFD.
½ MEG OHM
2 MEG OHMS
.25 MFD
DIAL LIGHT
TO SPEAKER FRAME
ANT
GND
VOLUME CONTROL (2000 OHMS)
700 OHMS
0.1 MFD
0.5 MFD
50 000 OHMS
20000 OHMS
40000 OHMS
10.000 OHMS
0.1 MFD
SWITCH
110 VOLTS 60~
8 MFD
4 MFD
CX 380
SHIELD
SPKR.
60 000 OHMS
30000 OHMS
20/11/30
Model BA-5 (1930)
AF 45
DET 24A
2 RF 24A
1 RF 24A
RECT 80
PILOT 2.5 V.—0.35 AMP.
FRONT

Model BA-5


36
36
37
33
33
ANT
VOLUME CONTROL 3 MΩ
.001 MFDS
.05 MFDS.
100 MΩ
500 MΩ
300Ω
GND.
0.1 MFDS.
0.1 MFDS
120Ω
TONE CONTROL 50 MΩ
0.1 MFDS.
0.1 MFDS.
0.5 MFDS.
50 MΩ
DIAL LIGHT 6V.
0.1 MFDS.
120 V. D.C.
FIELD 125Ω
Model BD-5-P (1931)
AF '33
33
DET '37
2 RF '39 OR '36
1 RF '39 OR '36
PILOT 6.0 V.—.15 AMP.
FRONT

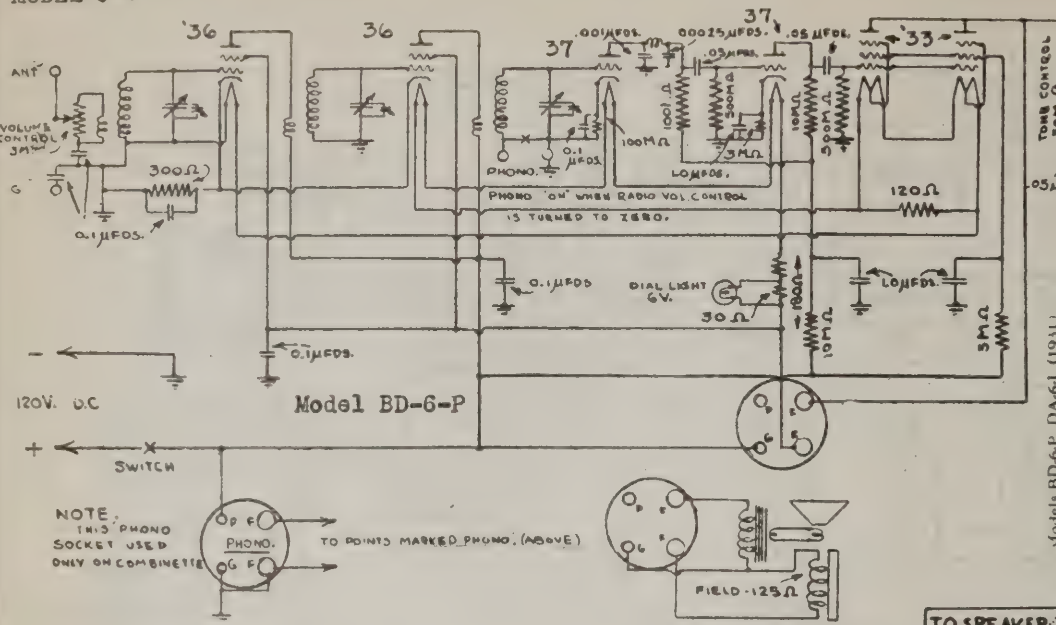
Model BD-5-P


CX 332
CX 332
CX 332
CX 330
CX 331
CX 331
.002 MFD
.00025 MFD
ANT.
VOLUME CONTROL 3000 OHMS
GND.
0.1 MFD
0.1 MFD.
330 T R.F. CHOKE
.001 MFD.
0.4 MFD
100 000 OHMS
.00025 MFD.
SPKR.
0.1 MFD
1 MFD
40000 OHMS
10000 OHMS
0.1 MFD
20 000 OHMS
40.000 OHMS
DIAL LIGHT
SWITCH
120 VOLTS D.C.
80 OHMS
15 OHMS
27 OHMS
27 OHMS
27 OHMS
27 OHMS
30 OHMS
FIELD 730 OHMS
Model BD-6 (1930)
1 RF 32
2 RF 32
DET 32
1 AF 30
2 AF 31
31
PILOT 2.0-0.15 AMP
FRONT

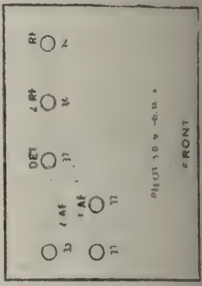
Model BD-6

MODEL BD-6-P
MODEL F-9
MODEL J-7

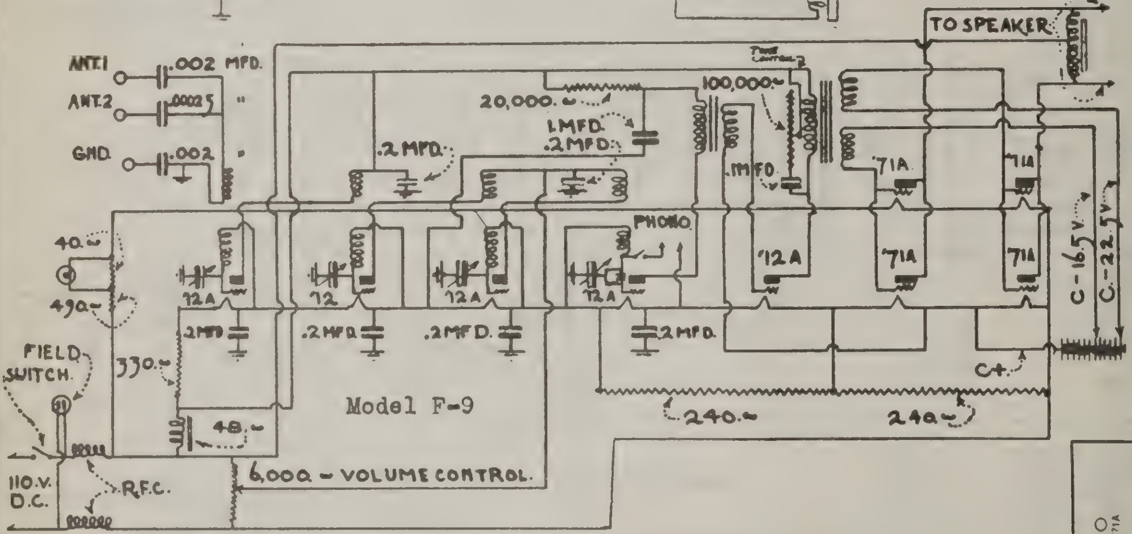
LANG RADIO CO


36
36
37
37
33
ANT
G
VOLUME CONTROL 3M
300Ω
0.1 μFDS.
.001 μFDS.
.00025 μFDS.
.05 μFDS.
.05 μFDS.
PHONO.
0.1 μFDS.
100MΩ
100 Ω
500M Ω
3MΩ
1.0 μFDS.
10MΩ
500M Ω
120Ω
TONE CONTROL 50M Ω
.05 μFDS
PHONO "ON" WHEN RADIO VOL. CONTROL IS TURNED TO ZERO.
0.1 μFDS
DIAL LIGHT 6V.
30 Ω
180Ω
10MΩ
1.0 μFDS.
3MΩ
0.1 μFDS.
120V. D.C
SWITCH
NOTE. THIS PHONO SOCKET USED ONLY ON COMBINETTE
PHONO.
TO POINTS MARKED PHONO. (ABOVE)
FIELD-125Ω

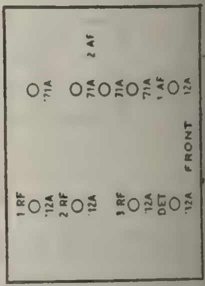
Model BD-6-P



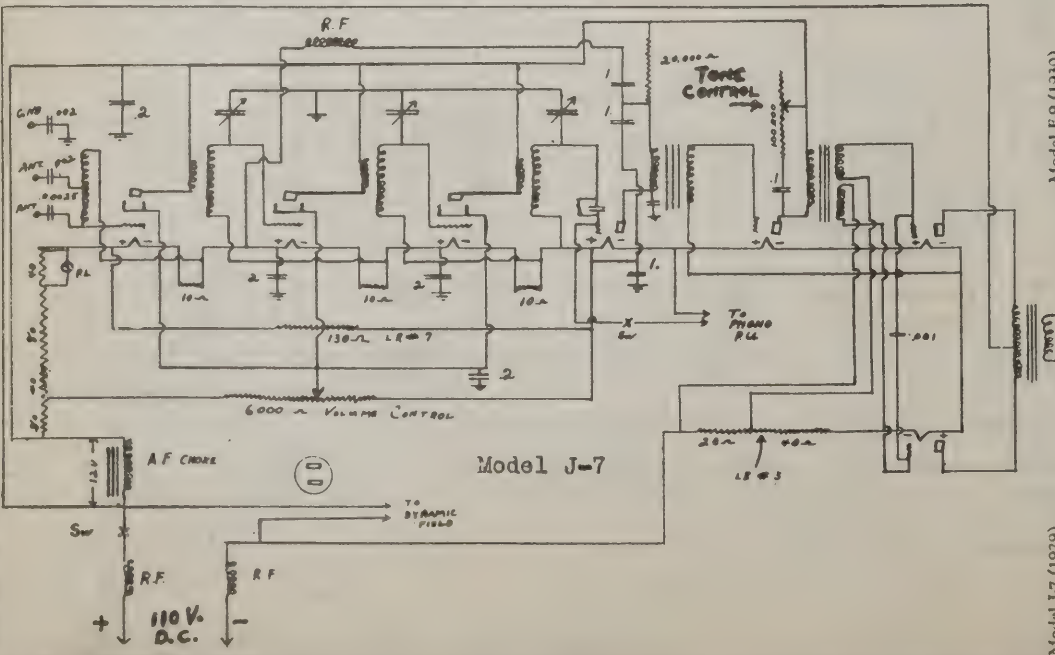
Models BD-6-P, DA-6-L (1931)


ANT.1
.002 MFD.
ANT.2
.00025
GND.
.002
20,000
1.MFD.
.2MFD.
.2 MFD.
100,000
TONE CONTROL
.1MFD.
TO SPEAKER
PHONO
'71A
'71A
'72A
'71A
'71A
C-16.5V.
C-22.5V.
40
490
72A
72
72A
72A
.2MFD.
.2MFD.
.2MFD.
.2MFD.
FIELD SWITCH
330
48
C+
240
240
110.V. D.C.
R.F.C.
6,000 - VOLUME CONTROL.

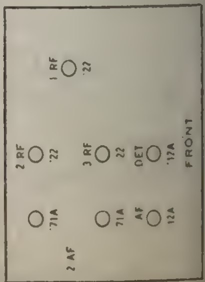
Model F-9



Model F-9 (1930)


R.F
GND .002
ANT .00025
.2
20,000
TONE CONTROL
100,000
.1
1.
2
2
10
10
10
130 LR #7
TO PHONO PLUG
SW
.001
6000 VOLUME CONTROL
A F CHOKE
12V
20
40
LR #3
TO DYNAMIC FIELD
Sw
R.F.
R F
110 V. D.C.

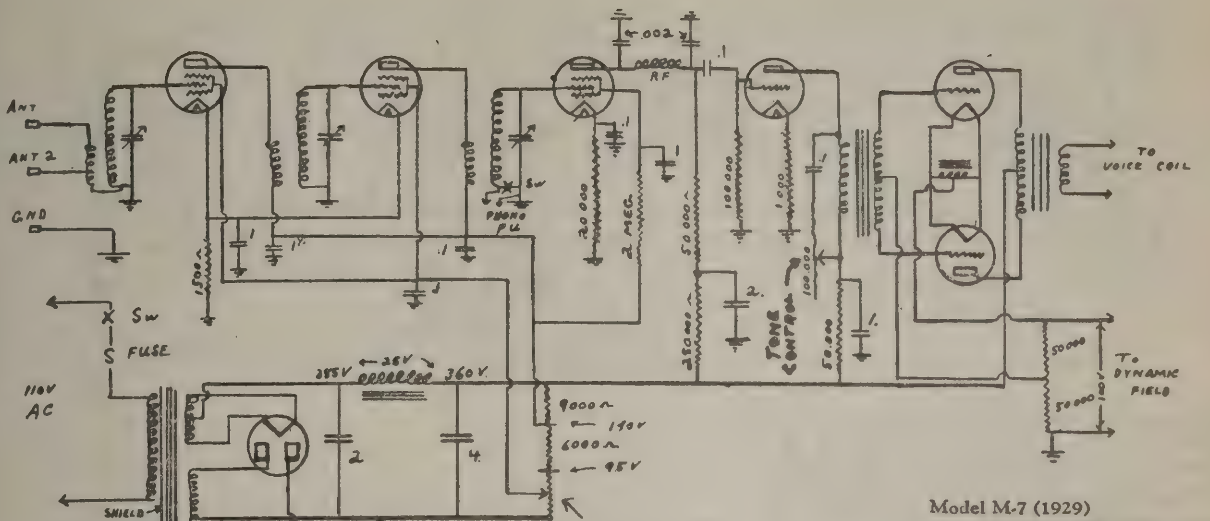
Model J-7



Model J-7 (1929)

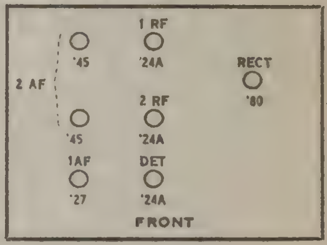
MODEL M-7
MODEL R-8

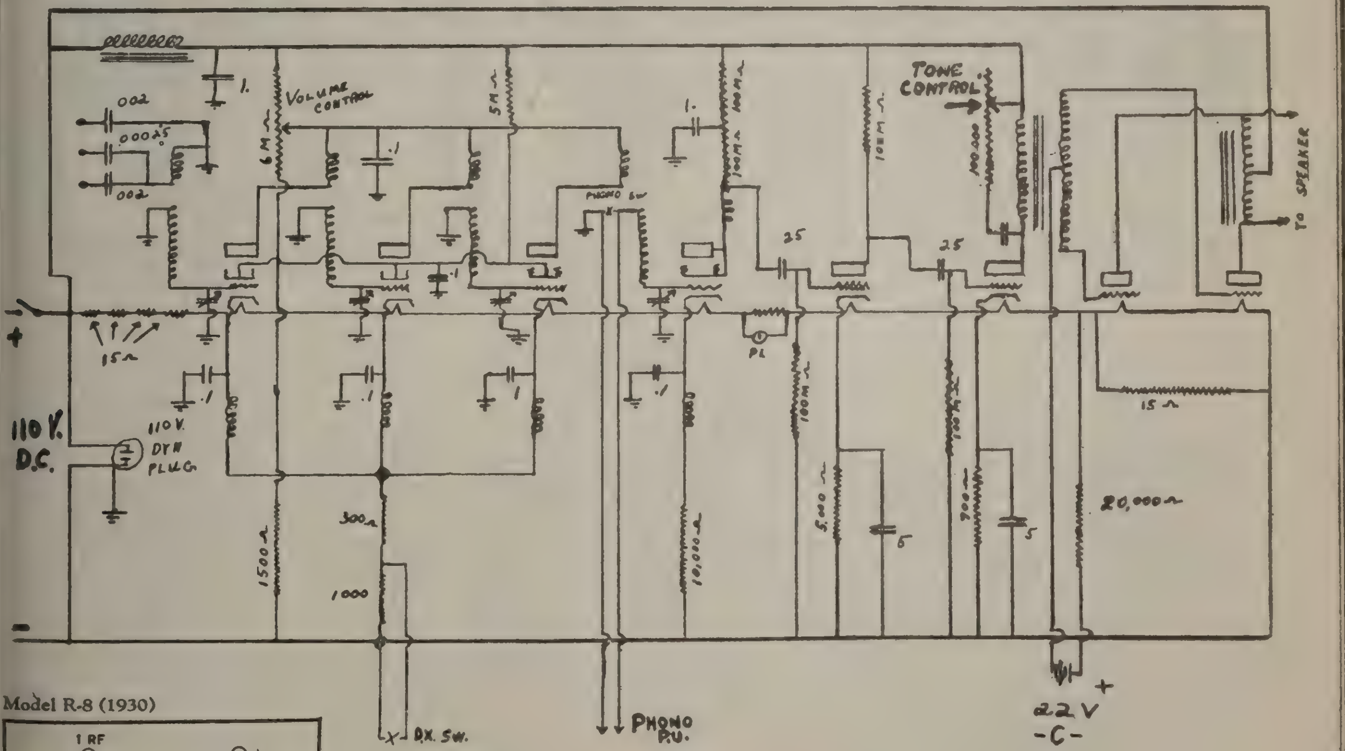
LANG RADIO CO.


ANT
ANT 2
GND
1500
.1
.1
.1
.1
.002
RF
.1
SW
PHONO PU
20 000
2 MEG
50 000
100 000
1 000
.1
250 000
2.
TONE CONTROL
100 000
50 000
1.
TO VOICE COIL
50 000
50 000
TO DYNAMIC FIELD
SW
FUSE
110V AC
285V
25V
360V
2
4
SHIELD
9000 Ω
140V
6000 Ω
95V
VOLUME CONTROL 6000 Ω
TO HEATERS
C.T. TO 45 FIL

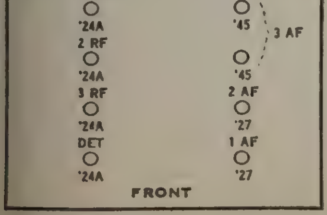
Model M-7

Model M-7 (1929)


1 RF
'45
'24A
2 AF
RECT
'80
2 RF
'45
'24A
1AF
DET
'27
'24A
FRONT


.002
.00025
.002
1.
VOLUME CONTROL
6 M
.1
5 M
1.
100 M
100 M
PHONO SW
TONE CONTROL
100 M
100,000
25
25
TO SPEAKER
+
15 Ω
110 V. D.C.
110 V. DYN PLUG
.1
.1
.1
.1
PL
100 M
1500
300
1000
10,000
5,000
5
700
100 M
5
15 Ω
20,000
-
DX. SW.
PHONO P.U.
22 V -C-
+

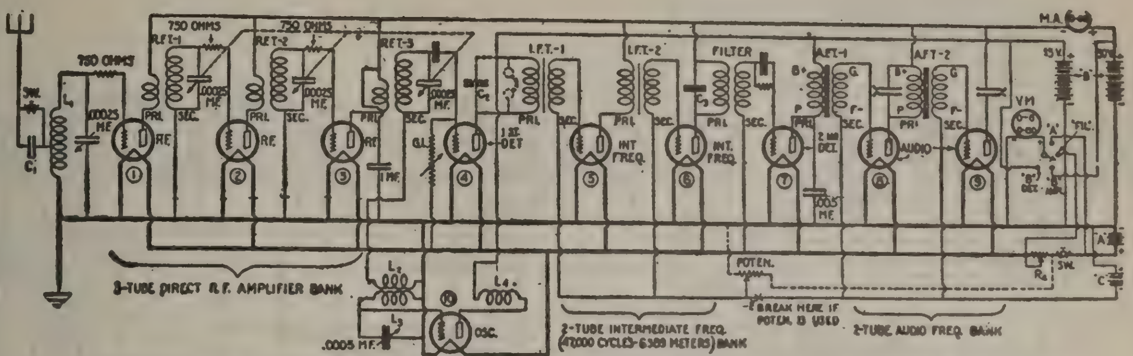
Model R-8 (1930)


1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'24A
'45
'45
3 AF
2 AF
'27
1 AF
'27
FRONT

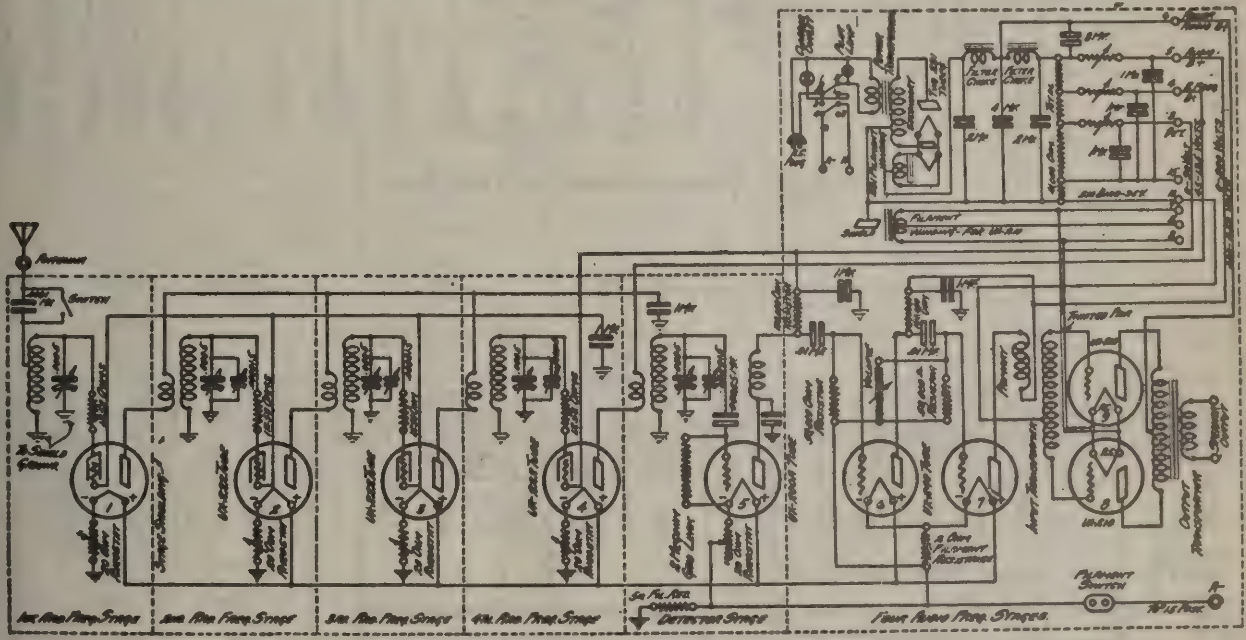
Model R-8

C. R. LEUTZ, INC.

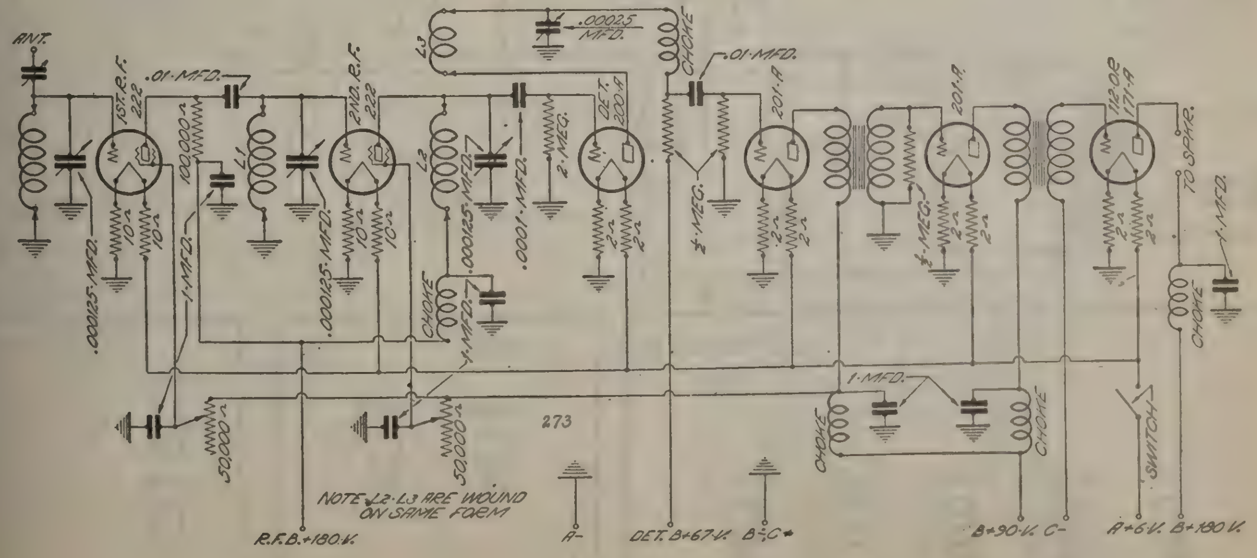
MODEL C-10
MODEL Silver-Ghost
MODEL C


750 OHMS
750 OHMS
750 OHMS
R.F.T.-1
R.F.T.-2
R.F.T.-3
L.F.T.-1
L.F.T.-2
FILTER
A.F.T.-1
A.F.T.-2
M.A.
.00025 MF.
PRI.
SEC.
RF
1ST DET
INT. FREQ.
2ND DET.
AUDIO
VM
.005 MF.
3-TUBE DIRECT R.F. AMPLIFIER BANK
L2
L3
L4
OSC.
.0005 MF.
2-TUBE INTERMEDIATE FREQ. (47,000 CYCLES-6380 METERS) BANK
POTEN.
BREAK HERE IF POTEN. IS USED
2-TUBE AUDIO FREQ. BANK
SW.
R4

The Experimenters' Information Service Navy Model C-10 super-heterodyne designed for a wave-length range from 600 meters down to 50 meters, the band being covered through the employment of interchangeable coils.

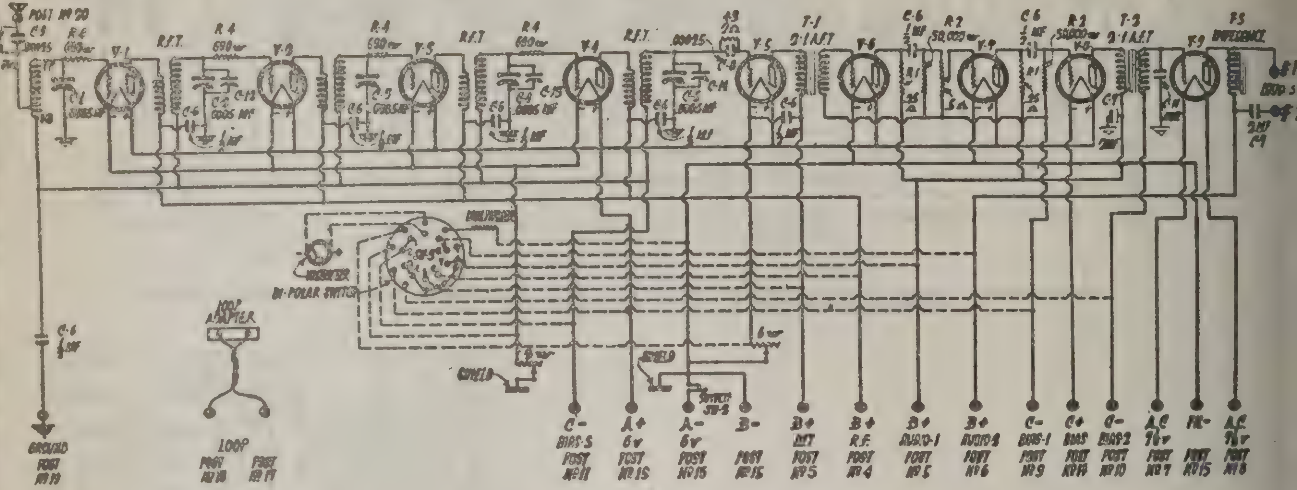

Antenna
Switch
Filter Choke
Filter Choke
Filament
Output Transformer
Input Transformer
UX-210
1st. Rad. Freq. Stage
2nd. Rad. Freq. Stage
3rd. Rad. Freq. Stage
4th. Rad. Freq. Stage
Detector Stage
Four Audio Freq. Stages
Filament Switch

Circuit Diagram of New "Silver Ghost" Receiver

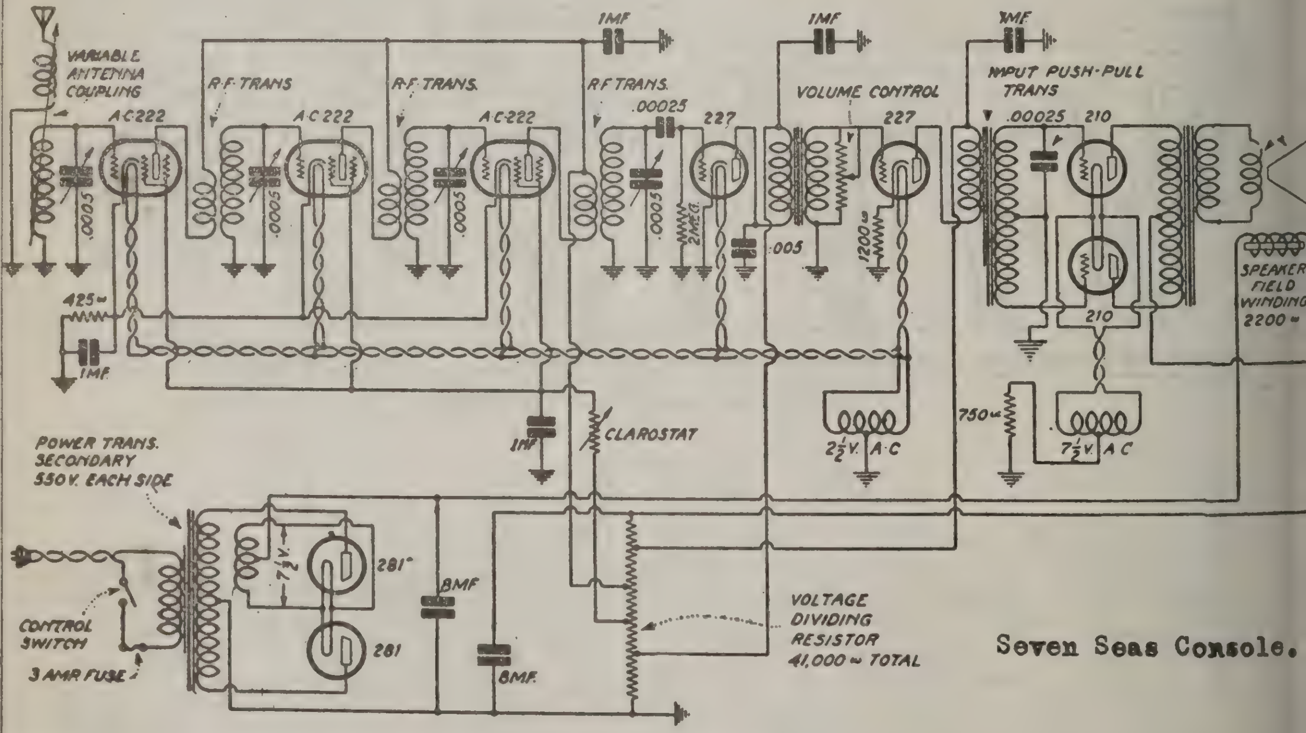

ANT.
1ST. R.F. 222
.01-MFD.
100,000 Ω
.000125 MFD.
1-MFD.
L1
2ND. R.F. 222
.000125 MFD.
L3
.00025 MFD.
CHOKE
L2
.0001-MFD.
2-MEG.
DET. 200-A
.000125 MFD.
1-MFD.
CHOKE
.01-MFD.
1/4-MEG.
201-A
201-A
1/4-MEG.
112-OR 171-A
TO SPKR.
1-MFD.
CHOKE
1-MFD.
CHOKE
CHOKE
SWITCH
50,000 Ω
50,000 Ω
NOTE L2-L3 ARE WOUND ON SAME FORM
R.F. B.+180 V.
A-
DET. B+67 V.
B-C+
B+90 V.
C-
A+6 V.
B+180 V.

MODEL Trans-Oceanic
MODEL Seven Seas

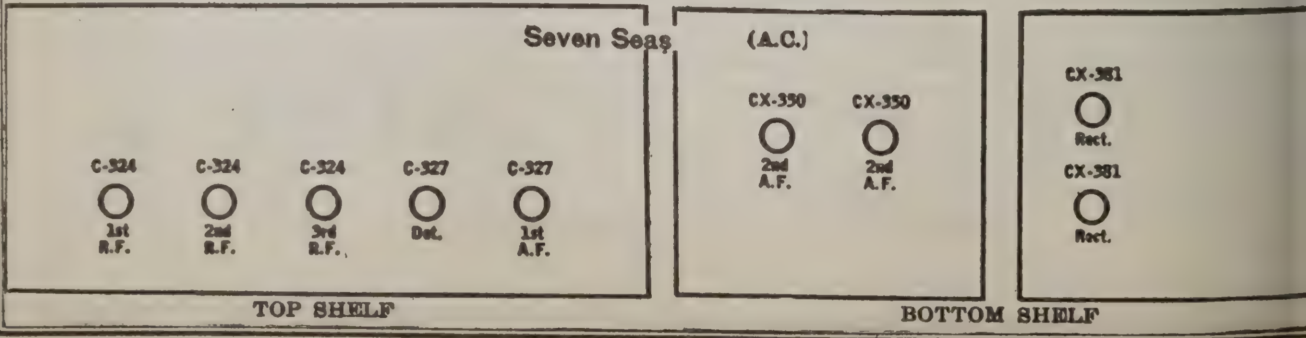
C. R. LEUTZ, INC.


POST No 20
R.F.T.
R-4
690~
V-1
V-2
V-3
V-4
V-5
V-6
V-7
V-8
V-9
T-1
2:1 A.F.T.
T-3
2:1 A.F.T.
R-2
50,000~
F-3
IMPEDANCE
.00025
.0005 MF
C-6
BI-POLAR SWITCH
LOOP ADAPTER
LOOP
POST No 16
POST No 17
GROUND POST No 19
SHIELD
SWITCH SW-3
6~
C- BIAS-S POST No 11
A+ 6v POST No 15
A- 6v POST No 15
B- POST No 15
B+ DET POST No 5
B+ R.F. POST No 4
B+ AUDIO-1 POST No 5
B+ AUDIO-2 POST No 6
C- BIAS-1 POST No 9
C+ BIAS POST No 14
C- BIAS-2 POST No 10
A.C. 7½v POST No 7
FIL- POST No 15
A.C. 7½v POST No 8

Universal Trans-Oceanic Receiver.

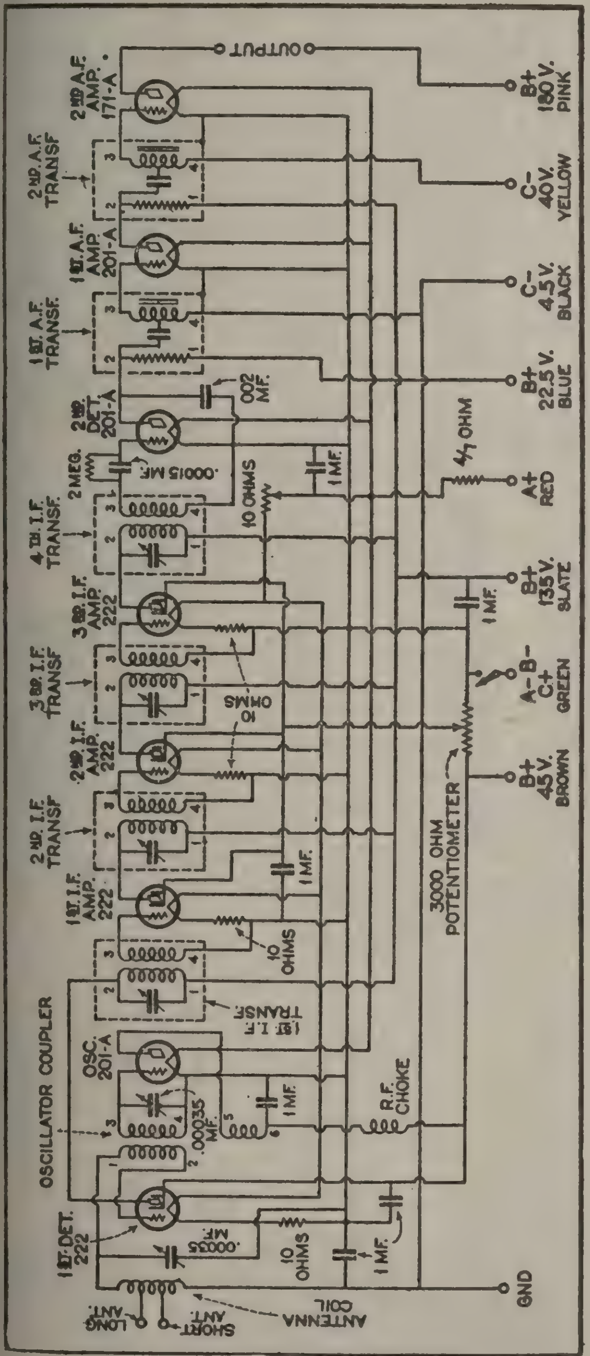

VARIABLE ANTENNA COUPLING
.0005
425~
1MF
R-F TRANS
AC 222
AC 222
AC 222
.0005
.0005
R-F TRANS.
RF TRANS.
1MF
.00025
.0005
227
2 MEG.
.005
VOLUME CONTROL
1MF
227
1200~
2½ V. A C
INPUT PUSH-PULL TRANS
1MF
.00025
210
210
750~
7½ V. A C
SPEAKER FIELD WINDING 2200~
1MF
CLAROSTAT
POWER TRANS. SECONDARY 550 V. EACH SIDE
7½ V.
281
281
CONTROL SWITCH
3 AMP. FUSE
8MF
8MF
VOLTAGE DIVIDING RESISTOR 41,000~ TOTAL

Seven Seas Console.

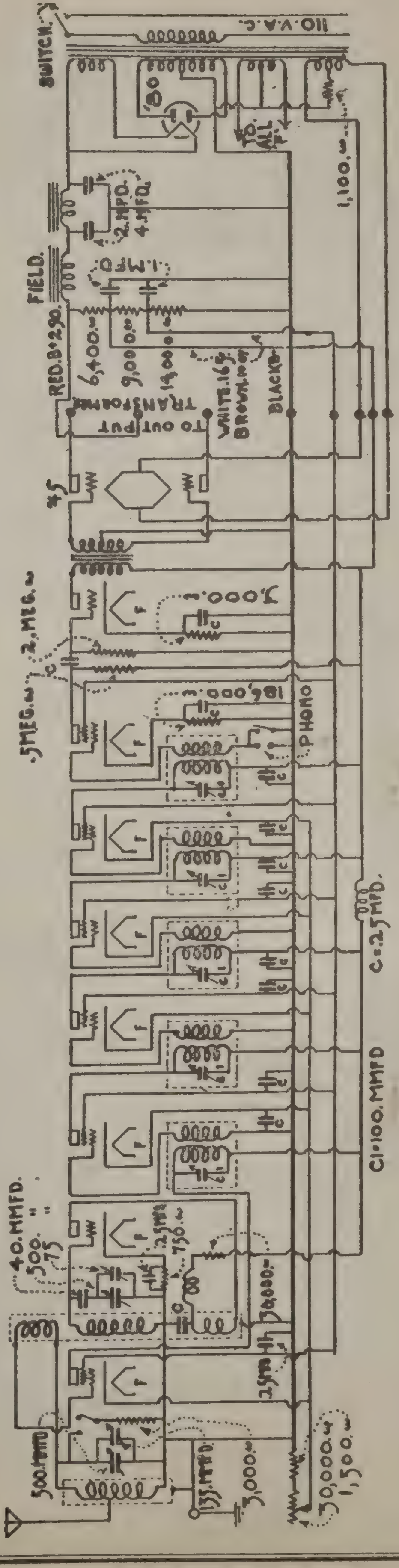

Seven Seas
(A.C.)
C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-327
Det.
C-327
1st A.F.
CX-350
2nd A.F.
CX-350
2nd A.F.
CX-381
Rect.
CX-381
Rect.
TOP SHELF
BOTTOM SHELF

LINCOLN RADIO CORP.

MODEL 8-80
MODEL 31


OUTPUT
B+ 180 V. PINK
C- 40 V. YELLOW
C- 4.5 V. BLACK
B+ 22.5 V. BLUE
A+ RED
B+ 135 V. SLATE
A- B- C+ GREEN
B+ 45 V. BROWN
GND
2ND A.F. AMP. 171-A
2ND A.F. TRANSF
1ST A.F. AMP. 201-A
1ST A.F. TRANSF.
2ND DET. 201-A
.002 MF.
2 MEG.
.00015 MF.
1 MF.
10 OHMS
4 OHM
4TH I.F. TRANSF.
3RD I.F. AMP. 222
3RD I.F. TRANSF
10 OHMS
2ND I.F. AMP. 222
2ND I.F. TRANSF
1ST I.F. AMP. 222
1 MF.
10 OHMS
3000 OHM POTENTIOMETER
1ST I.F. TRANSF
OSCILLATOR COUPLER
OSC. 201-A
.00035 MF.
1 MF.
R.F. CHOKE
1ST DET. 222
.00035 MF.
10 OHMS
1 MF.
LONG ANT.
SHORT ANT.
ANTENNA COIL

Model 8-80

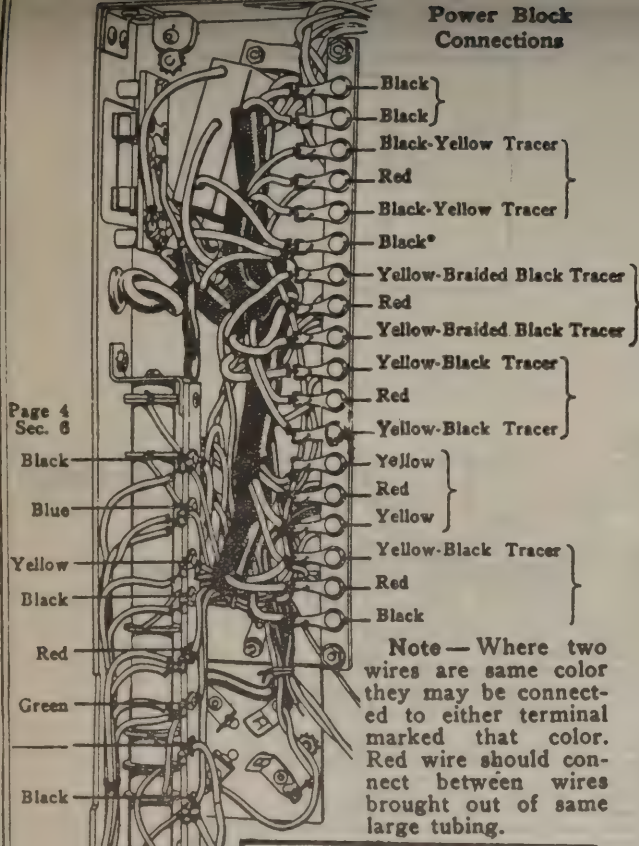

SWITCH
110.V.A.C.
80
TO ALL F
2.MFD.
4.MFD.
1,100.ω
FIELD.
.1 MFD
RED.B+290.
6,400.ω
9,000.ω
14,000.ω
TO OUTPUT TRANSFORMER
WHITE.165
BROWN.100
BLACK
45
2,MEG.ω
3,000.ω
.5MEG.ω
186,000.ω
PHONO
C=.25MFD.
C1=100.MMFD
40.MMFD.
500. "
75 "
.25MEG
750.ω
30,000.ω
.25MFD
500.MMFD
135.MMFD.
3,000.ω
30,000.ω
1,500.ω

Model 31

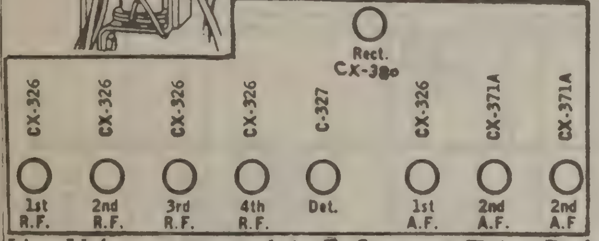
McMILLAN RADIO CO.

MODEL "8"
Two Types

Power Block Connections


Black
Black
Black-Yellow Tracer
Red
Black-Yellow Tracer
Black*
Yellow-Braided Black Tracer
Red
Yellow-Braided Black Tracer
Yellow-Black Tracer
Red
Yellow-Black Tracer
Yellow
Red
Yellow
Yellow-Black Tracer
Red
Black
Page 4 Sec. 6
Black
Blue
Yellow
Black
Red
Green
Black

Note — Where two wires are same color they may be connected to either terminal marked that color. Red wire should connect between wires brought out of same large tubing.


Rect. CX-380
CX-326
CX-326
CX-326
CX-326
C-327
CX-326
CX-371A
CX-371A
1st R.F.
2nd R.F.
3rd R.F.
4th R.F.
Det.
1st A.F.
2nd A.F.
2nd A.F

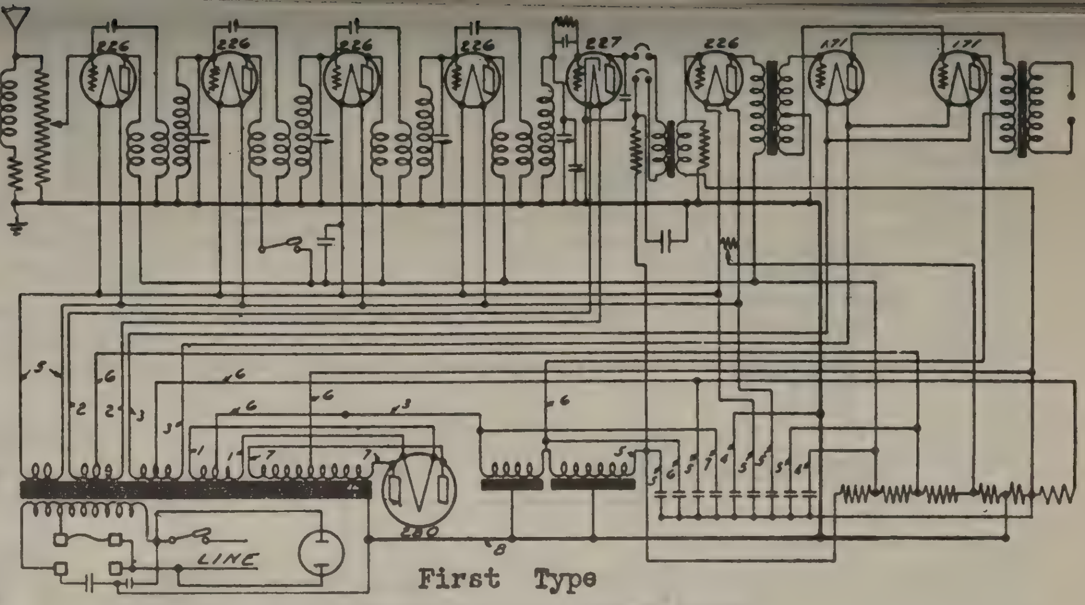
Line Voltage 116—2nd A. F. Stage—2 Tubes Push Pull

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
1	226	1st.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
2	226	2nd.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
3	226	3rd.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
4	226	4th.R.F.	1.55	117	1.5	110	5.5	-	6.5	10.5	4.0
5	227	Detector	2.40	125	2.2	26	45	-	1.4	1.4	0.0
6	226	1st.A.F.	1.55	107	1.5	100	7.5	-	3.5	7.0	3.5
7	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0
8	171A	2nd.A.F.	5.30	170	5.0	158	33	-	18.0	21.0	3.0

1-YELLOW WITH BLACK TRACER
2-BLACK WITH YELLOW TRACER
3-BLACK & YELLOW
4-BLUE

5-BLACK
6-RED
7-YELLOW
8-GREEN

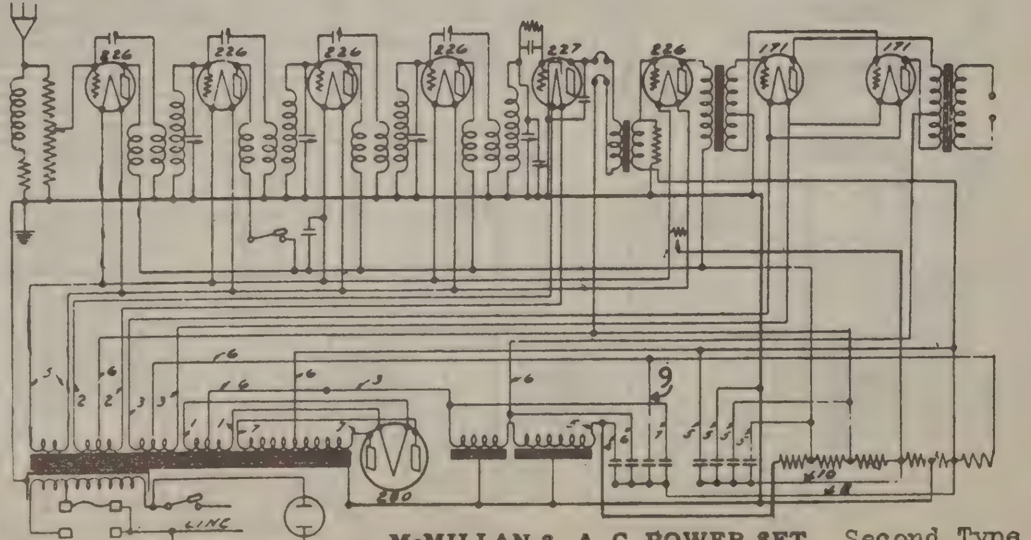
9-SLATE
10-BROWN


226
226
226
226
227
226
171
171
280
LINE
1
2
3
5
6
7
8

First Type

McMILLAN 8—A. C. POWER SET

Use this circuit diagram for all receivers equipped with a sealed power transformer block, or condenser block not having any brown or slate colored leads.

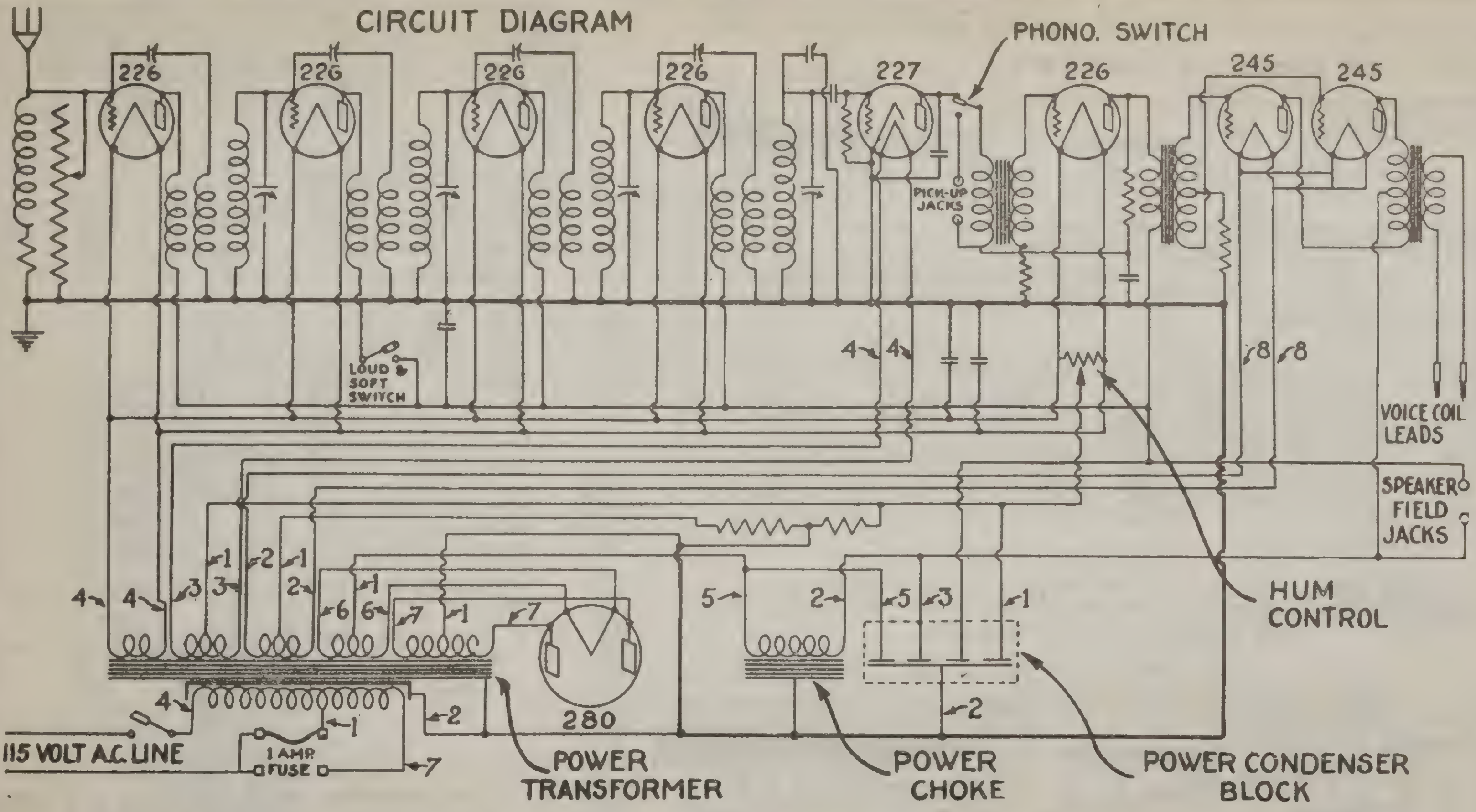

226
226
226
226
227
226
171
171
280
LINE
1
2
3
5
6
7
9
10

McMILLAN 8—A. C. POWER SET Second Type

Note—Use this circuit diagram for receiver equipped with power blocks having removable covers or condenser blocks having one brown and one slate colored lead

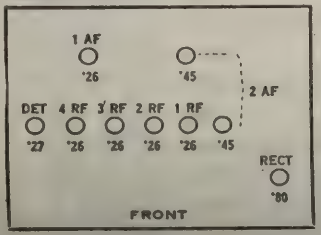
McMILLAN RADIO CO.

CIRCUIT DIAGRAM


226
226
226
226
227
226
245
245
PHONO. SWITCH
PICK-UP JACKS
LOUD & SOFT SWITCH
VOICE COIL LEADS
SPEAKER FIELD JACKS
HUM CONTROL
280
115 VOLT A.C. LINE
1 AMP. FUSE
POWER TRANSFORMER
POWER CHOKE
POWER CONDENSER BLOCK
1
2
3
4
5
6
7
8

1—RED
2—GREEN
3—BLUE
4—BLACK
5—YELLOW
6—BROWN
7—WHITE

Model AC-5091


1 AF
'26
'45
2 AF
DET
'27
4 RF
'26
3 RF
'26
2 RF
'26
1 RF
'26
'45
RECT
'80
FRONT

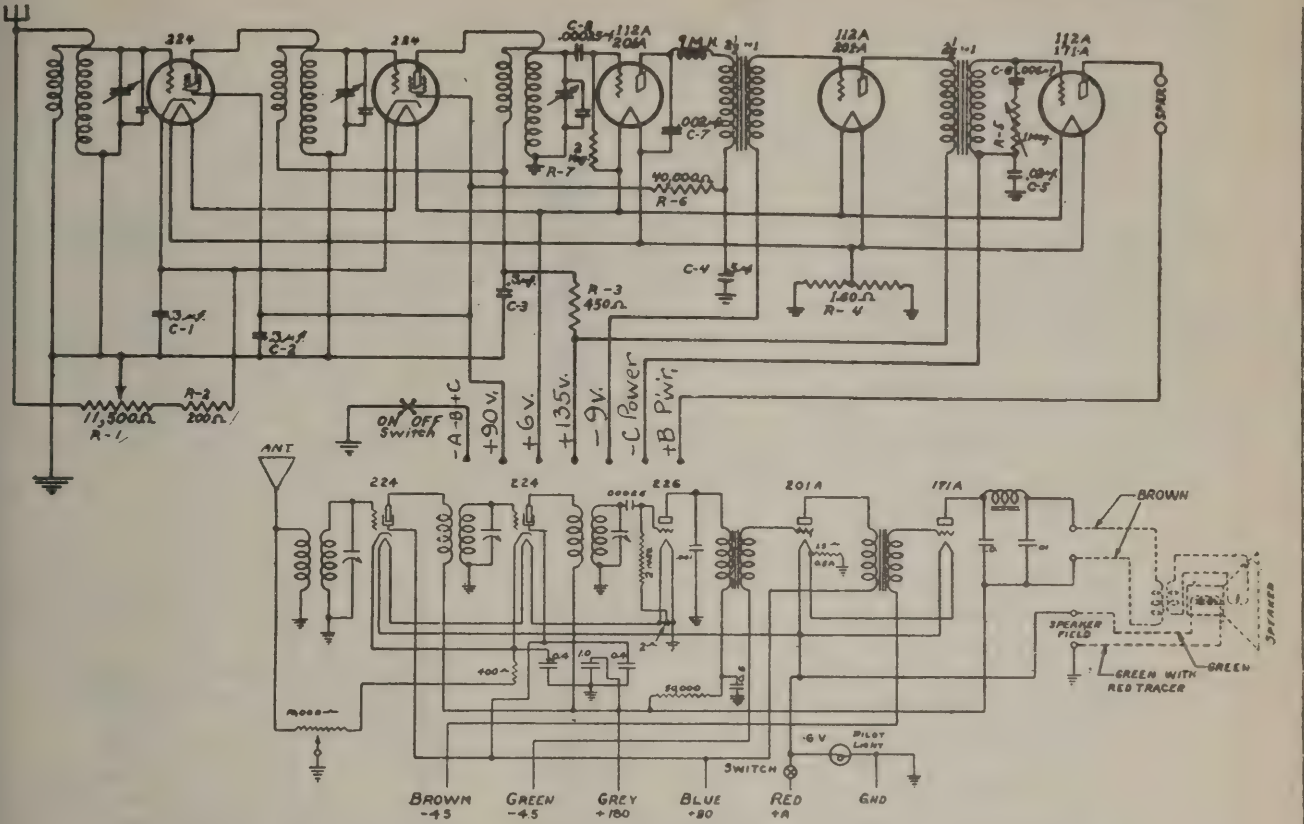
Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max

Note: "C" Bias Voltage Reading on Audio tubes is low due to the current draw of the set tester and high resistances in the set.

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET. ETC. ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M.A. ⑫	SCREEN GRID VOLTS ⑬
1	226	1st RF	1.5	140	1.4	132	10	-	5	9	4	-
2	226	2nd RF	1.5	140	1.4	132	10	-	5	9	4	-
3	226	3rd RF	1.5	140	1.4	132	10	-	5	9	4	-
4	226	4th RF	1.5	140	1.4	132	10	-	5	9	4	-
5	227	Det.	2.6	112	2.3	30	0	10	2	2	0	-
6	226	1st AF	1.5	127	1.4	117	6.5	-	4.5	6.5	3	-
7	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
8	245	PP	2.6	260	2.4	245	11.5	-	25	29	4.5	-
9	280	Rect.	5.8		4.9				90			
10												

MONTGOMERY-WARD & CO.

MODELS 62-055,49,1522,1922
MODELS 1522,1562
Voltage, Schematic
Chassis,Bottom View


224
224
C-8 .00025
112A
201A
9 M.H.
2½ - 1
.002
C-7
2 Meg.
R-7
40,000Ω
R-6
112A
201A
2½ - 1
C-6 .006
R-5
1 Meg.
.02
C-5
112A
171-A
SPKR.
C-4
.5
1.60Ω
R-4
R-3
450Ω
.5
C-3
.3
C-1
.3
C-2
11,500Ω
R-1
R-2
200Ω
ON OFF Switch
-A-B+C
+90v.
+6v.
+135v.
-9v.
-C Power
+B Pwr.
ANT
224
224
.00025
226
201A
171A
BROWN
SPEAKER FIELD
GREEN WITH RED TRACER
GREEN
SPEAKER
400
0.4
1.0
0.4
2
50,000
.6V
PILOT LIGHT
SWITCH
BROWN -4.5
GREEN -4.5
GREY +180
BLUE +90
RED +A
GND

General Description

Not many of these chassis were put out. Because of the high "A" battery consumption, certain changes were suggested that could be made to reduce "A" battery consumption.

Diagram No. 1 gives the original circuit and it will be seen that the tube circuit consists of—

2—224's, 1—226; 1—201A, and 1—171A.

Diagram No. 2 shows the changes to be made so the set will consume less "A" battery current. The tubes are now:

2—NY 64's, or 236's; 2—201A; and 1—112A

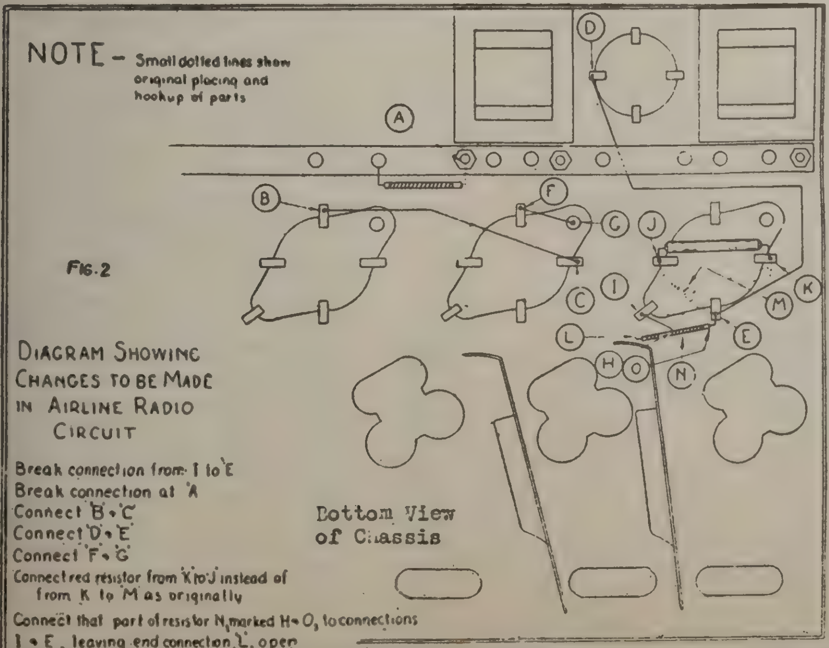
The NY 64 tubes are screen-grid battery operated tubes which were designed for use in automobile radio sets. Their current consumption is small, their amplification factor quite high and they are rugged and very long lived.

The "A" and "B" batteries are not changed to convert the receiver for lower "A" battery consumption.

Make the changes shown on the diagram. Connect the storage battery to black (neg.) and red (pos.) leads. Insert two NY 64 tubes in sockets marked 224. Place a 201A in socket marked 226, and one 201A in socket marked 201A. Use a 112A in socket marked 171A. Turn on filament switch and see if tubes light—if so connect "B" batteries as tagged, except "B + 180" lead—connect this to "B + 135" terminal.

Connect two 4½ Volt "C" batteries in series. The "C — 4½" Volt lead goes to the connection between the 4½ Volt "C" batteries. The "C — 45" goes to the 4½ Volt part of the second battery.

It is recommended that these changes not be made on sets where the customer is entirely satisfied with the operation and the life of the "A" battery. The operation with the 224 tubes is very highly satisfactory. The sensitivity is extremely high, and the tone quality very good.


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

NOTE — Small dotted lines show original placing and hookup of parts

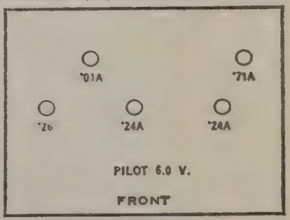
FIG. 2

DIAGRAM SHOWING CHANGES TO BE MADE IN AIRLINE RADIO CIRCUIT

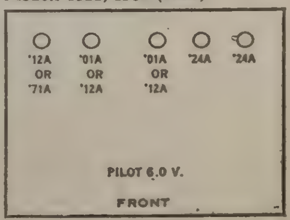
Break connection from I to E
Break connection at A
Connect B & C
Connect D & E
Connect F & G
Connect red resistor from K to J instead of from K to M as originally
Connect that part of resistor N, marked H & O, to connections I & E, leaving end connection, L, open

Bottom View of Chassis

Models 62-055, 49, 1522, 1922 (1930)

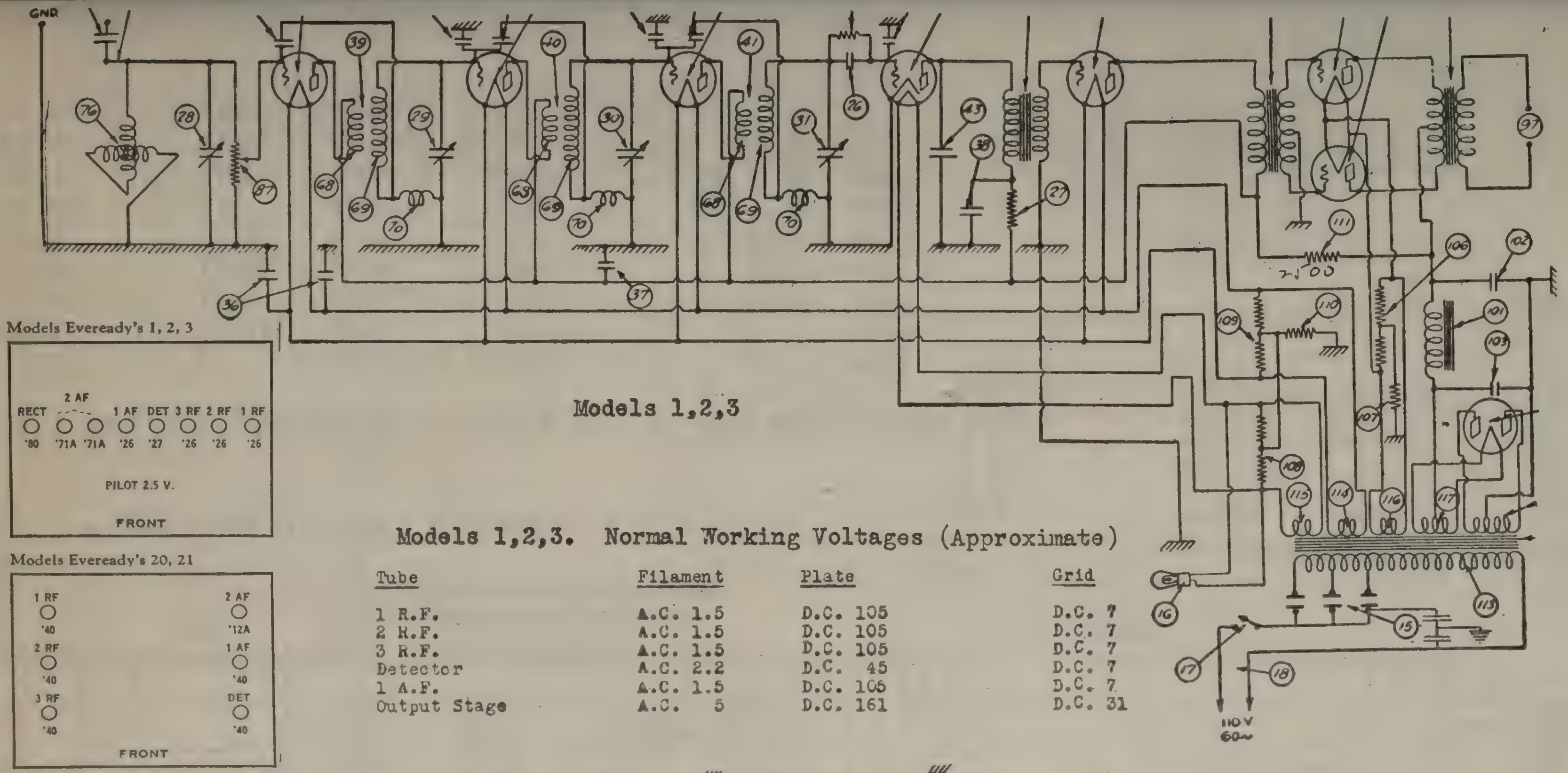

'01A
'71A
'26
'24A
'24A
PILOT 6.0 V.
FRONT

Models 1522, 1562 (1930)


'12A OR '71A
'01A OR '12A
'01A OR '12A
'24A
'24A
PILOT 6.0 V.
FRONT

NATIONAL CARBON CO.

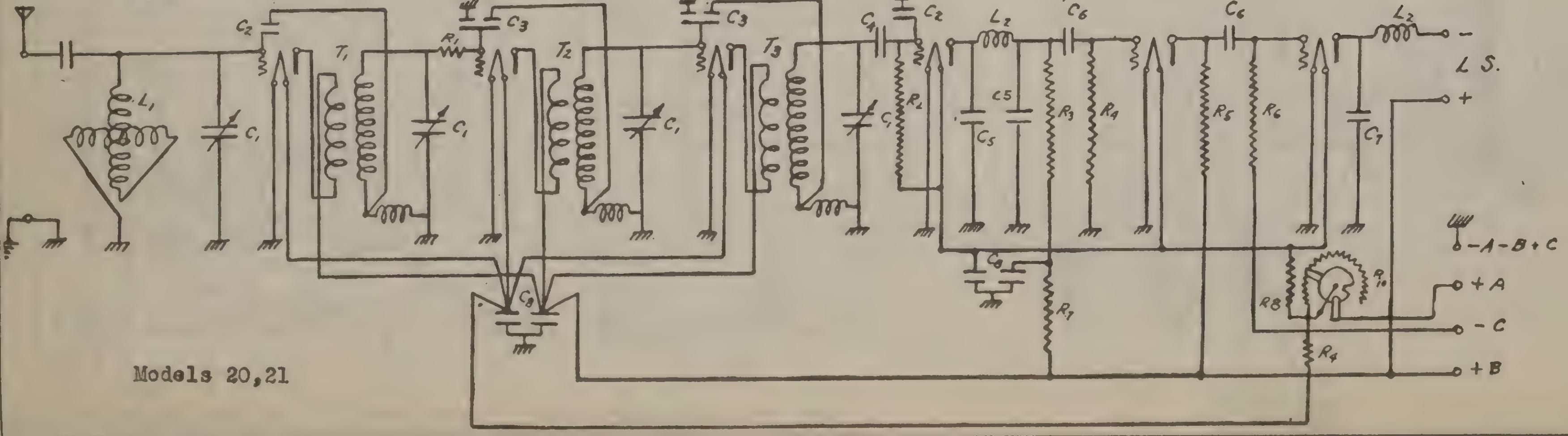
MODEL 1,2,3
MODEL 20,21


GND
76
78
87
36
39
68
69
70
29
40
63
30
37
41
31
26
43
38
27
97
111
2500
106
102
101
103
110
109
107
108
115
114
116
117
113
15
16
17
18
110 V
60~
Models Eveready's 1, 2, 3
2 AF
RECT
1 AF
DET
3 RF
2 RF
1 RF
'80
'71A
'71A
'26
'27
'26
'26
'26
PILOT 2.5 V.
FRONT
Models Eveready's 20, 21
1 RF
'40
2 RF
'40
3 RF
'40
2 AF
'12A
1 AF
'40
DET
'40
FRONT

Models 1,2,3

Models 1,2,3. Normal Working Voltages (Approximate)

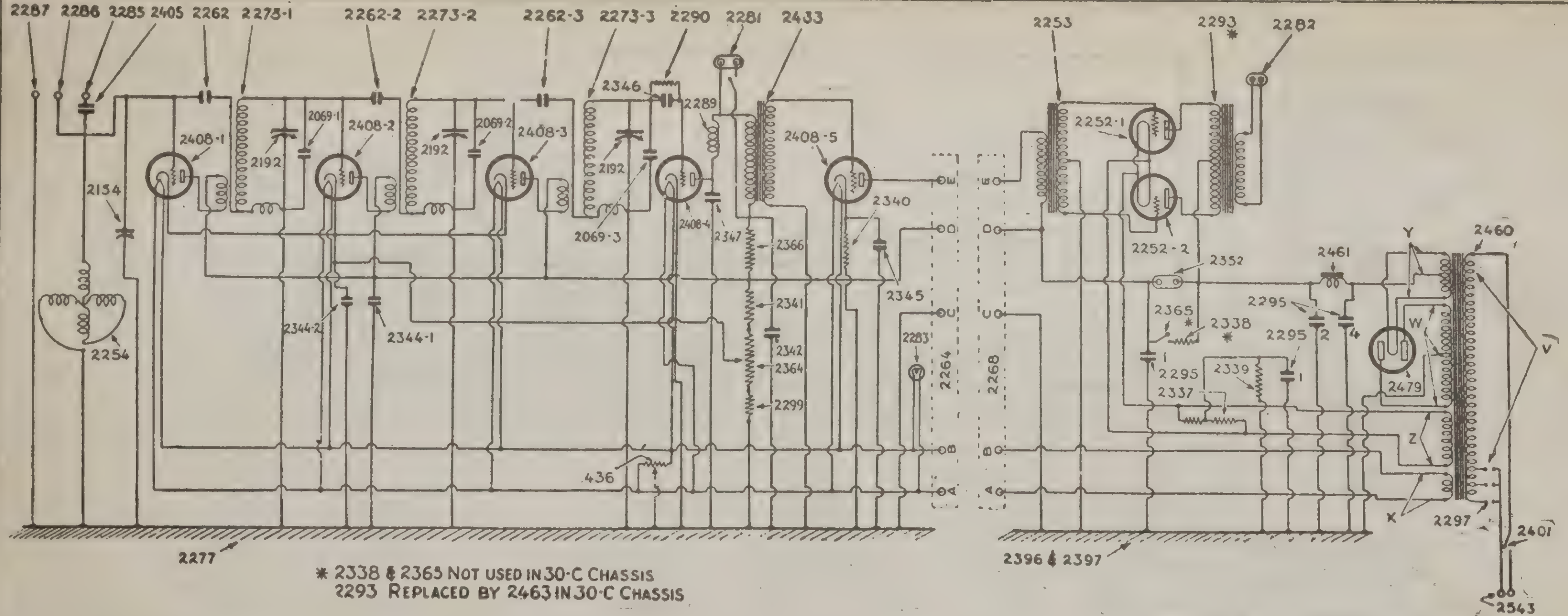
Tube	Filament	Plate	Grid
1 R.F.	A.C. 1.5	D.C. 105	D.C. 7
2 R.F.	A.C. 1.5	D.C. 105	D.C. 7
3 R.F.	A.C. 1.5	D.C. 105	D.C. 7
Detector	A.C. 2.2	D.C. 45	D.C. 7
1 A.F.	A.C. 1.5	D.C. 105	D.C. 7
Output Stage	A.C. 5	D.C. 161	D.C. 31


L₁
C₁
C₂
T₁
R₁
C₃
T₂
T₃
C₄
L₂
C₅
C6
R₂
R₃
R₄
R₅
R₆
C₇
C₈
C₉
R₇
R8
R₁₀
L S.
-
+
-A-B+C
+A
-C
+B

Models 20,21

MODEL 31,32,33,34
Eveready

NATIONAL CARBON CO.


2287
2286
2285
2405
2262
2273-1
2262-2
2273-2
2262-3
2273-3
2290
2281
2433
2253
2293 *
2282
2408-1
2192
2069-1
2408-2
2192
2069-2
2408-3
2346
2289
2192
2069-3
2408-4
2347
2366
2341
2342
2364
2299
2408-5
2340
2345
2283
2264
2268
E
D
C
B
A
2154
2254
2344-2
2344-1
436
2277
2252-1
2252-2
2352
2365 *
2338 *
2295
2295
2295
2337
2339
2461
2
4
1
2479
W
Y
Z
X
V
2460
2297
2401
2543
2396 & 2397

* 2338 & 2365 NOT USED IN 30-C CHASSIS
2293 REPLACED BY 2463 IN 30-C CHASSIS

* Not used in 30-C chassis.

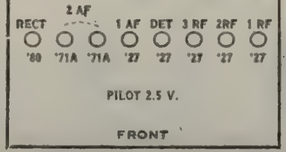
PART NO.	ELECTRICAL VALUE		PART NO.	ELECTRICAL VALUE	
2290	2	megohms	2344-1	.5	mfd
2366	17500	ohms	2344-2	.5	mfd
2299	175	ohms	2405	.0001	mfd
2340	1750	ohms	2346	.0001	mfd
2341	3500	ohms	2347	.00025	mfd
2436	10	ohms	2343	2	mfd
2364	600	ohms	2345	1	mfd
2339	1000	ohms			
2388	2500	ohms*			

NORMAL WORKING VOLTAGES (APPROXIMATE)

Tube	Filament	Plate	Grid
1 R.F.	A.C. 2.45	D.C. 100	D.C. 6
2 R.F.	A.C. 2.45	D.C. 100	D.C. 6
3 R.F.	A.C. 2.45	D.C. 100	D.C. 6
Detector	A.C. 2.45	D.C. 50	-
1 A.F.	A.C. 2.45	D.C. 100	D.C. 4.5
Output stage	A.C. 5.1	D.C. 175	D.C. 38
Rectifier Receiver	A.C. 5.1		

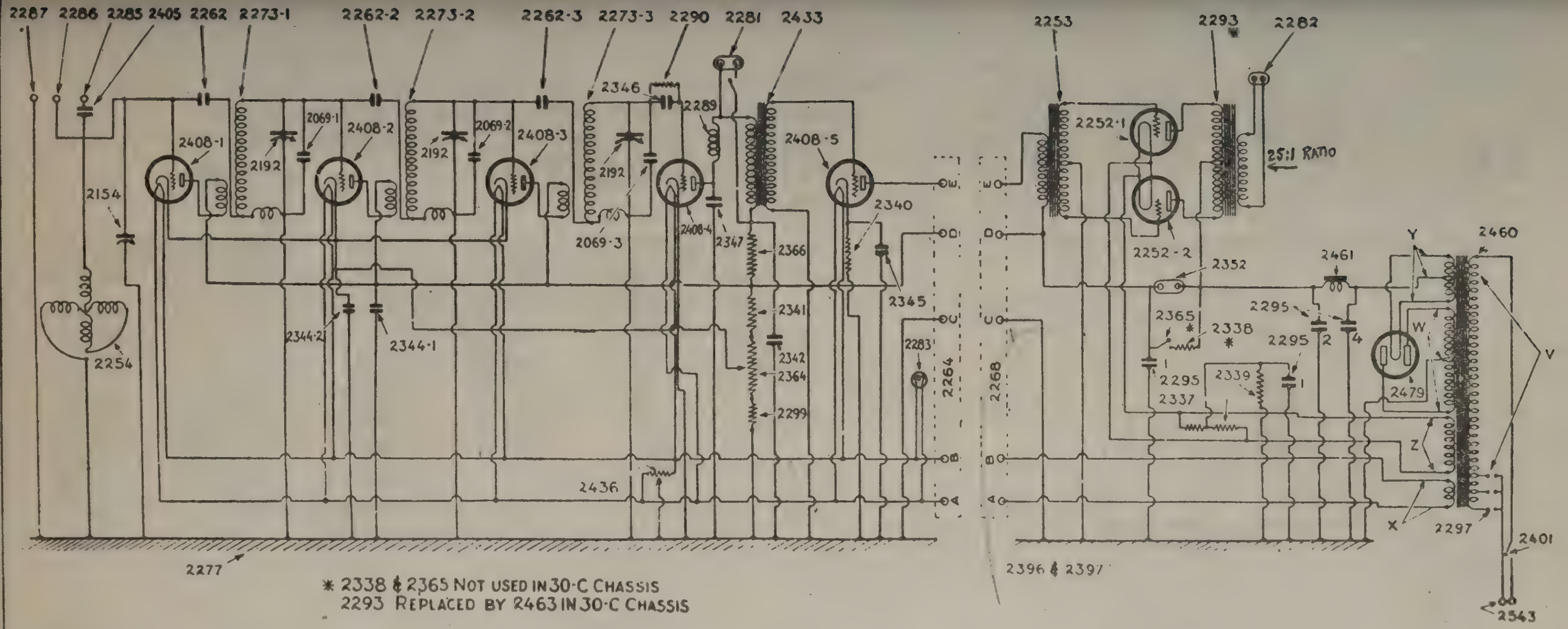
(Line Voltage 119. Set on 115 Volt Tap. Volume Control on Full.)

Models Eveready's 31, 32, 33, 34


RECT
2 AF
1 AF
DET
3 RF
2 RF
1 RF
'80
'71A
'71A
'27
'27
'27
'27
'27
PILOT 2.5 V.
FRONT

NATIONAL CARBON CO.

MODEL 42,43,44
Eveready


2287
2286
2285
2405
2262
2273-1
2262-2
2273-2
2262-3
2273-3
2290
2281
2433
2253
2293
2282
25:1 RATIO
2408-1
2408-2
2408-3
2408-4
2408-5
2069-1
2069-2
2069-3
2192
2154
2254
2344-2
2344-1
2346
2289
2347
2366
2341
2342
2364
2299
2340
2345
2436
2283
2264
2268
2252-1
2252-2
2352
2365
2338
2295
2339
2337
2461
2460
2479
Y
W
Z
X
V
2297
2401
2343
2277
2396 & 2397

* 2338 & 2365 NOT USED IN 30-C CHASSIS
2293 REPLACED BY 2463 IN 30-C CHASSIS

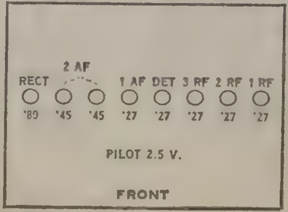
2344-1	.5	mfd	2290	2	megohms
2344-2	.5	mfd	2366	17500	ohms
2405	.0001	mfd	2299	175	ohms
2346	.0001	mfd	2340	1750	ohms
2347	.00025	mfd	2341	3500	ohms
2343	2	mfd	2436	10	ohms
2345	1	mfd	2364	600	ohms

2707 replaces 2339 900 ohms

NORMAL WORKING VOLTAGES (APPROXIMATE)

Tube	Filament	Plate	Grid
1 R. F.	A. C. 2.45	D. C. 100	D. C. 6
2 R. F.	A. C. 2.45	D. C. 100	D. C. 6
3 R. F.	A. C. 2.45	D. C. 100	D. C. 6
Detector	A. C. 2.45	D. C. 50	-
1 A. F.	A. C. 2.45	D. C. 100	D. C. 4.5
Output Stage	A. C. 2.5	D. C. 250	D. C. 50

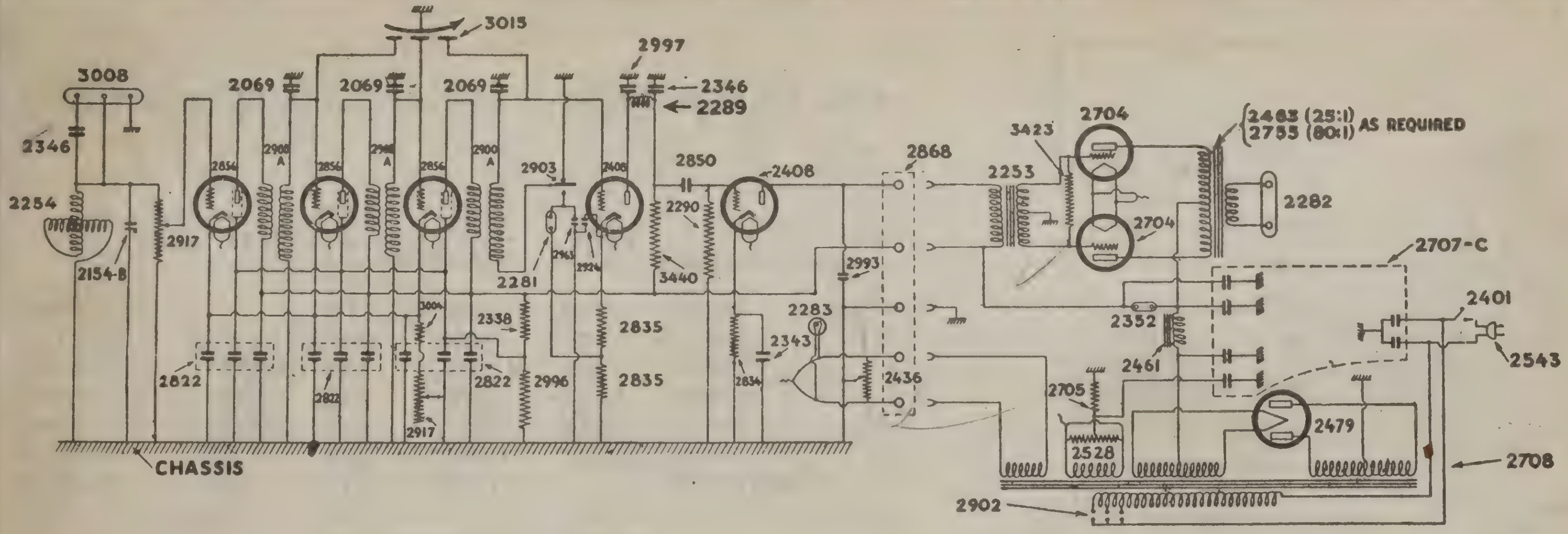
Models Eveready's 42, 43, 44


2 AF
RECT
'80
'45
'45
1 AF
'27
DET
'27
3 RF
'27
2 RF
'27
1 RF
'27
PILOT 2.5 V.
FRONT

Series 40 Receivers employ a 5000 ohm field coil.

MODEL 52,53,54
Eveready

NATIONAL CARBON CO.

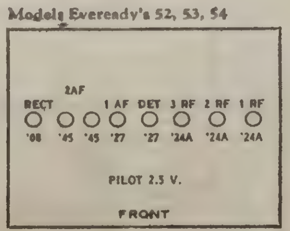

3015
2997
3008
2069
2069
2069
2346
2289
2346
2254
2154-B
2917
2856
2856
2856
2900 A
2900 A
2900 A
2903
2408
2281
2963
2924
2850
2290
3440
2408
2338
3004
2835
2835
2822
2822
2822
2996
2917
2834
2343
2283
2993
2436
2868
CHASSIS
2253
3423
2704
2704
2463 (25:1)
2755 (80:1) AS REQUIRED
2282
2707-C
2352
2461
2705
2528
2479
2401
2543
2708
2902

2290	2.	megohms
2835	4000	ohms
3440	125000	ohms
3004	200	ohms
2834	3000	ohms
2338	2500	ohms
2996	2250	ohms
2917*		
2528	50	ohms
2705	900	ohms
3423	100000	ohms

* 3 in one can

2346	.0001	mfd*
2822	.5	mfd*
2924	1	mfd
2850	.01	mfd
2343	2.	mfd
2963	.002	mfd
2993	.004	mfd
2997	.0005	mfd

* Two sections
R-f section is 500,000 ohms
Screen voltage section is
10,000 ohms


Models Eveready's 52, 53, 54
RECT
2AF
1 AF
DET
3 RF
2 RF
1 RF
'80
'45
'45
'27
'27
'24A
'24A
'24A
PILOT 2.5 V.
FRONT

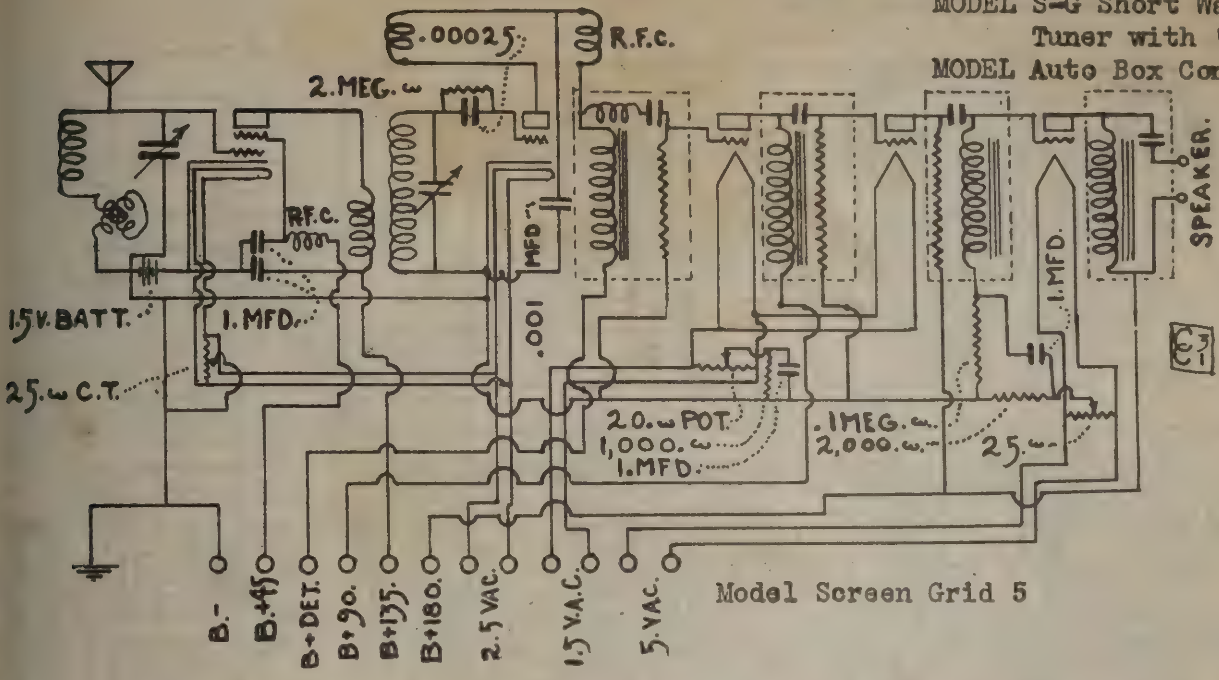
NORMAL WORKING VOLTAGES (APPROXIMATE)

Tube	Filament	Plate	Grid	Screen
1 R.F.	A.C. 2.3	D.C. 160	D.C. 2.2	D.C. 70
2 R.F.	A.C. 2.3	D.C. 160	D.C. 2.2	D.C. 70
3 R.F.	A.C. 2.3	D.C. 160	D.C. 2.2	D.C. 70
Detector	A.C. 2.3	D.C. 65	D.C. 5.8	
1 A.F.	A.C. 2.3	D.C. 150	D.C.11.7	
Output Stage	A.C. 2.4	D.C. 240	D.C. 46	
Rectifier	A.C. 4.8			

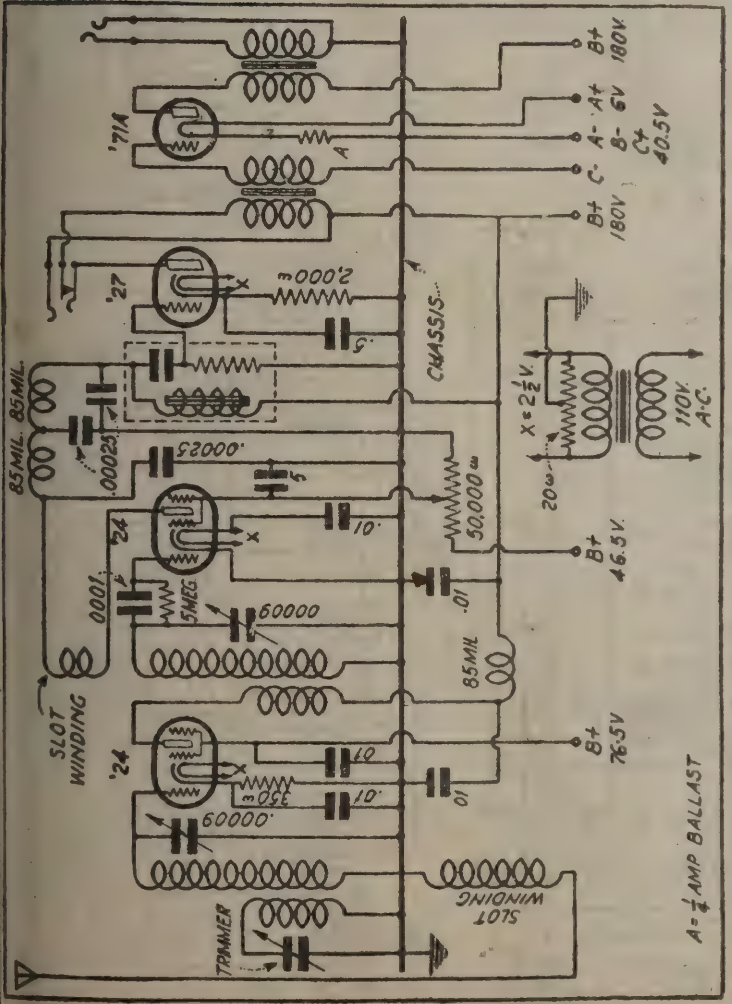
(Line Voltage 117. Set on 115 Volt Tap. Volume Control Position on Full.)

THE NATIONAL COMPANY

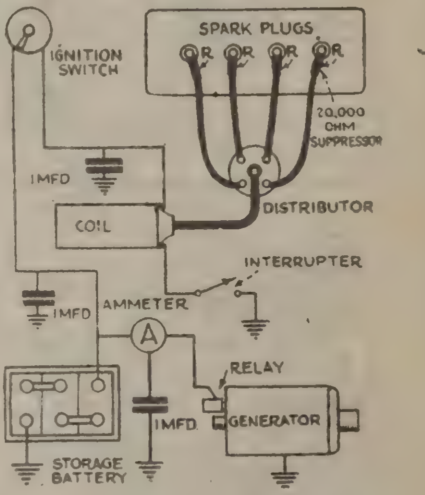
MODEL S-G 5
MODEL S-G
Short Wave Tuner
MODEL S-G Short Wave
Tuner with '71
MODEL Auto Box Conn.


.00025
R.F.C.
2.MEG.ω
RF.C.
MFD.
.001
1.5V.BATT.
1.MFD.
25.ω C.T.
1.MFD.
20.ω POT.
1,000.ω
1.MFD.
.1MEG.ω
2,000.ω
25.ω
SPEAKER.
B.-
B+45
B+DET.
B+90.
B+135.
B+180.
2.5VAC.
1.5V.A.C.
5.VAC.

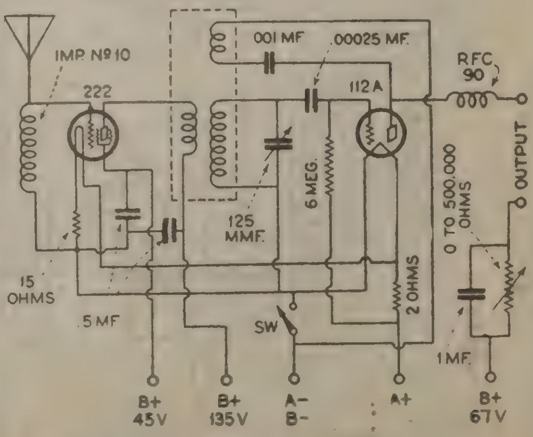
Model Screen Grid 5


'71A
A
B+ 180V
A+ 6V
A- B-
C- C4 40.5V
B+ 180V
'27
X
2,000ω
.5
CHASSIS
85MIL. 85MIL.
.00025
.00025
5
10
50,000ω
x=2½V.
20ω
110V. A.C.
'24
X
B+ 46.5V
.0001
5MEG.
60000
.01
85MIL.
SLOT WINDING
'24
10
350ω
10
B+ 76.5V
.01
60000
A=¼ AMP BALLAST
SLOT WINDING
TRIMMER

Model Screen Grid Short Wave (71)


IGNITION SWITCH
SPARK PLUGS
R
R
R
R
20,000 OHM SUPPRESSOR
1MFD
DISTRIBUTOR
COIL
INTERRUPTER
1MFD
AMMETER
A
RELAY
1MFD.
GENERATOR
STORAGE BATTERY

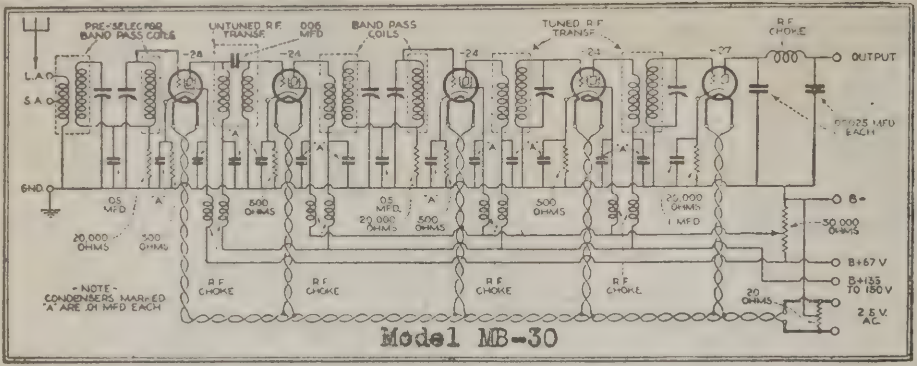
Model Auto Box Connections


IMP. Nº 10
222
.001 MF.
.00025 MF.
112A
RFC 90
125 MMF.
6 MEG.
0 TO 500,000 OHMS
OUTPUT
15 OHMS
.5 MF
SW
2 OHMS
1 MF.
B+ 45V
B+ 135V
A- B-
A+
B+ 67V

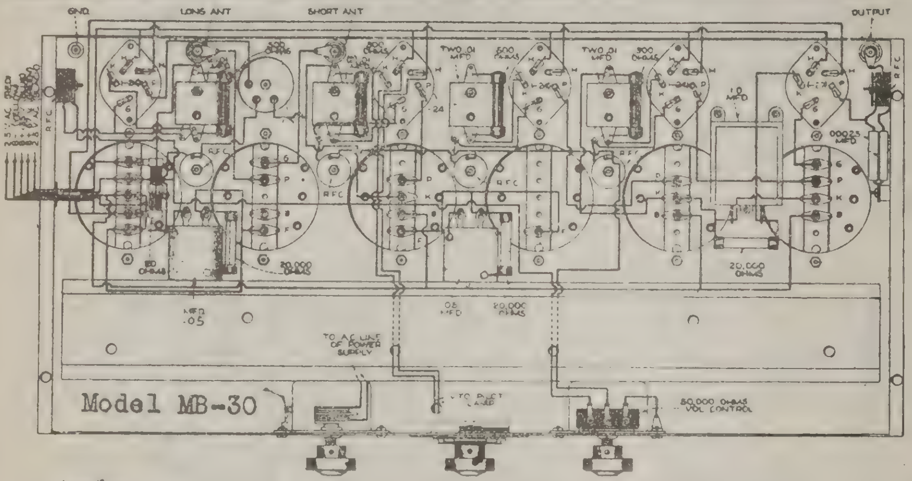
Model Screen Grid S.W. Tuner

MODEL MB-30
Schematic,Chassis
MODEL MB-29
MODELS Thrill Box AC,Short Wave
MODEL Auto Box

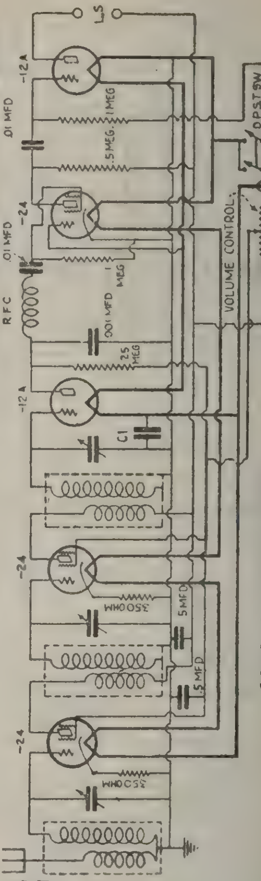
THE NATIONAL COMPANY


PRE-SELECTOR BAND PASS COILS
UNTUNED R.F. TRANSF.
.006 MFD
BAND PASS COILS
TUNED R.F. TRANSF.
R.F. CHOKE
OUTPUT
.00025 MFD EACH
L.A.
S.A.
GND.
-28
-24
-24
-24
-27
.05 MFD
20,000 OHMS
500 OHMS
20,000 OHMS
1 MFD
B-
50,000 OHMS
B+67 V
B+135 TO 150 V
2.5 V. AC.
20 OHMS
R.F. CHOKE
-NOTE- CONDENSERS MARKED "A" ARE .01 MFD EACH

Model MB-30

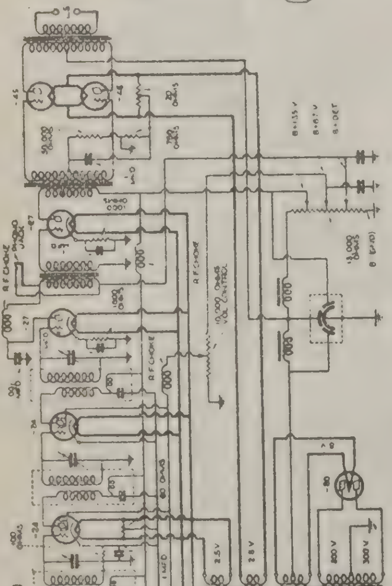

GND.
LONG ANT
SHORT ANT
OUTPUT
TWO .01 MFD
500 OHMS
RFC
20,000 OHMS
.00025 MFD
.05 MFD
TO A.C. LINE OF POWER SUPPLY
50,000 OHMS VOL CONTROL

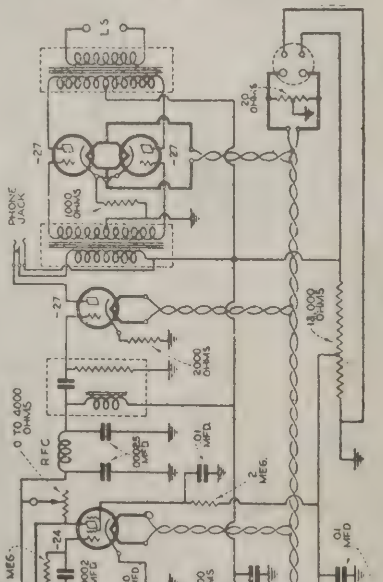
Model MB-30


LS
-12A
.01 MFD
5 MEG.
DPST SW
C-9V
A-C+B-
A+
-24
.01 MFD
RFC
.001 MFD
2.5 MEG
VOLUME CONTROL
B+67V
B+135V
-12A
C1
-24
350 OHM
5 MFD
-24
.5 MFD
350 OHM

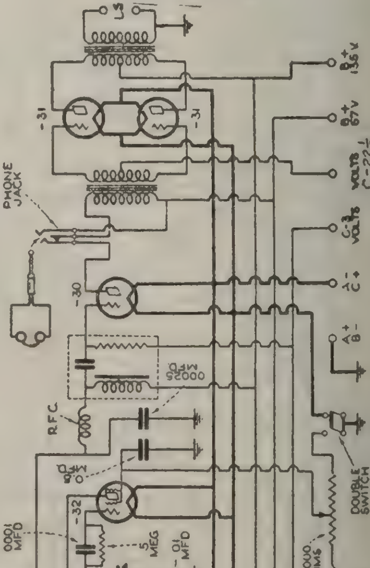
Model Auto Box

See preceding page for


-45
-45
-47
-27
-24
-24
-24
-24
-80
10,000 OHMS VOL CONTROL
R.F. CHOKE
2.5 V
2.5 V
300 V
300 V
115 V
115 V
NATIONAL MB-29


LS
-27
-27
PHONE JACK
1000 OHMS
20 OHMS
-27
2000 OHMS
10,000 OHMS
0 TO 4000 OHMS
RFC
.00025 MFD
.01 MFD
2 MEG.
6 MEG.
-24
.0002 MFD
110 MMFD
2000 OHMS
.01 MFD
.01 MFD
-24
110 MMFD
2 MEG
500 OHMS
.01 MFD
50 MMF

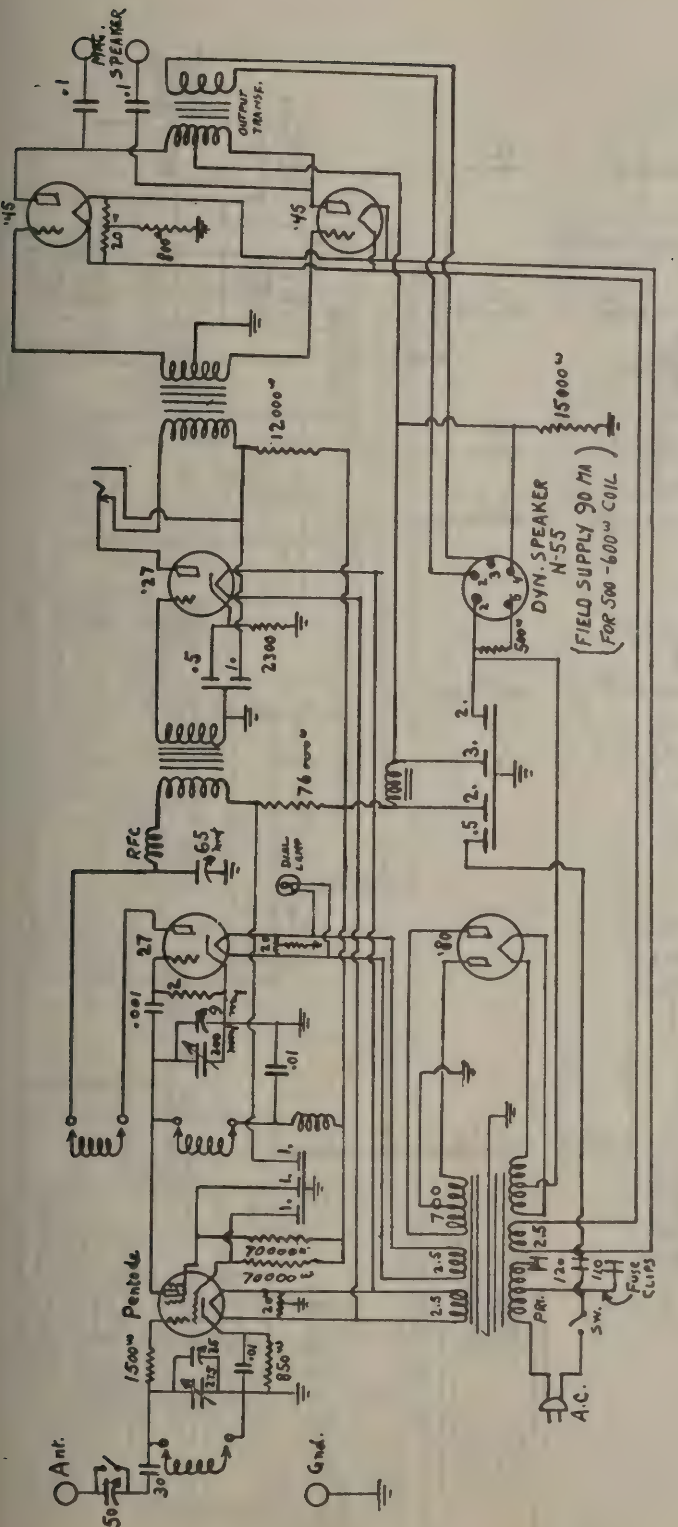
Model AC Thrill Box


LS
-31
-31
PHONE JACK
-30
.00025 MFD
RFC
-32
.0001 MFD
5 MEG
.01 MFD
-32
5 MEG
.001 MFD
.01 MFD
ANT
GND
50,000 OHMS
20,000 OHMS
DOUBLE SWITCH
A+ B-
A- C+
C-3 volts
volts C-22½
B+ 67V
B+ 135V

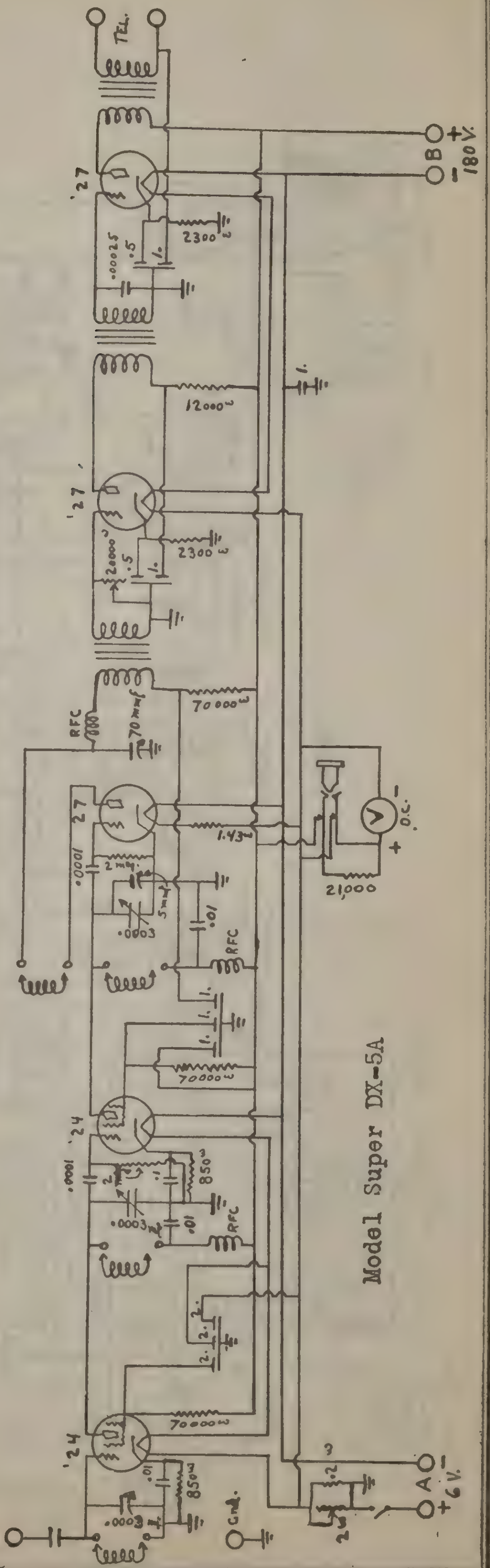
Model Short-Wave Thrill Box 2-volt Tubes

MODEL Super DX-5
MODEL Super DX-5A

NORDEN-HAUCK, INC.


MAG. SPEAKER
.1
.1
OUTPUT TRANSF.
'45
'45
20
800
12000
'27
.5
1.
2300
76000
RFC
65 mmf
DIAL LAMP
27
.001
2
200 mmf
.01
1.
1.
1.
70000
70000
Pentode
2.0
1500
.01
850
Ant.
50
30
Gnd.
15000
DYN. SPEAKER N-55
(FIELD SUPPLY 90 MA FOR 500-600 COIL)
500
2.
3.
2.
.5
'80
700
2.5
2.5
2.5
PR.
120
110
SW.
FUSE CLIPS
A.C.

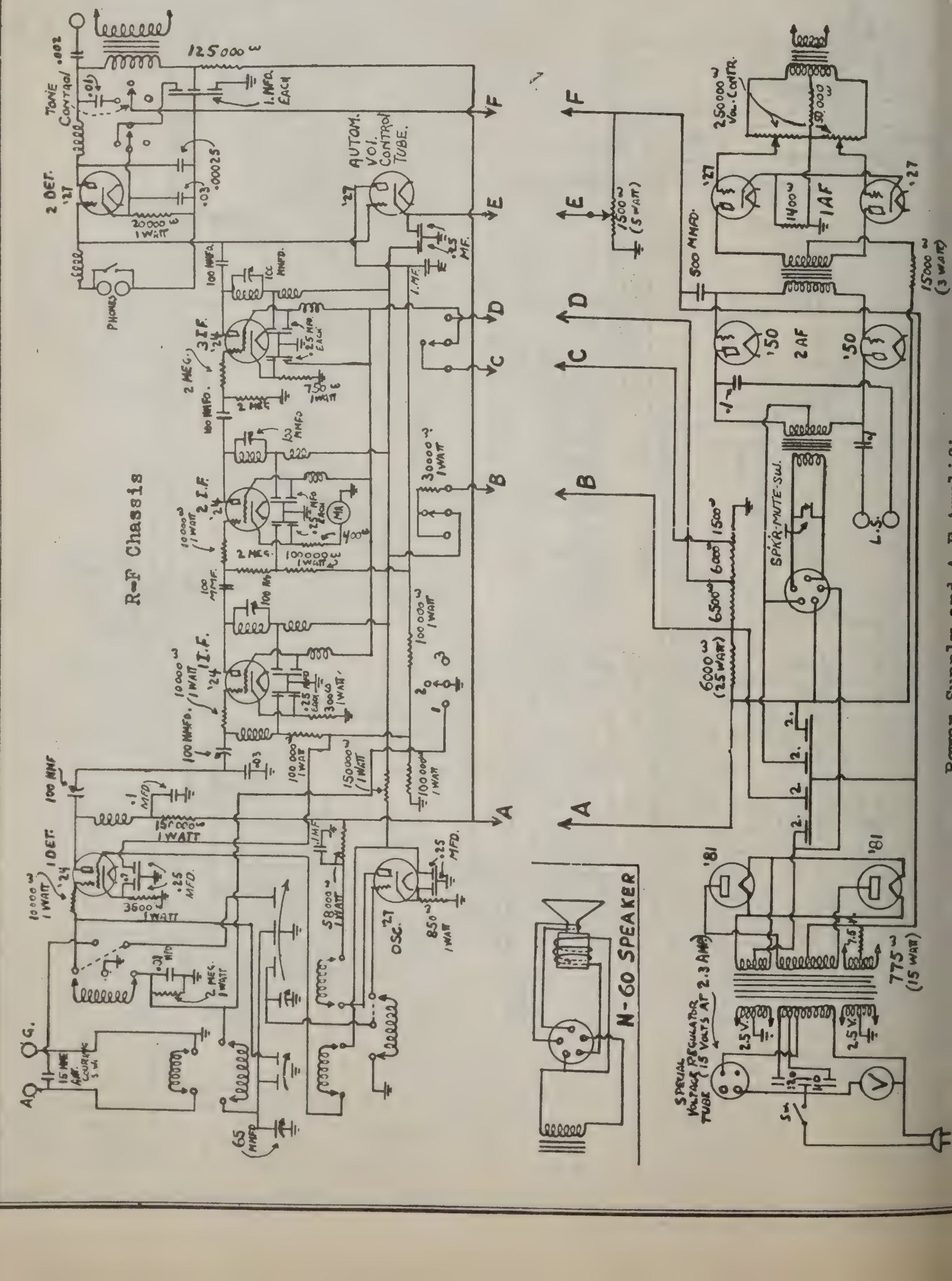
Model Super DX-5


TEL.
'27
.00025
.5
1.
2300
B+
B-
180 V.
1.
12000
'27
20000
.5
1.
2300
70000
RFC
70 mmf
27
.0001
2 mf
5 mf
.0003
.01
RFC
1.43
V
D.C.
21,000
1.
1.
70000
'24
.0001
2
850
.0003
.01
RFC
2.
2.
2.
70000
'24
.01
850
.0003
Gnd.
A
6 V.
2

Model Super DX-5A

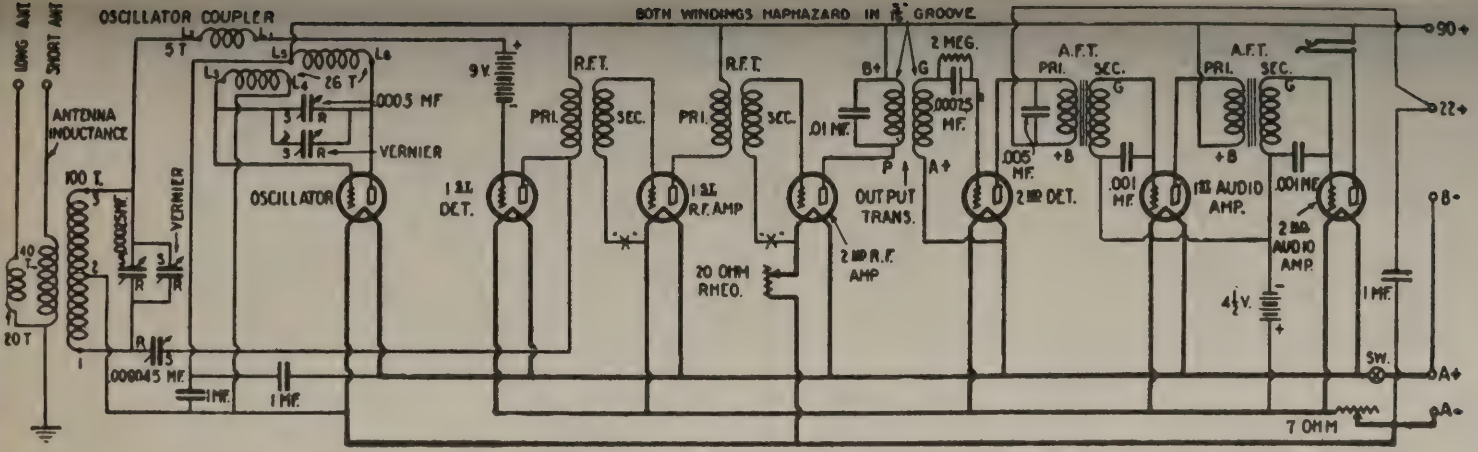
MODEL Admiralty Super 12

NORDEN-HAUCK, INC.

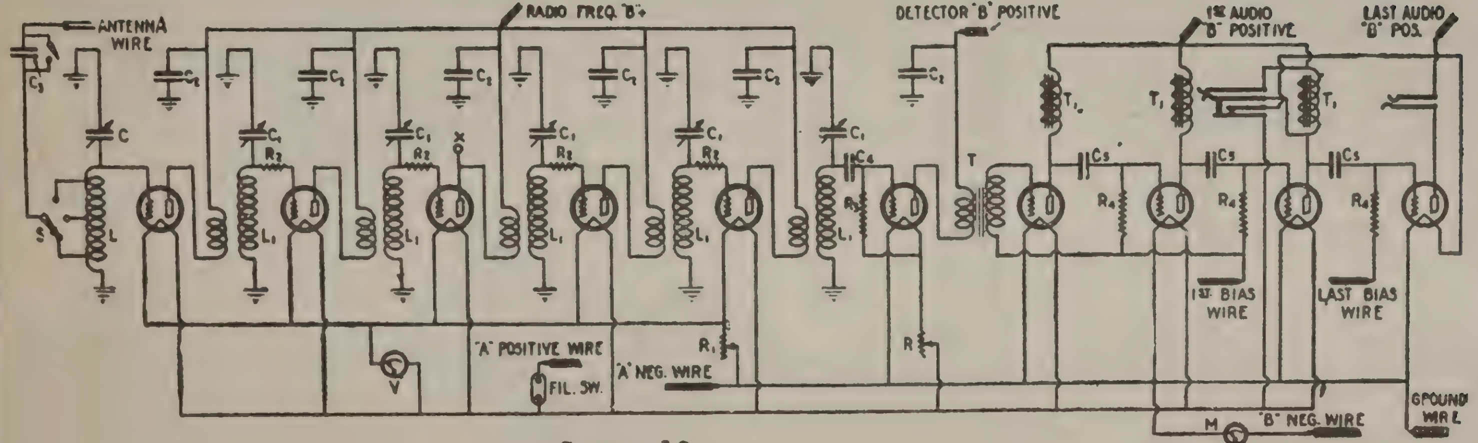

R-F Chassis
2 DET. '27
TONE CONTROL
.002
.01
125000 ω
1 MFD. EACH
.00025
.03
20000 ω 1 WATT
PHONES
AUTOM. VOL. CONTROL TUBE.
'27
.25 MF.
1 MF.
100 MMFD.
3 I.F. '24
2 MEG.
.25 MFD. EACH
750 ω 1 WATT
2 I.F. '24
10000 ω 1 WATT
MA
400 ω
100000 ω 1 WATT
30000 ω 1 WATT
1 I.F. '24
300 ω 1 WATT
150000 ω 1 WATT
100 MMF.
1 DET. '24
3600 ω 1 WATT
15000 ω 1 WATT
.1 MFD.
.25 MFD.
5800 ω 1 WATT
OSC. '27
850 ω 1 WATT
65 MMFD.
2 MEG. 1 WATT
15 MMF. ANT. COUPLING SW.
A
G.
A
B
C
D
E
F
1500 ω (5 WATT)
500 MMFD.
250000 ω VOL. CONTR.
50,000 ω
1400 ω
1 AF
'27
'50
2 AF
15000 ω (3 WATT)
SPKR. MUTE SW.
L.S.
6500 ω
6000 ω
1500 ω
6000 ω (25 WATT)
2.
'81
775 ω (15 WATT)
7.5 V.
2.5 V.
SPECIAL VOLTAGE REGULATOR TUBE (15 VOLTS AT 2.3 AMP)
SW.
V
N-60 SPEAKER

NORDEN-HAUCK, INC.

MODEL C-7
MODEL Super 10


LONG ANT
SHORT ANT
ANTENNA INDUCTANCE
OSCILLATOR COUPLER
5 T
L3
L4
L5
L6
26 T
.0005 MF
VERNIER
100 T
40 T
20 T
.000045 MF
1 MF
1 MF
OSCILLATOR
9 V.
1ST DET.
R.F.T.
PRI.
SEC.
1ST R.F. AMP
20 OHM RHEO.
BOTH WINDINGS HAPHAZARD IN 3/4" GROOVE
2 MEG.
.01 MF.
.00025 MF.
B+
G
P
A+
OUTPUT TRANS.
2ND R.F. AMP
2ND DET.
.005 MF.
A.F.T.
+B
.001 MF.
1ST AUDIO AMP.
.001 MF.
2ND AUDIO AMP.
4½ V.
1 MF.
SW.
7 OHM
90+
22+
B-
A+
A-

Model C-7 Norden Hauck super-heterodyne receiver.

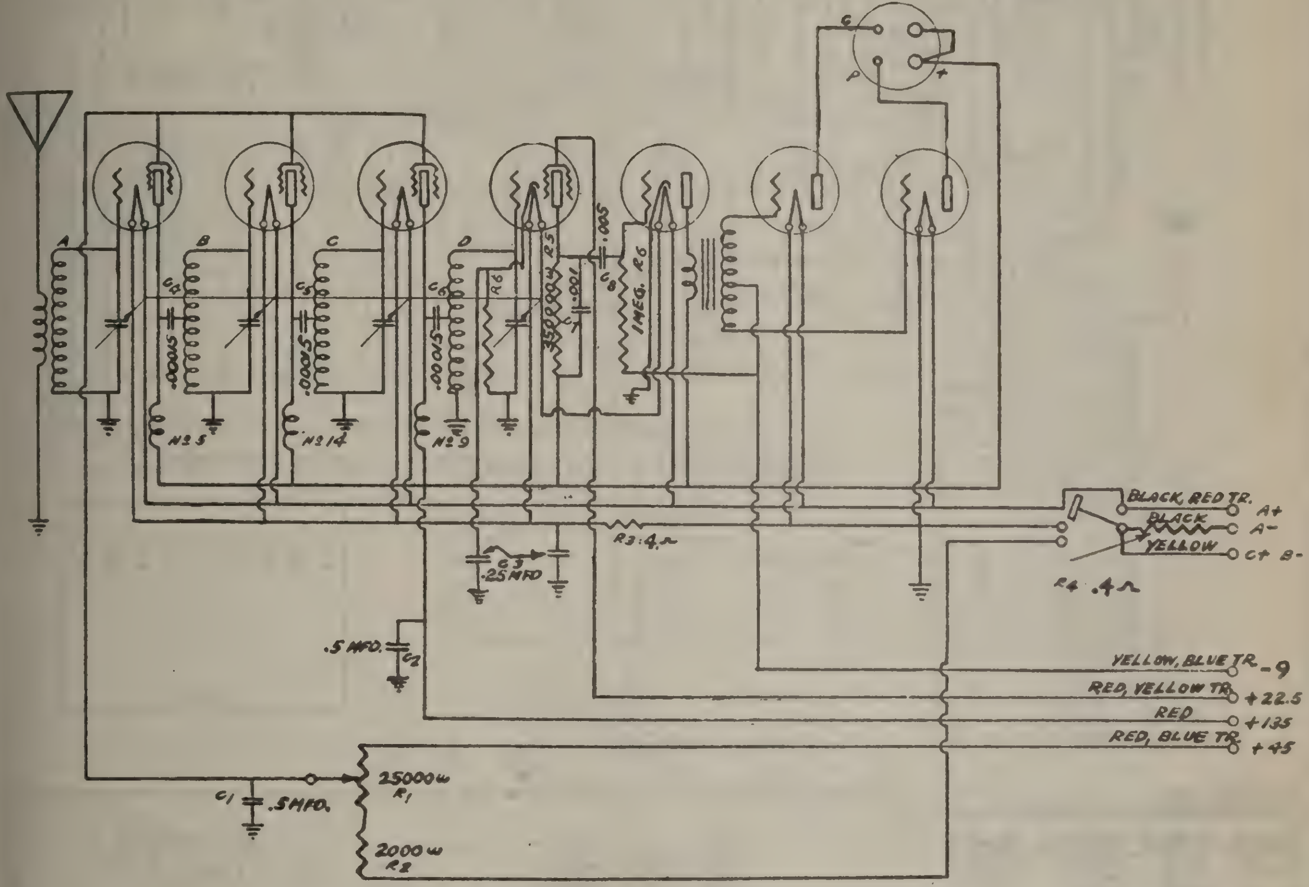

ANTENNA WIRE
C3
C
S
L
C2
C1
R2
L1
RADIO FREQ. "B"+
X
V
"A" POSITIVE WIRE
FIL. SW.
"A" NEG. WIRE
R1
C4
R3
R
DETECTOR "B" POSITIVE
T
T1
C5
R4
1ST AUDIO "B" POSITIVE
1ST BIAS WIRE
LAST AUDIO "B" POS.
LAST BIAS WIRE
M
"B" NEG. WIRE
GROUND WIRE

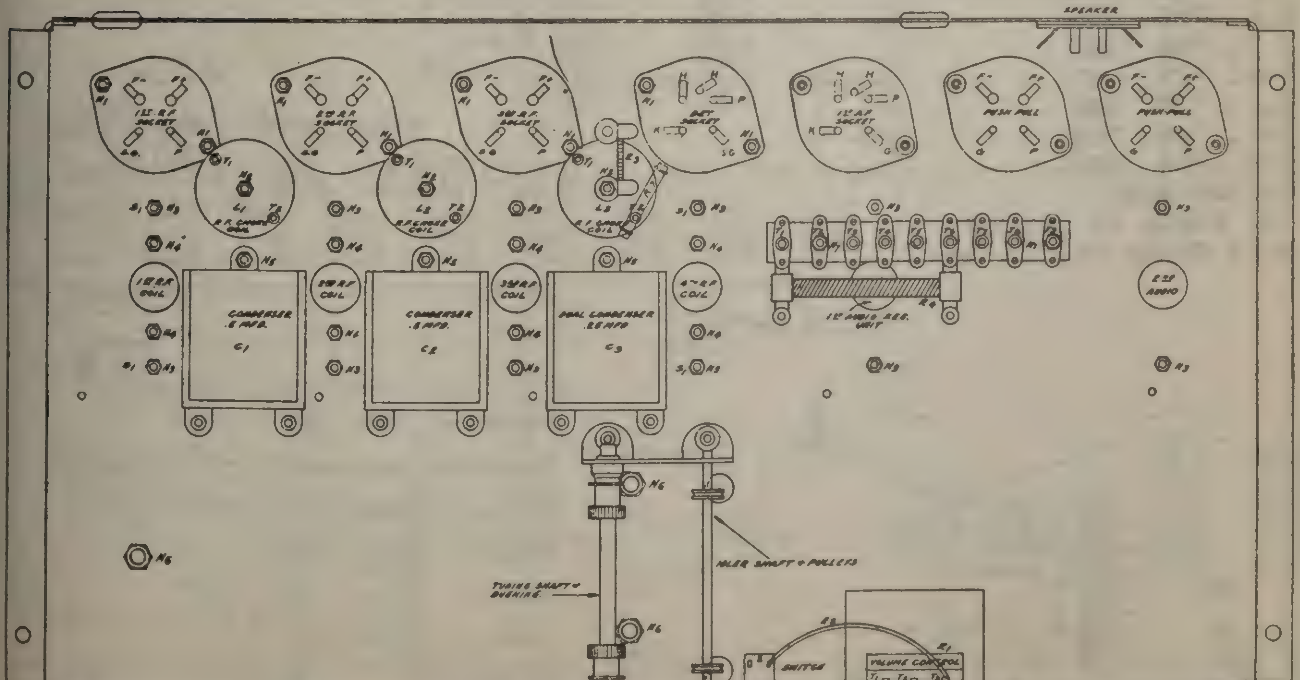
Super 10.

R is 20 ohms. R1 is 7 ohms. R2 is 750 ohms. R3 is 2 megohms. R4 is 30000 ohms. C3 is .00025 mfd. C4 is .00025 mfd. C2 is .5 mfd. C5 is .1 mfd.

OZARKA, INC.

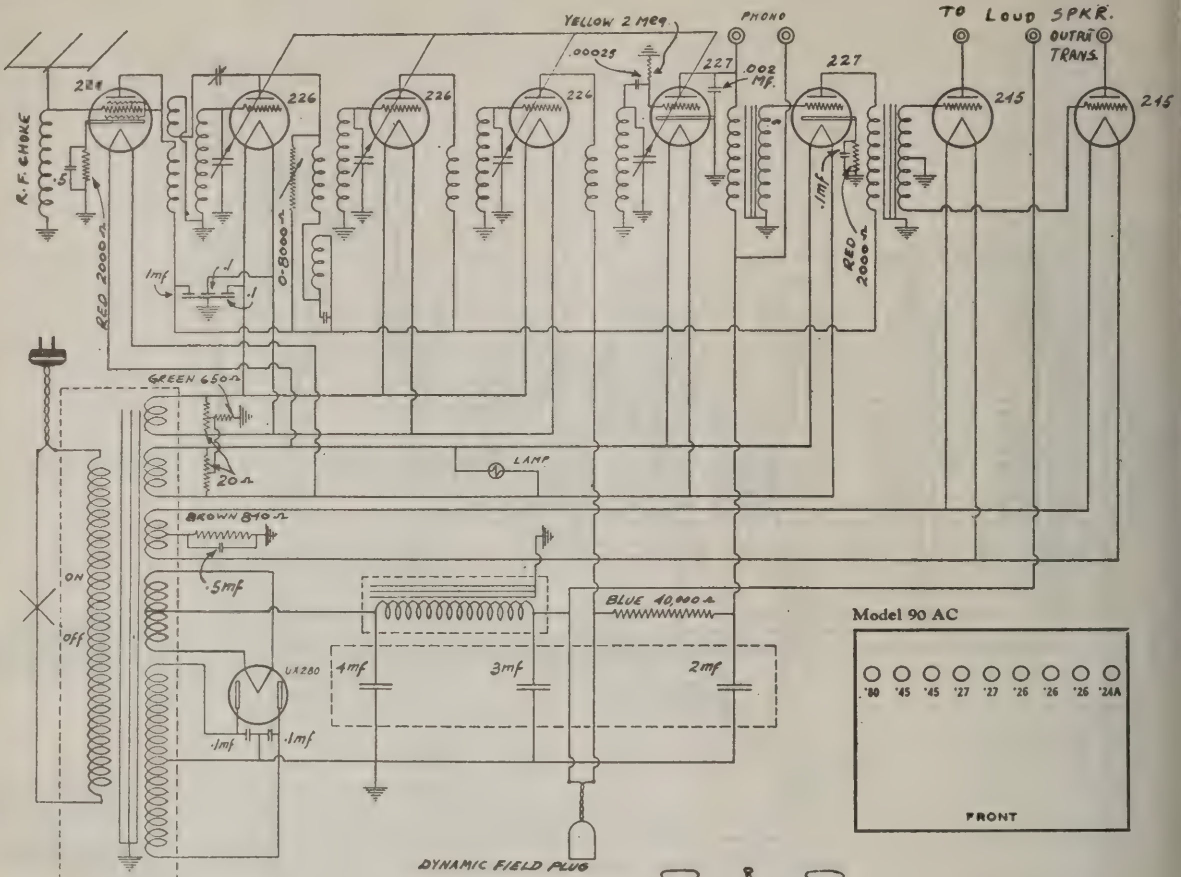
MODEL 91 - Battery
Schematic, Chassis


A
B
C
D
C4
C5
C6
.00015
.00015
.00015
No 5
No 14
No 9
R6
350000 w R5
.001 C7
.005 C8
1 MEG. R6
R3: 4 Ω
C3 .25 MFD
.5 MFD. C2
25000 w R1
C1 .5 MFD.
2000 w R2
G
P
+
BLACK, RED TR.
BLACK
YELLOW
A+
A-
C+ B-
R4 .4 Ω
YELLOW, BLUE TR. -9
RED, YELLOW TR. +22.5
RED +135
RED, BLUE TR. +45


SPEAKER
1ST R.F. SOCKET
2ND R.F. SOCKET
3RD R.F. SOCKET
DET SOCKET
1ST A.F. SOCKET
PUSH PULL
PUSH-PULL
F-
F+
P
H
K
G
SG
R.F. CHOKE COIL
L1
L2
L3
T1
T2
1ST R.F. COIL
2ND R.F. COIL
3RD R.F. COIL
4TH R.F. COIL
2ND AUDIO
CONDENSER .5 MFD. C1
CONDENSER .5 MFD. C2
DUAL CONDENSER .25 MFD C3
1ST AUDIO REG. UNIT
R4
IDLER SHAFT & PULLEYS
TUNING SHAFT & BUSHING
SWITCH
VOLUME CONTROL
R1
R2

MODEL 90
Schematic, Chassis
Voltage

OZARKA, INC.

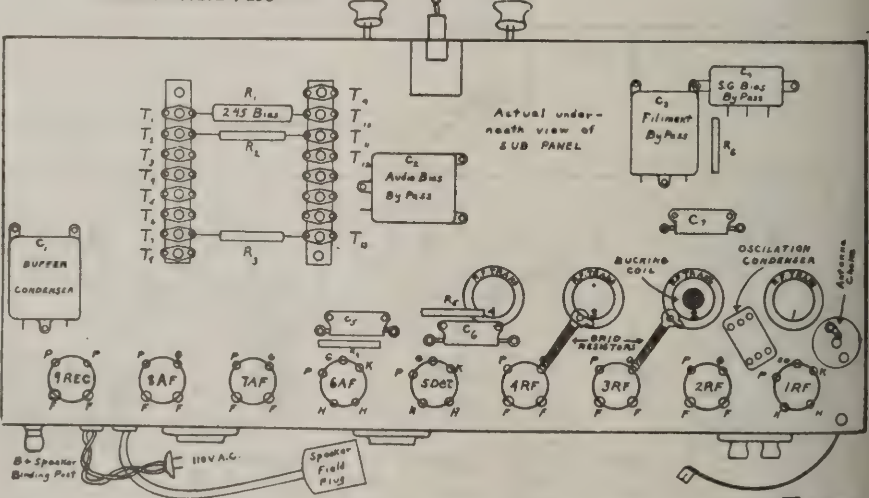

YELLOW 2 Meg.
PHONO
TO LOUD SPKR.
OUTPT. TRANS.
.00025
227
.002 Mf.
227
224
226
226
226
245
245
R. F. CHOKE
.5
RED 2000Ω
1mf
.1
.1
0-8000Ω
.1mf
RED 2000Ω
GREEN 650Ω
20Ω
LAMP
BROWN 840Ω
.5mf
ON
OFF
BLUE 40,000Ω
UX280
4mf
3mf
2mf
.1mf
.1mf
DYNAMIC FIELD PLUG
'80
'45
'45
'27
'27
'26
'26
'26
'24A
FRONT

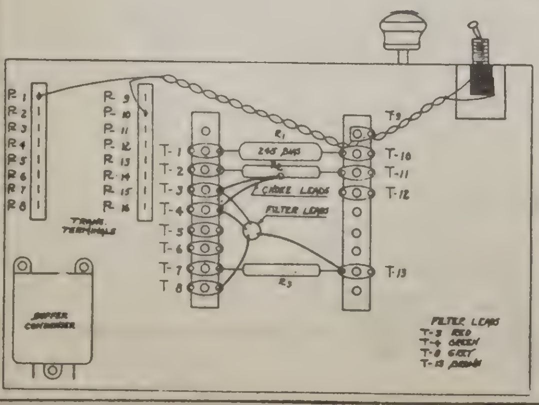
Model 90 AC

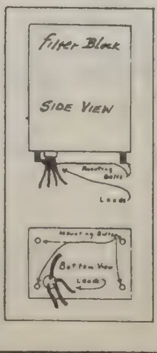
MODEL 90

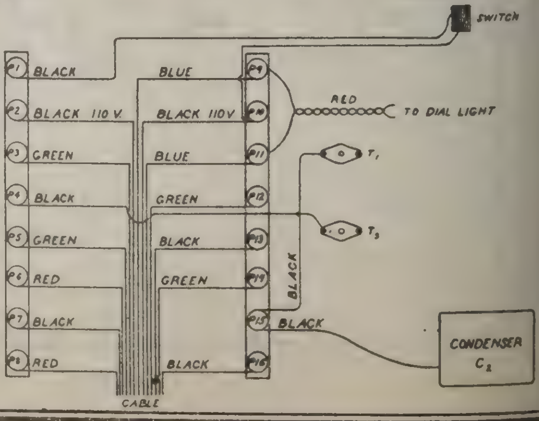
Tube Type		Plate	Grid
R.F.	'24	160	160
R.F.	'26	160	
R.F.	'26	160	
R.F.	'26	160	
Det.	'27	40	
A.F.	'27	150	
Pwr.	'45	300	
Pwr.	'45	300	

Volume Max.
All Volts to Ground.
Grid Volts Fil.To Grd.


R1
245 Bias
R2
R3
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
Actual underneath view of SUB PANEL
C1 BUFFER CONDENSER
C2 Audio Bias By Pass
C3 Filiment By Pass
C4 S.G Bias By Pass
R6
C7
C5
C6
R5
BUCKING COIL
OSCILATION CONDENSER
GRID RESISTORS
Antenna Choke
9REC
8AF
7AF
6AF
5Det
4RF
3RF
2RF
1RF
P
F
G
K
H
B+ Speaker Binding Post
110V A.C.
Speaker Field Plug

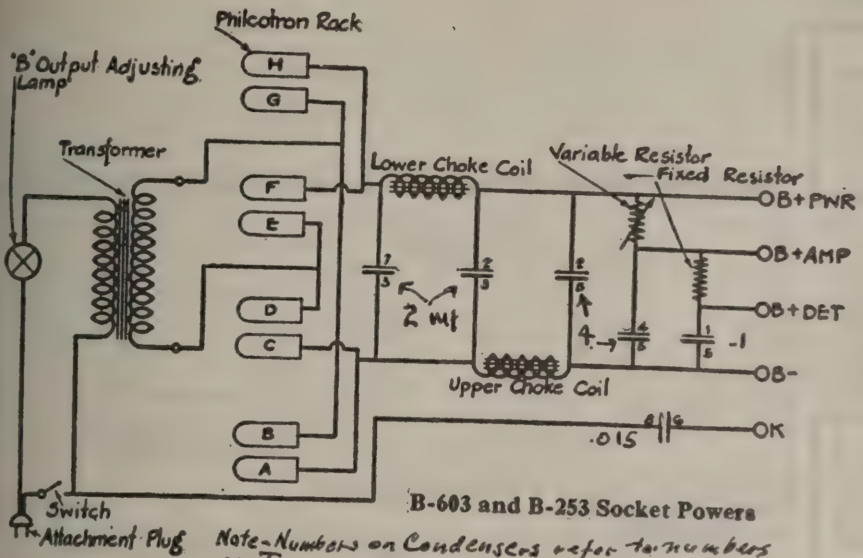

P-1
P-2
P-3
P-4
P-5
P-6
P-7
P-8
P-9
P-10
P-11
P-12
P-13
P-14
P-15
P-16
TRANS. TERMINALS
T-1
T-2
T-3
T-4
T-5
T-6
T-7
T 8
T-9
T-10
T-11
T-12
T-13
R1
245 BIAS
R2
CHOKE LEADS
FILTER LEADS
R3
BUFFER CONDENSER
FILTER LEADS
T-3 RED
T-4 GREEN
T-8 GREY
T-13 BROWN


Filter Block
SIDE VIEW
Mounting Bolts
Leads
Mounting Bolts
Bottom View
Leads


SWITCH
P1 BLACK
P2 BLACK 110 V.
P3 GREEN
P4 BLACK
P5 GREEN
P6 RED
P7 BLACK
P8 RED
BLUE
BLACK 110V
BLUE
GREEN
BLACK
GREEN
BLACK
P9
P10
P11
P12
P13
P14
P15
P16
RED
TO DIAL LIGHT
T1
T3
BLACK
BLACK
CONDENSER C2
CABLE

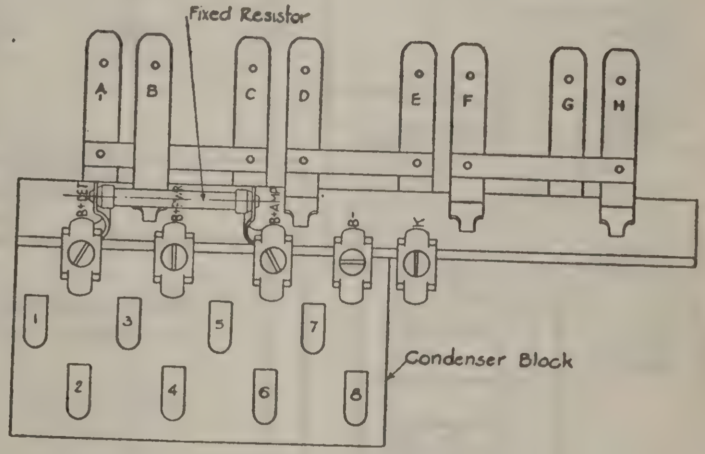
PHILCO RADIO & TELEVISION CORP.

MODEL B-253
MODEL B-603
Power Units


Philcotron Rack
'B' Output Adjusting Lamp
Transformer
H
G
F
E
D
C
B
A
Lower Choke Coil
Variable Resistor
Fixed Resistor
OB+PWR
OB+AMP
OB+DET
OB-
OK
2 mf
4
-1
.015
Upper Choke Coil
Switch
Attachment Plug

B-603 and B-253 Socket Powers

Note- Numbers on Condensers refer to numbers on Terminals.


Fixed Resistor
A
B
C
D
E
F
G
H
B+DET
B+PWR
B+AMP
B-
K
1
2
3
4
5
6
7
8
Condenser Block

Socket Power B, Type B-603

Supplies B power for sets having one to ten tubes—any standard type—including a power tube such as type UX-171, UX-112 or UX-120.

For use on 50- or 60-cycle, 105–125-volt alternating current.
Full-wave Philco electrolytic rectifier.

Average voltage at amplifier terminals:
B+ PWR 135–150 volts, depending on load.
B+ AMP 50–100 volts, adjustable.

Maximum continuous current rating: 50 milliamperes.
Average current consumption: 12 A.C. watts.
Overall dimensions: Length (front to back) 8⅝″; width 8⅛″; height 7⅞″.

Socket Power B, Type B-253

Same as type B-603 except with special transformer and extra large filter for use on 25-, 30- or 40-cycle current as well as on 50 or 60 cycles for exceptional sets which may require the 25-cycle super-filter.

MODEL 180 B
MODEL "B" Part of
AB Unit

PHILCO RADIO & TELEVISION CORP.

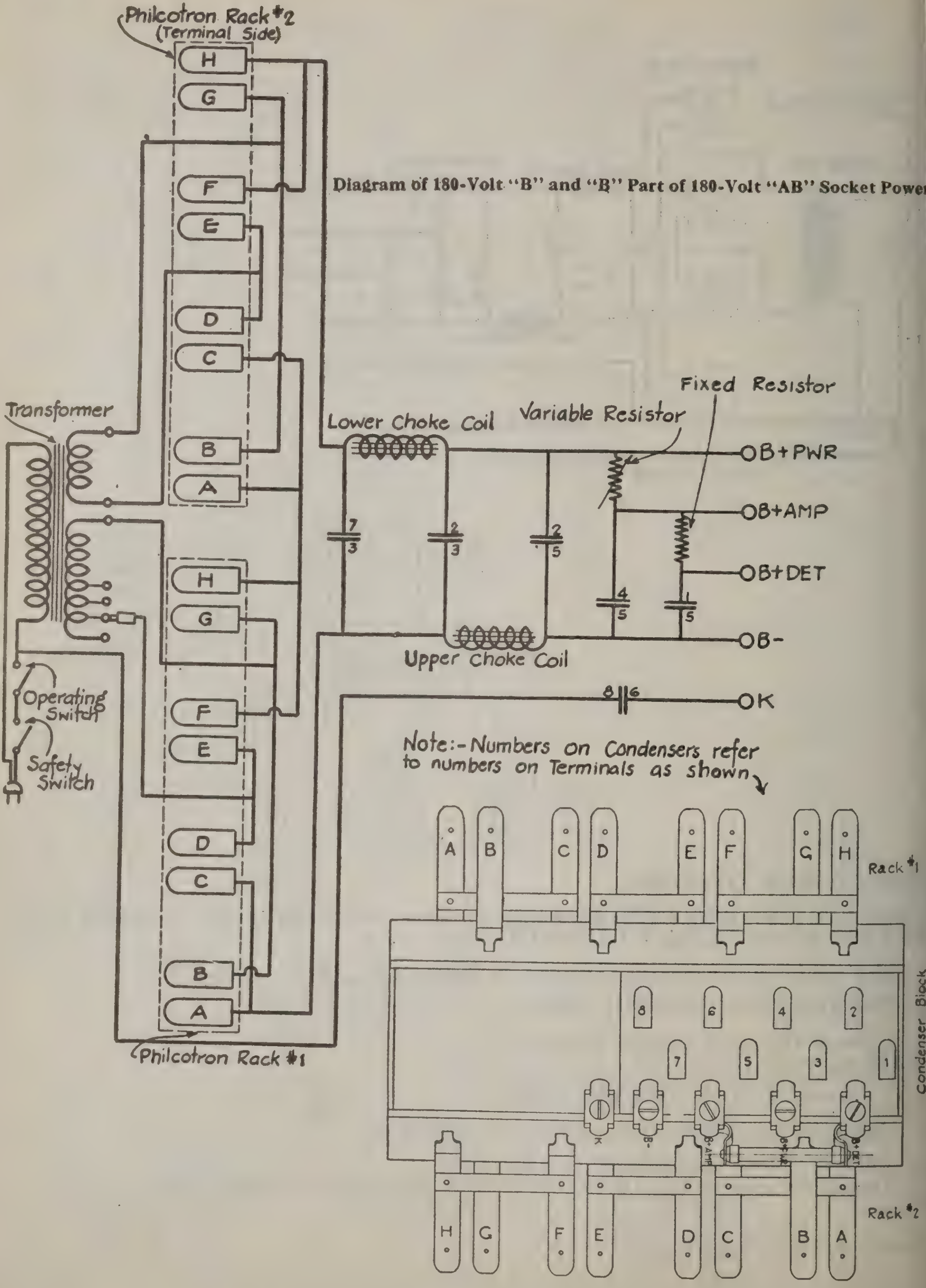
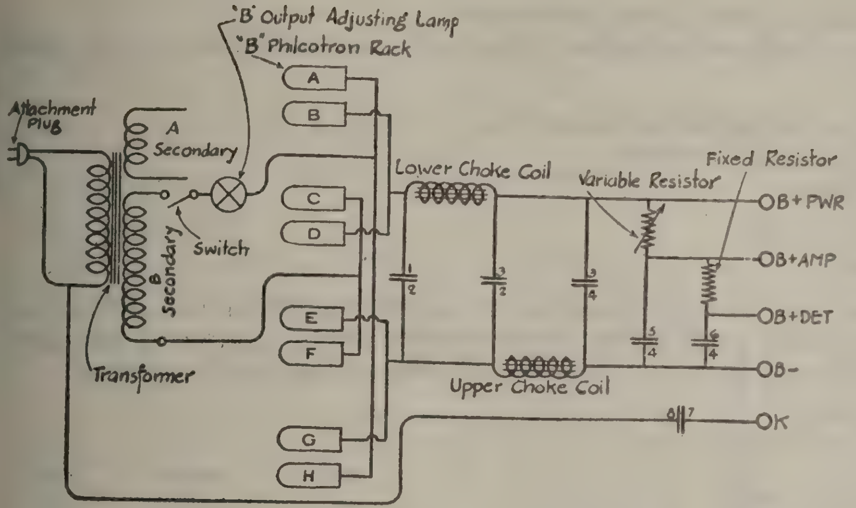

Philcotron Rack #2
(Terminal Side)
H
G
F
E
D
C
B
A
Transformer
Operating Switch
Safety Switch
Philcotron Rack #1
Lower Choke Coil
Upper Choke Coil
Variable Resistor
Fixed Resistor
7
3
2
3
2
5
4
5
1
5
8
6
OB+PWR
OB+AMP
OB+DET
OB-
OK
Rack #1
Condenser Block
Rack #2
K
B-
B+AMP
B+PWR
B+DET
8
6
4
2
7
5
3
1

Diagram of 180-Volt "B" and "B" Part of 180-Volt "AB" Socket Power

Note:- Numbers on Condensers refer to numbers on Terminals as shown

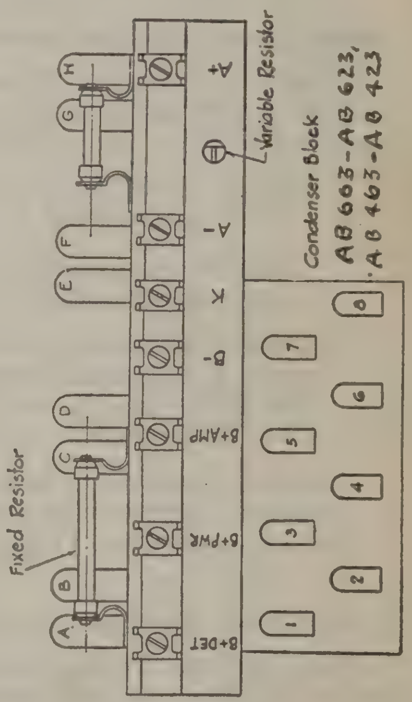
Philcotron Racks and Condenser Lugs Marked for Testing for 180-Volt "B" and "B" Part of 180-Volt "AB" Socket Powers

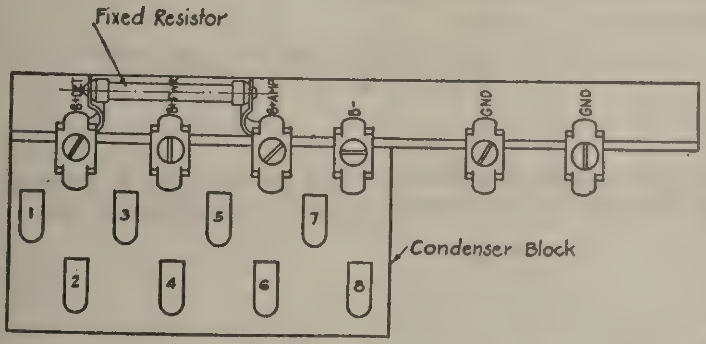
MODEL AB-423,AB-463
AB-623,AB-663
Power Units


"B" Output Adjusting Lamp
"B" Philcotron Rack
Attachment Plug
A Secondary
B Secondary
Switch
Transformer
A
B
C
D
E
F
G
H
Lower Choke Coil
Upper Choke Coil
Variable Resistor
Fixed Resistor
OB+PWR
OB+AMP
OB+DET
OB-
OK
1 2
3 2
3 4
5 4
6 4
8 7

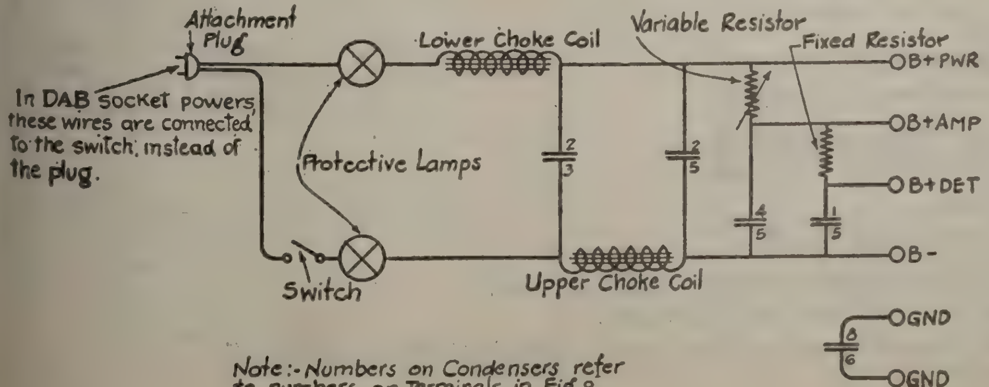
Schematic Wiring Diagram of Types AB-663, AB-623, AB-463, AB-423 Socket Powers

Note:- Numbers on Condensers refer to Terminal


Variable Resistor
Condenser Block
AB 663-AB 623,
AB 463-AB 423
Fixed Resistor
A+
A-
K
B-
B+AMP
B+PWR
B+DET
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8


Fixed Resistor
B+DET
B+PWR
B+AMP
B-
GND
GND
1
2
3
4
5
6
7
8
Condenser Block

Terminal Strip and Condenser Block of "DB" and "DAB" Socket Powers


Attachment Plug
Lower Choke Coil
Variable Resistor
Fixed Resistor
Protective Lamps
Switch
Upper Choke Coil
OB+PWR
OB+AMP
OB+DET
OB-
OGND
OGND
2 3
2 5
4 5
1 5
8 6

In DAB socket powers these wires are connected to the switch, instead of the plug.

Note:- Numbers on Condensers refer to numbers on Terminals in Fig 8

Wiring Diagram of "DB" and "B" Part of "DAB" Socket Powers

PHILCO RADIO & TELEVISION CORP.

Socket Power B, Type DB

Similar to type B-603 for use on 105–125-volt *direct current.*

Supplies B power at detector and two amplifier voltages for sets having one to ten tubes of any standard type.

Maximum continuous current rating: 50 milliamperes.
Average current consumption: 3 D.C. watts.
Dimensions same as type B-603.

Socket Power AB, Type AB-663

Supplies A power at 6 volts and B power at detector and two amplifier voltages for receiving sets having from one to eight 5-volt storage battery tubes including a power tube such as type UX-171 or UX-112. For use on 50- or 60-cycle, 105–125-volt alternating current.

A battery: Philco type UD-86
A rectifier: Extra large, type AA Philcotron.

	LOW	MEDIUM	HIGH
A trickle charge rates, D.C. amps.	.2	.4	.8
A current consumption, A.C. watts.	15	25	45

B rectifier: Full-wave Philco electrolytic
Average B voltage at amplifier terminals:
B+ PWR 135–150 volts, depending on load.
B+ AMP 50–100 volts, adjustable.

Maximum continuous B current rating: 50 milliamperes.
Average B current consumption: 12 A.C. watts.
Overall dimensions: Length (front to back) 12¾″; width 13⅝″; height 8½″.

Socket Power AB, Type AB-623

Same as type AB-663 except with special transformer and extra large B current filter for use on 25-, 30- or 40-cycle current as well as on 50 or 60 cycles for exceptional sets which may require the 25-cycle super-filter.

Socket Power AB, Type AB-463

Supplies A power at 4 volts and B power at detector and two amplifier voltages for sets having from one to ten 3-volt dry cell tubes, including Radiolas. For use on 50- or 60-cycle, 105–125-volt alternating current.

A battery: Philco Type UD-44
A rectifier: Large, type A Philcotron

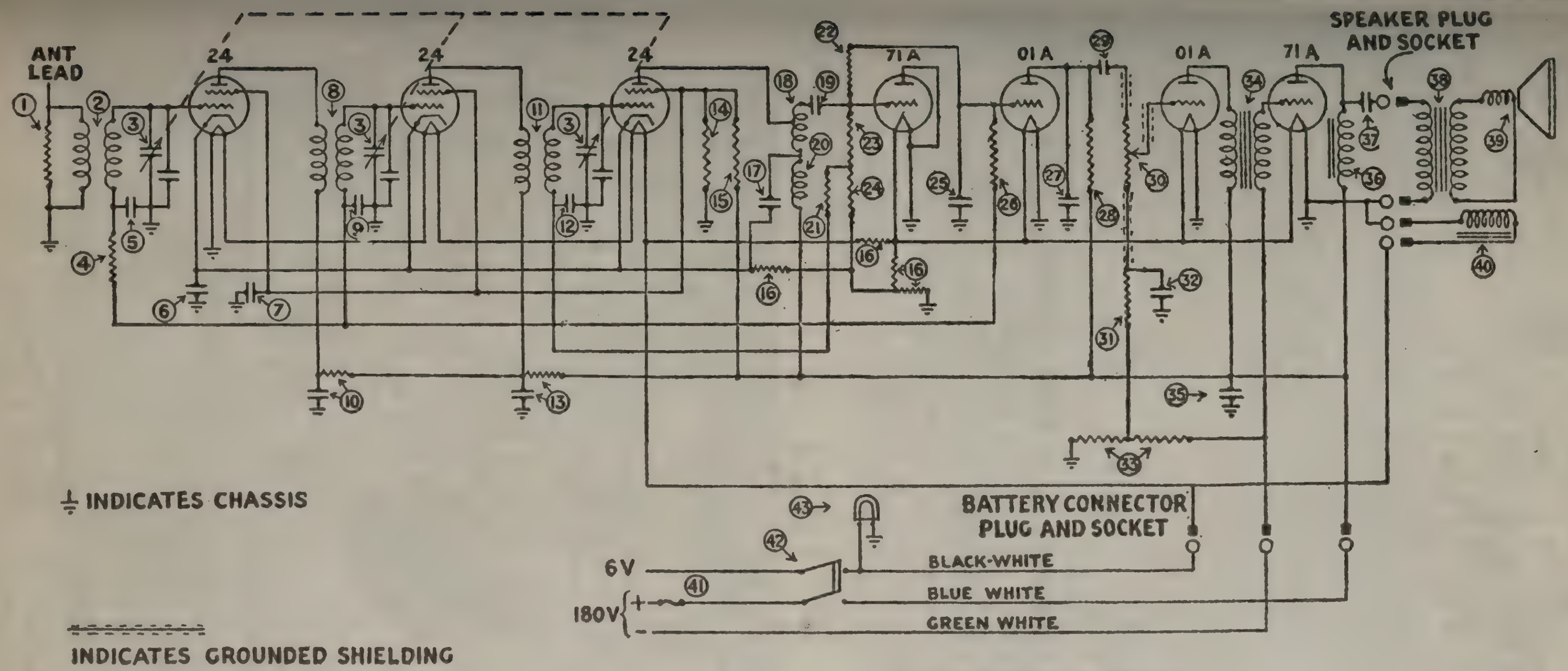
	LOW	MEDIUM	HIGH
A trickle charge rates, D.C. amps:	.075	.15	.30
A current consumption, A.C. watts:	9	12	18

B rectifier: Full-wave Philco electrolytic
Average B voltage at amplifier terminals
B+ PWR 135 volts.
B+ AMP 50–90 volts, adjustable.

Maximum continuous B current rating: 50 milliamperes.
Average B current consumption: 10 A.C. watts.
Overall dimensions: Length (front to back) 12¾″; width 13⅝″; height 8½″.

MODEL 3
Transitone
Schematic
Parts List

PHILCO RADIO & TELEVISION CORP.


ANT LEAD
24
24
24
71 A
01 A
01 A
71 A
SPEAKER PLUG AND SOCKET
BATTERY CONNECTOR PLUG AND SOCKET
BLACK-WHITE
BLUE WHITE
GREEN WHITE
6V
180V
+
−
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸
INDICATES CHASSIS
INDICATES GROUNDED SHIELDING

COMPENSATING

Compensating condensers in all Philco Transitone Receivers are carefully adjusted at the factory, and ordinarily need not be readjusted.

If necessary to readjust, a good oscillator should be used. With the Receiver and oscillator set up for operation, and the volume control of the Receiver turned on full-- adjust the oscillator signal to a frequency between 1000 and 1200 kilocycles, or 100 and 120 on the Receivers. Tune the Receiver sharply to the signal and then reduce the oscillator signal so that it is barely audible in the Speaker.

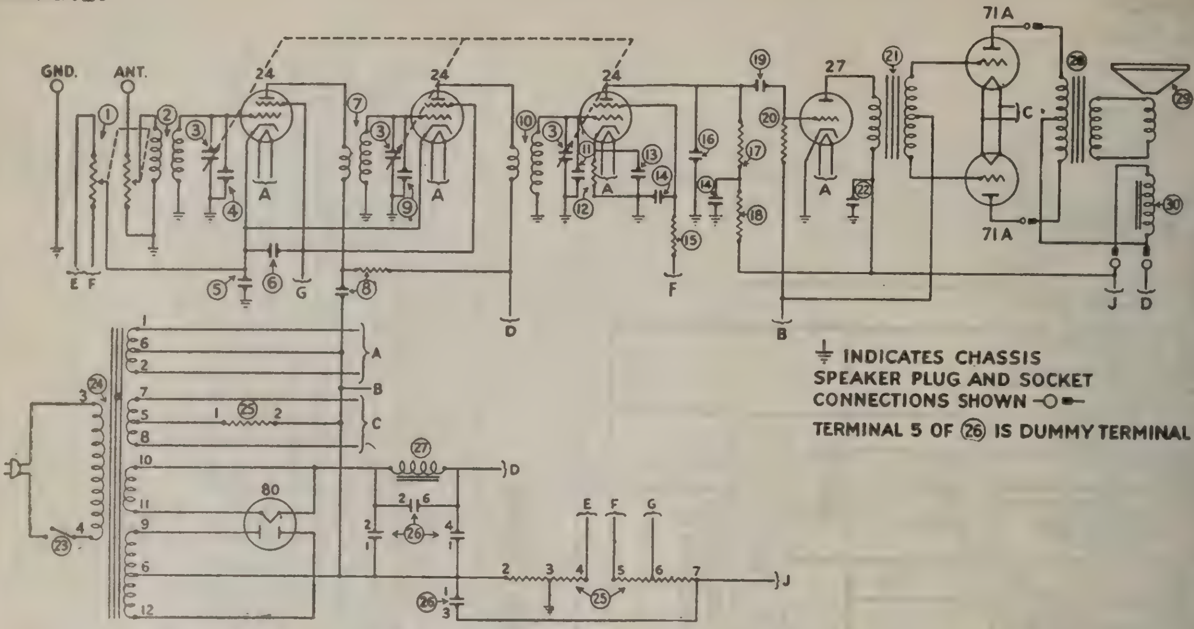
Using the special fibre wrench, adjust the third compensating condenser to that point at which the maximum signal is heard in the Speaker, then adjust the second and finally the first condenser in the same manner, always adjusting for that position which gives the maximum signal.

After the adjustments are completed tune the Receiver to several broadcast programs to make sure that the stations are tuned in at the proper place on the tuning scale.

⑬	Condenser and Resistor (.05 mfd with 250 ohms)	3615-C
⑭	Resistor (50,000 ohms--1 watt)	4237
⑮	Resistor (25,000 ohms—1 watt)	3656
⑯	Resistor (4-section)	4407
⑰	Condenser (.00025 mfd)	3082
⑱	Fourth R. F. Transformer	3775-B
⑲	Condenser (.00005 mfd)	3774
⑳	R. F. Choke	3256-A
㉑	Resistor (1,000,000 ohms—½ watt)	4409
㉒	Resistor (250,000 ohms — ½ watt)	4410
㉓	Resistor (100,000 ohms — ½ watt)	4411
㉔	Resistor (100,000 ohms — ½ watt)	4411
㉕	Condenser (.00025 mfd)	3082
㉖	Resistor (1,000,000 ohms — 1 watt)	4414
㉗	Condenser (.00025 mfd)	3082
㉘	Resistor (100,000 ohms — ½ watt)	4411
㉙	Condenser (.015 mfd)	3793-D
㉚	Volume Control	4463
㉛	Resistor (250,000 ohms — ½ watt)	4410
㉜	Condenser (.25 mfd)	4487
㉝	Resistor (2-section)	4408
㉞	Audio Transformer	3241
㉟	Condenser (2.0 mfd)	4418
㊱	Audio Choke	4485
㊲	Output Condenser (1.0 mfd)	4420

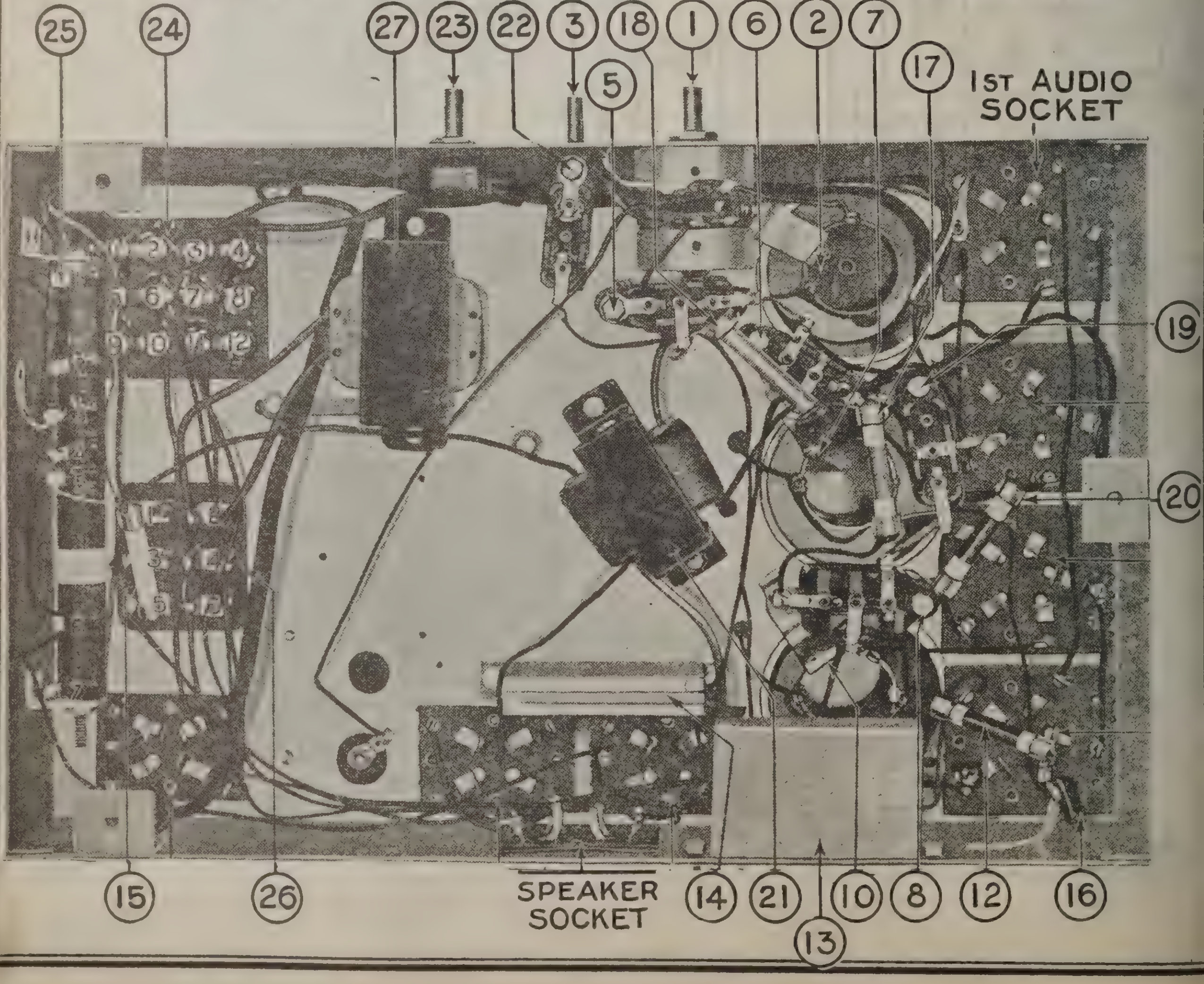
MODEL 20,20-A
Chassis
Schematic

PHILCO RADIO & TELEVISION CORP.


GND.
ANT.
24
24
24
27
71A
71A
80
A
B
C
D
E
F
G
J
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚
INDICATES CHASSIS
SPEAKER PLUG AND SOCKET
CONNECTIONS SHOWN
TERMINAL 5 OF ㉖ IS DUMMY TERMINAL

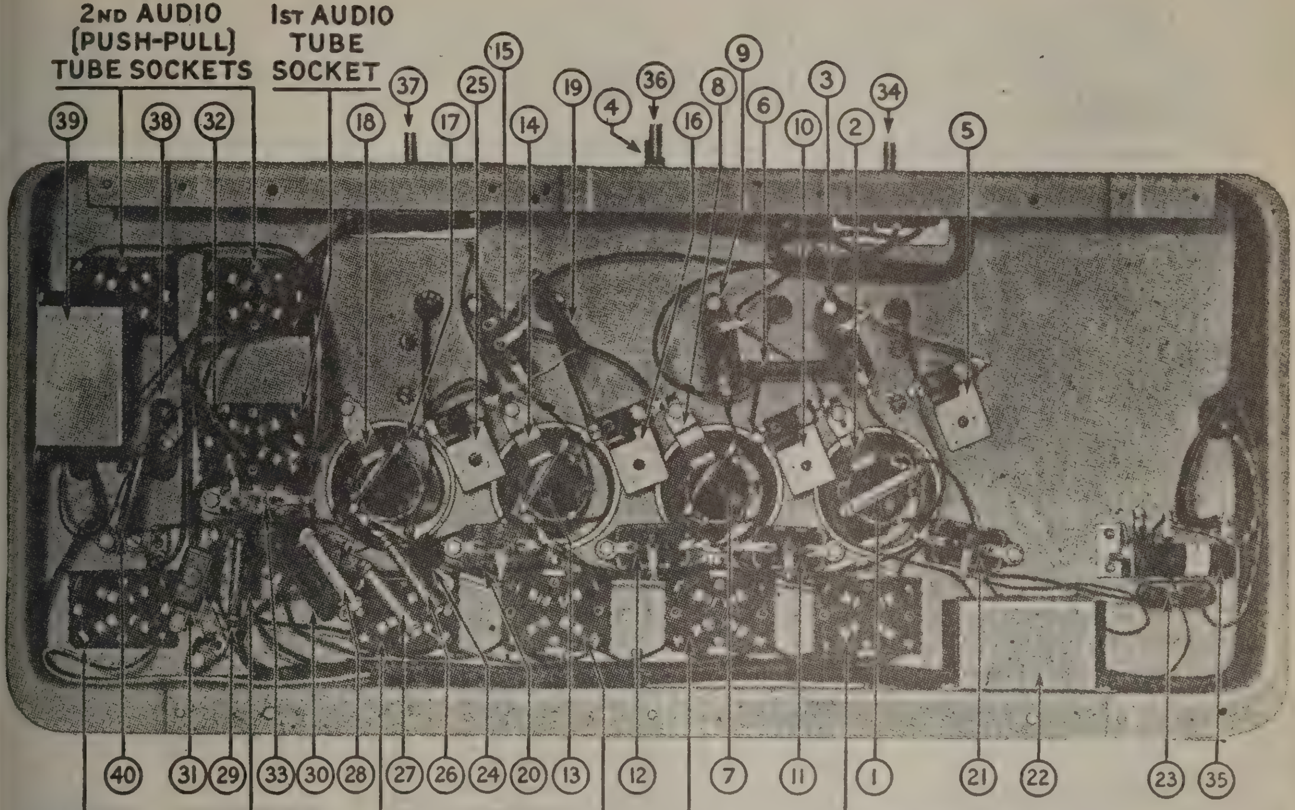
DIFFERENT CIRCUIT ARRANGEMENT FOR MODEL 20-A

Model 20-A for use on 25-60 cycle lines is wired differently than the Model 20. The plate supply lead for the two 24 R. F. Tubes is taken from the low side of the Speaker field Coil. The lead "D" to the 24 tubes should be changed to "J" for the Model 20-A only. This will change the plate voltage from 250 volts to 115-125 volts. The plate current readings will also be lower than those given in the table.

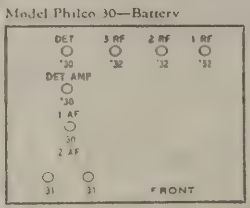

25
24
27
23
22
3
18
1
6
2
7
5
17
1ST AUDIO
SOCKET
19
20
15
26
SPEAKER
SOCKET
14
21
10
8
12
16
13

MODEL 30
Chassis
Schematic

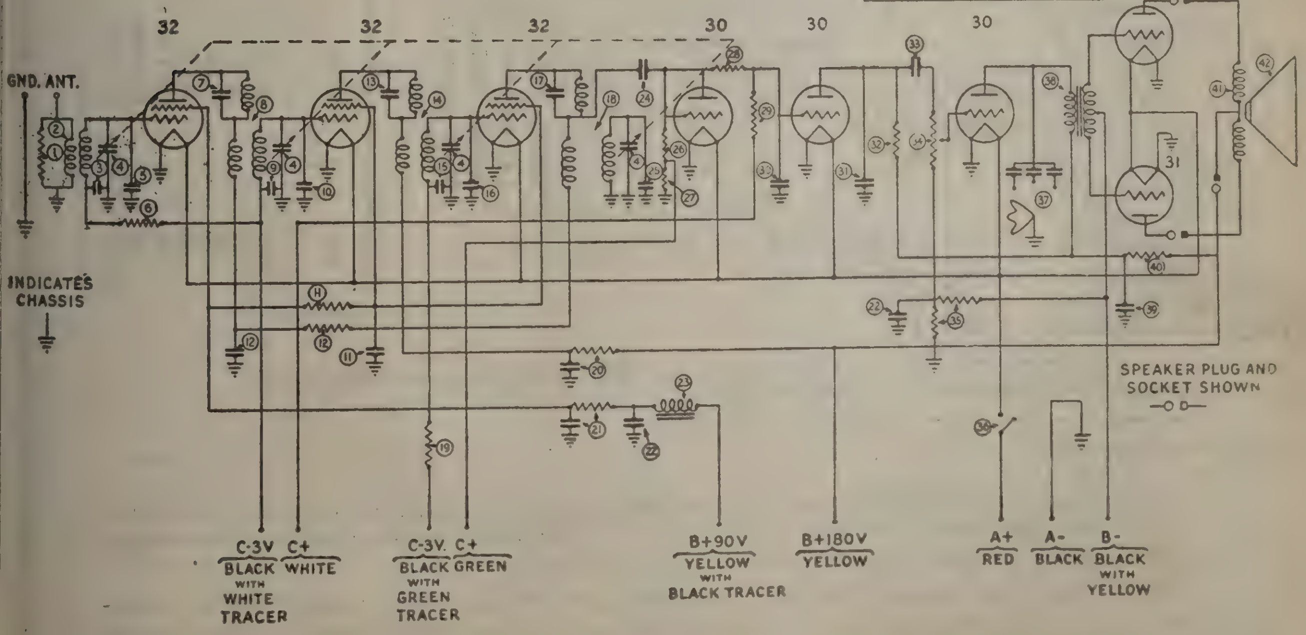
PHILCO RADIO & TELEVISION CORP.


2ND AUDIO (PUSH-PULL) TUBE SOCKETS
1ST AUDIO TUBE SOCKET
39
38
32
18
37
17
25
15
14
19
4
36
16
8
9
6
10
3
2
34
5
40
31
29
33
30
28
27
26
24
20
13
12
7
11
1
21
22
23
35
SPEAKER SOCKET
DETECTOR AMPLIFIER TUBE SOCKET
DETECTOR RECTIFIER TUBE SOCKET
R F TUBE SOCKETS

Model Philco 30—Battery

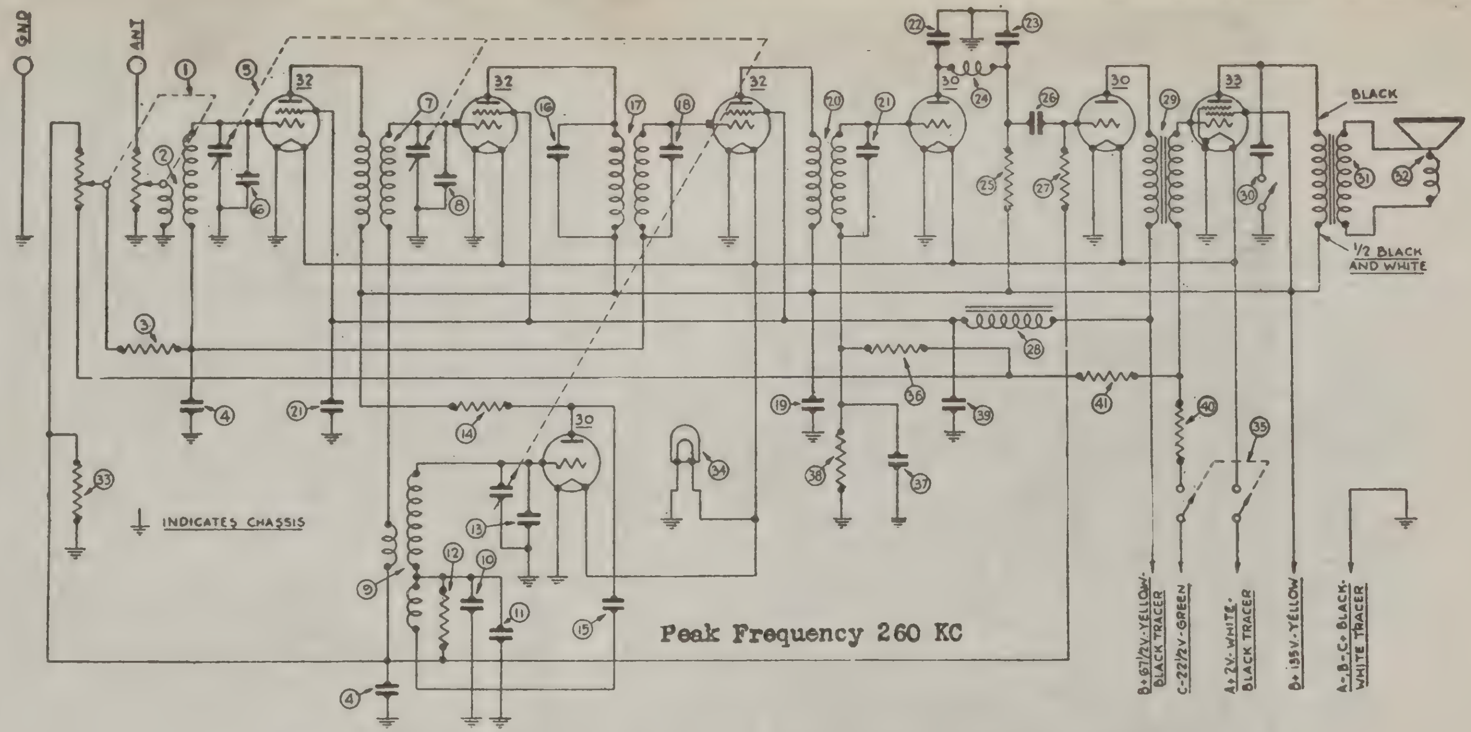

DET
'30
3 RF
'32
2 RF
'32
1 RF
'32
DET AMP
'30
1 AF
30
2 AF
31
31
FRONT

Model 30


31
32
32
32
30
30
30
GND. ANT.
INDICATES CHASSIS
31
SPEAKER PLUG AND SOCKET SHOWN
C-3V BLACK WITH WHITE TRACER
C+ WHITE
C-3V. BLACK WITH GREEN TRACER
C+ GREEN
B+90V YELLOW WITH BLACK TRACER
B+180V YELLOW
A+ RED
A- BLACK
B- BLACK WITH YELLOW

PHILCO RADIO & TELEVISION CORP.

MODEL 35
Schematic
Voltage


BLACK
½ BLACK AND WHITE
B+67½V-YELLOW-BLACK TRACER
C-22½V-GREEN
A+2V-WHITE-BLACK TRACER
B+135V-YELLOW
A-B-C+ BLACK-WHITE TRACER
ANT
GND
32
32
32
30
30
33
30
INDICATES CHASSIS
Peak Frequency 260 KC

Model 35-B is similar to Model 35 except that the pilot light is omitted. Furthermore, a resistor # 5792 is supplied with Model 35-B. The Model 35-B is intended for use with the Air-Cell battery.

Tube Socket Readings Taken with Set Tester.

Tube	Circuit	Filament Volts	Plate Volts	Grid Volts	Plate Current Milliamperes	Screen Grid Volts
32	R. F.	1.9	133	...	3.0	60
32	1st Det.	1.9	133	..	3.0	63
30	Osc.	1.9	60	...	1.5	...
32	I. F.	1.9	133	..	3.5	60
30	2nd Det.	1.9	55	2.5	.05	.
30	1st Audio	1.9	65	...	.05	...
33	Output	1.9*	125*	7*	12.*	135*

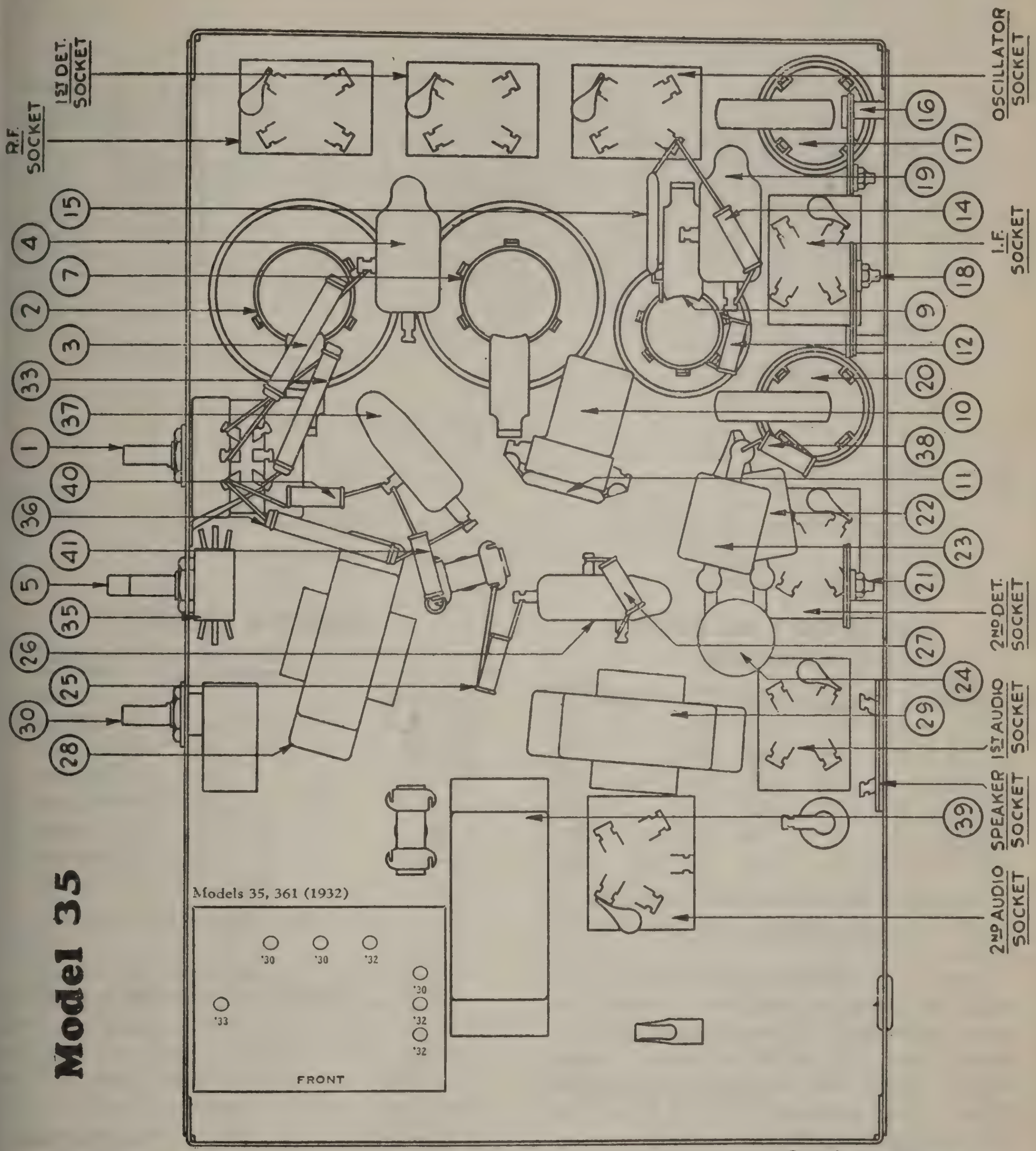
All readings taken with volume control at maximum, antenna disconnected, and ground connected. *These readings must be taken from the under side of the chassis using test prods and leads unless the set checker is specially equipped for testing pentode tubes.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the

The Model 35 Receiver is designed for use with the latest 2-volt filament type tubes only.

PHILCO RADIO & TELEVISION CORP.

Model 35


R.F. SOCKET
1ST DET. SOCKET
OSCILLATOR SOCKET
I.F. SOCKET
2ND DET. SOCKET
1ST AUDIO SOCKET
SPEAKER SOCKET
2ND AUDIO SOCKET
15
4
7
2
3
33
37
1
40
36
41
5
35
26
25
30
28
16
17
19
14
18
9
12
20
10
38
11
22
23
21
27
24
29
39
Models 35, 361 (1932)
'30
'30
'32
'33
'30
'32
'32
FRONT

Resistor Data

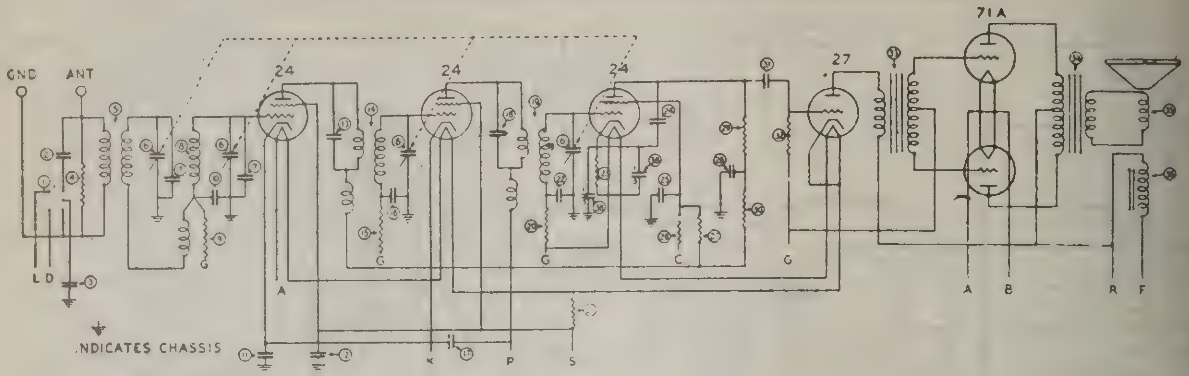
No. on Figs. 1 and 2	COLOR			Resistance Ohms
	Body	Tip	Dot	
③ ㉕	Red	Yellow	Yellow	240,000
⑫ ⑭	Green	Brown	Orange	51,000
㉗	Yellow	White	Yellow	490,000
㉝	Orange	Black	Red	3,000
㊱	Orange	Red	Orange	32,000
㊳	White	White	Orange	99,000
㊵	Green	Black	Red	5,000
㊶	Brown	Black	Orange	10,000

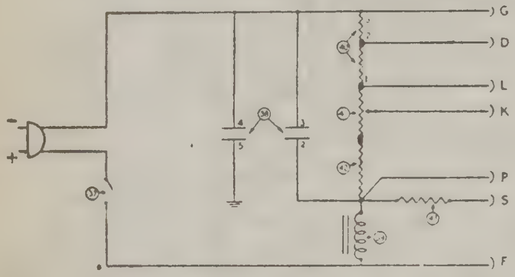
Condenser Data

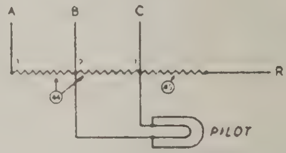
No. on Figs. 1 and 2	Capacity—MFD
④ ⑲ ㊲	.09
⑪	.000410
⑮	.000110
㉒ ㉓	.002
㉖	.01
㊴	2.

MODEL 40 DC

PHILCO RADIO & TELEVISION CORP.







NOTE Switch 1 Right-Hand Terminals are shorted in local position. Left-Hand Terminals are shorted in distance position.

Resistor ㊺ is mounted at bottom of cabinet.

TUBE SOCKET READINGS

Line Voltage 115

Tube	Circuit	Filament	Plate	Screen Grid	Control Grid	Plate Mils
24	1 R. F.	2.1	100	75	.4	2.7
24	2 R. F.	2.1	100	75	.4	2.7
24	Detector	2.1	45	15	1.8	....
27	1 A. F.	2.4	87	..	.2	2.7
71-A	2 A. F.	5	85	..	13	15
71-A	2 A. F.	5	85	..	13	15

Readings must be taken with volume control on full and local distance switch in distance position.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the table.

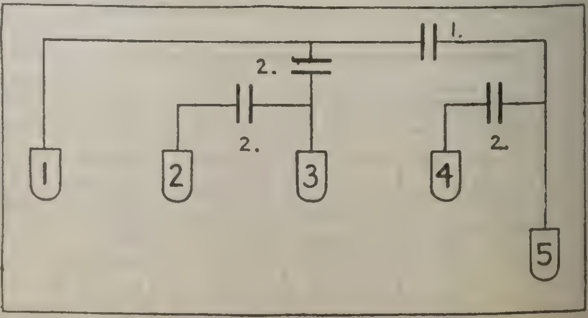
RESISTOR VALUES

No. on Fig. 2	Terminals	Ohms Resistance
④—⑳—㊸		5,000
⑨—⑮		33,000
㉑—㊷		25,000
㉓—㉚		100,000
㉖		13,000
㉗		70,000
㉙—㉜		500,000
㊵	1–2	800
	2–3	250
㊹	1–2	2
	2–3	4
㊺	(Note: 20-inch—External)	53

CONDENSER CAPACITIES

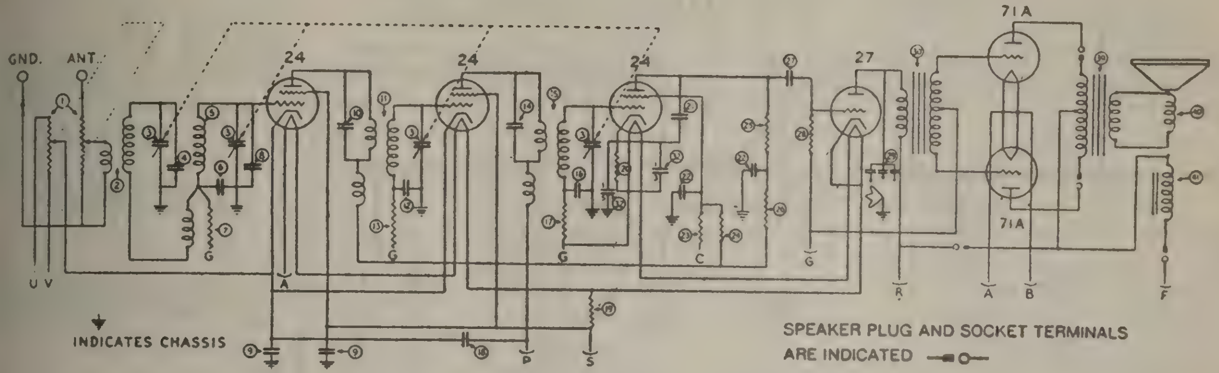
No. on Fig. 2	Capacity
②	.002
③—㉛	.01
⑩—⑯—⑰—㉒	.05
⑪—⑫—㉕—㉘	.25
㉔	.0005

㊳ Filter Condenser Part No. 4067

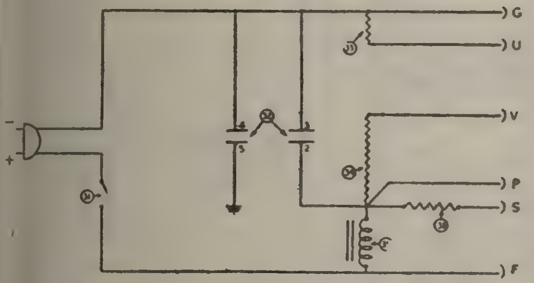


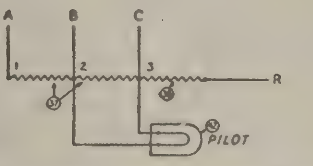
PHILCO RADIO & TELEVISION CORP.

MODEL 41 DC,42 DC
Schematic
Voltage
Values


GND.
ANT.
24
24
24
27
71A
71A
U V
A
G
C
R
A B
F
P
S
INDICATES CHASSIS

SPEAKER PLUG AND SOCKET TERMINALS ARE INDICATED —●○—




A
B
C
1
2
3
R
PILOT

RESISTOR ㊳ IS MOUNTED AT BOTTOM OF CABINET

Model Philco 41

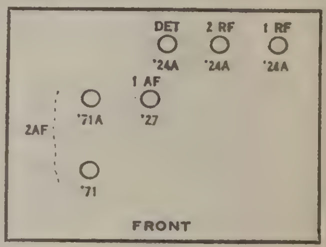

DET
2 RF
1 RF
'24A
'24A
'24A
1 AF
'71A
'27
2AF
'71
FRONT

Table 1—TUBE SOCKET READINGS
Line Voltage 115

Tube	Circuit	Filament	Plate	Screen Grid	Control Grid	Plate Mils
24	1 R. F.	2.1	100	75	.4	2.7
24	2 R. F.	2.1	100	75	.4	2.7
24	Detector	2.1	45	15	1.8	...
27	1 A. F.	2.4	87	..	.2	2.7
71-A	2 A. F.	5	85	..	13	15
71-A	2 A. F.	5	85	..	13	15

Readings must be taken with volume control on full.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the table.

Table 2—RESISTOR VALUES

No. on Figs. 2 and 3	Terminals	Ohms Resistance
⑰—㊱		5,000
㉓		13,000
⑲—㉞		25,000
⑦—⑬		33,000
㉔		70,000
⑳—㉖		100,000
㉕—㉘		500,000
㉝		250
㊲	1-2	4
	2-3	2
㊳	(Note: 20-inch—External)	53

㉜ Filter Condenser Part No. 4067

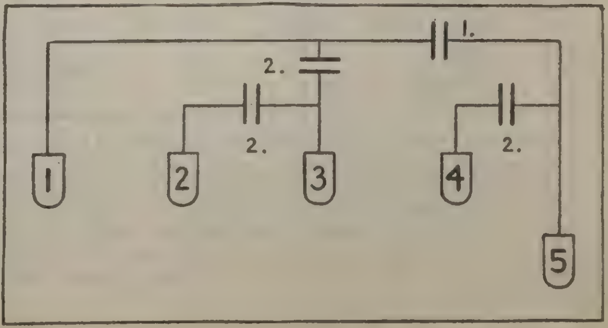


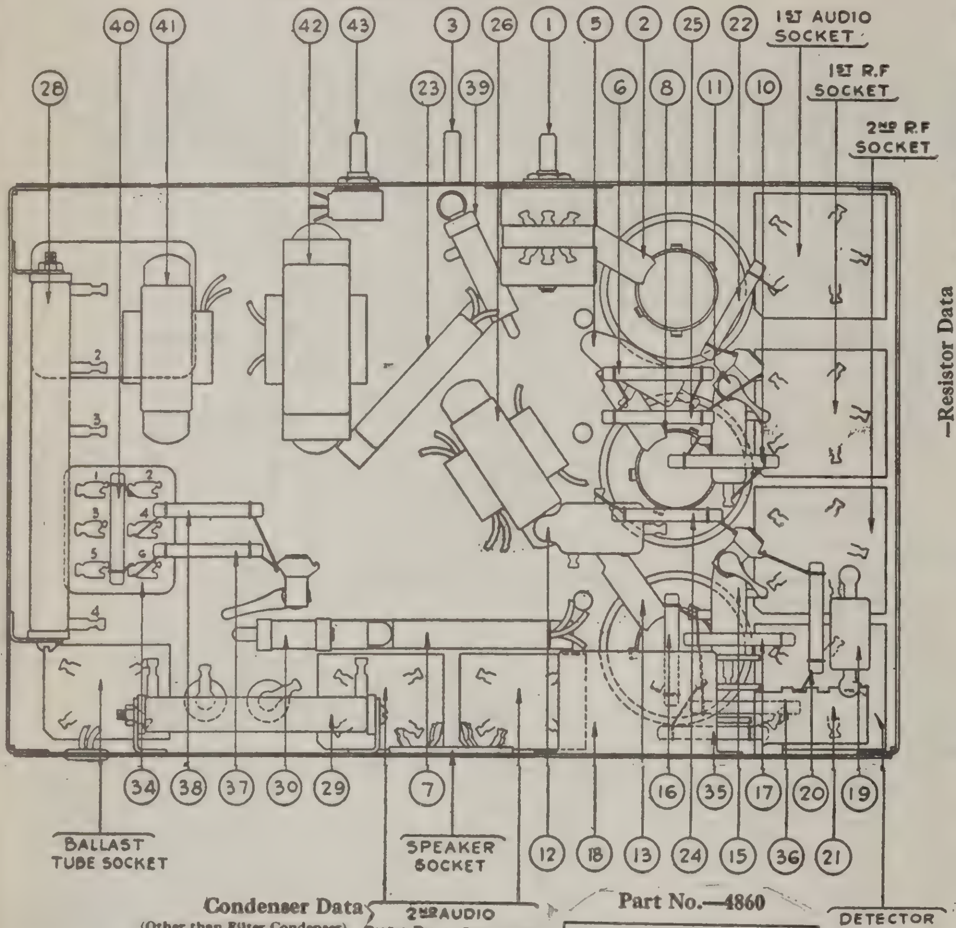
Table 3—CONDENSER CAPACITIES
(Other than Filter Condenser)

No. on Figs. 2 and 3	MFD. Capacity
㉗	.01
⑥—⑫—⑯—⑱	.05
⑨—㉒	.25
㉑	.0005

MODEL 46,46-E DC
Chassis
Resistor Data

PHILCO RADIO & TELEVISION CORP.

Models 46 and 46-E


40
41
42
43
3
26
1
5
2
25
22
1ST AUDIO SOCKET
28
23
39
6
8
11
10
1ST R.F SOCKET
2ND R.F SOCKET
1
2
3
4
5
6
2
3
4
34
38
37
30
29
7
16
35
17
20
19
BALLAST TUBE SOCKET
SPEAKER SOCKET
12
18
13
24
15
36
21
2ND AUDIO PUSH-PULL SOCKETS
DETECTOR SOCKET

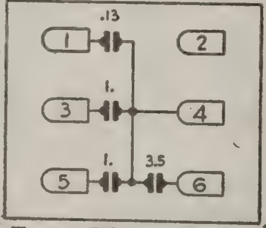
Condenser Data

(Other than Filter Condenser)

No. on Figs. 2 and 3	Capacity MFD
㉔	.0005
㉒	.01
⑥—⑫—⑱	.05
⑦	.05 and 250-ohm resistor
⑲—㉑—㊳	.25 (two sections)

For
Model 46-E DC

Part No.—4860


.13
1
2
1.
3
4
1.
3.5
5
6

Tube Socket Readings Taken with Set Tester, DC Line, 240 Volts

Tube		Filament Voltage	Plate Voltage	Grid Voltage	Screen Grid Voltage	Cathode Voltage (Measured with Prod)	Plate Milliamperes
Type	Circuit						
14	1st R. F.	13.5	190	.4	80	3.5	5.5
14	2nd R. F.	13.5	190	.4	75	3.5	5.5
14	Detector	13.0	0	0	20	9.5	.3
17	1st Audio	12.5	60	0	...	3.0	2.5
71-A	Second Audio	5.5	180	53	...	...	12.0
71-A	Push-Pull	5.5	185	53	...	...	12.0
3	Ballast	128	...	...	...	...	...

All readings taken with antenna disconnected and ground on. Volume Control on full.

The majority of set testers are not equipped to measure a DC filament voltage as high as 14 volts. In this case the volt meter binding post prods will have to be used. This method must also be used in checking cathode voltages across resistances No. 17, No. 35, No. 28 and No. 29.

The field coil of the Speaker used with this Receiver is of low resistance. It is not the same as the field coil used with the AC Electric Receiver. If, by mistake, a speaker from an AC Electric Receiver is plugged into the DC Receiver no damage will result.

—Resistor Data

No. on Figs. 2 and 3	Terminal	Resistance	Color		
			Body	Tip	Dot
[illegible]	1—2 2—3 3—4	16 105 1500	Tubular		
[illegible]		200	Tubular		
[illegible]		250	Flat Wire Wound		
[illegible]		350	Flat Wire Wound		
⑭		5,000	Green	Black	Red
[illegible]—⑪—[illegible]—[illegible]—㊶		32,000	Orange	Red	Orange
⑰		51,000	Green	Brown	Orange
[illegible]		70,000	Jade Green		
[illegible]		99,000	White	White	Orange
[illegible]		240,000	Red	Yellow	Yellow

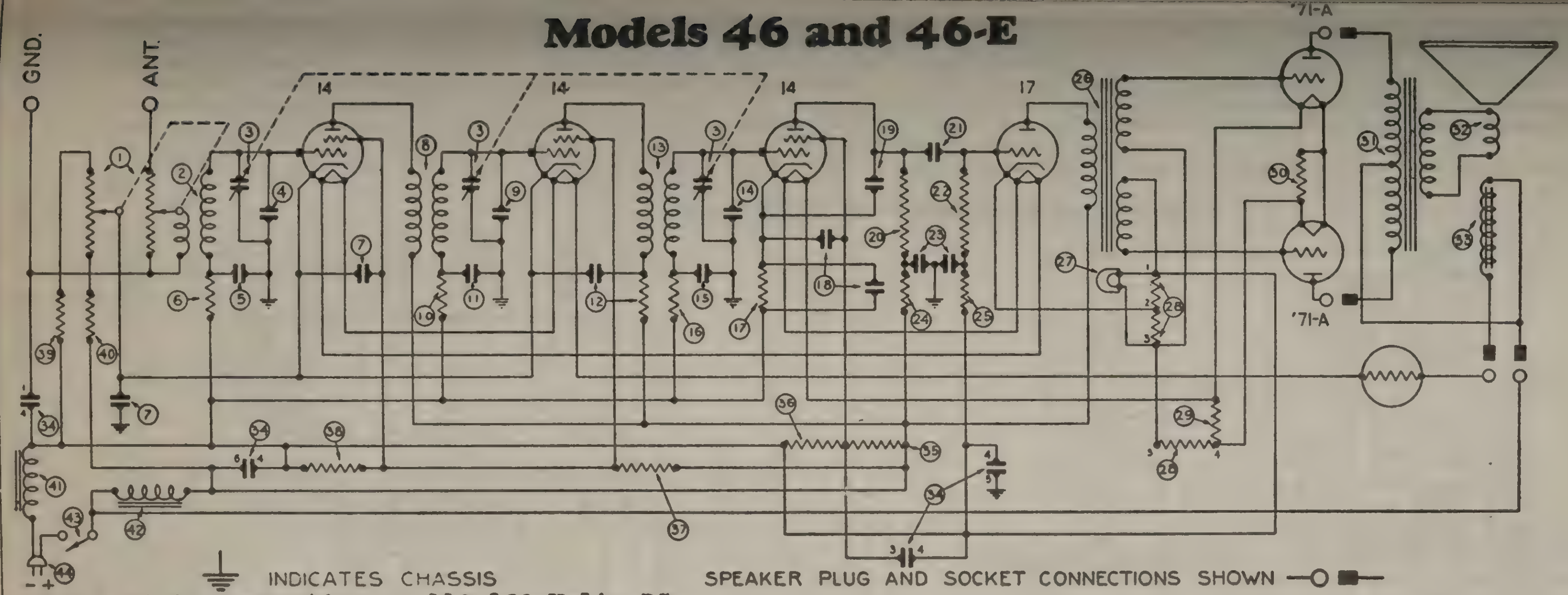
Resistor Data
for
Model 46-E

No. on Figs. 2 and 3	Terminal	Resistance	Color
[illegible]	2—3 1—2 3—4	10 14 29	Tubular
[illegible]		200	Tubular
[illegible]		210	Flat Wire Wound
[illegible]		250	Flat Wire Wound
[illegible]		5,000	Yellow
[illegible]		13,000	Belgium Blue
[illegible]—⑰—[illegible]		33,000	Belgium Blue—Yellow Tip
[illegible]		70,000	Jade Green
[illegible]		100,000	Silver Gray—Yellow Tip
[illegible]		250,000	White

PHILCO RADIO & TELEVISION CORP.

MODEL 46,46-E DC
Schematic
Voltage
Condenser

Models 46 and 46-E


GND.
ANT.
14
14
14
17
'71-A
'71-A
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙
(34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (50) (51) (52) (53)
INDICATES CHASSIS
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN

Model 46 for operation on 110-120 Volts DC
Model 46-E for operation on 210-240 Volts DC.

Table 1—Tube Socket Readings Taken with Set Tester, DC Line, 115 Volts

Tube		Filament Voltage	Plate Voltage	Grid Voltage	Screen Grid Voltage	Cathode Voltage (Measured with Prod)	Plate Milliamperes
Type	Circuit						
14	1st R. F.	13.5	100	1.5	60	2.5	2
14	2nd R. F.	13.5	100	1.5	60	2.5	2
14	Detector	13.5	30	1.0	25	2.5	.1
17	1st Audio	13.5	100	.25	..	4.5	5
71-A	2d Audio	4.5	90	15.5	..	...	11.5
71-A	Push-Pull	4.5	90	15.5	..	...	11.5
2	Ballast	8	...	.....	..	...	....
3	Ballast	128	...	.....	..	...	....

All readings taken with antenna disconnected and ground on. Volume Control on full.

The majority of set testers are not equipped to measure a DC filament voltage as high as 14 volts. In this case the volt meter binding post prods will have to be used. This method will also have to be used in checking cathode voltages across resistances No. 17—No. 39 and No. 28 and No. 29.

The field coil of the Speaker used with this Receiver is of low resistance. It is not the same as the field coil used with the AC Electric Receiver. If, by mistake, a speaker from an AC Electric Receiver is plugged into the DC Receiver no damage will result.

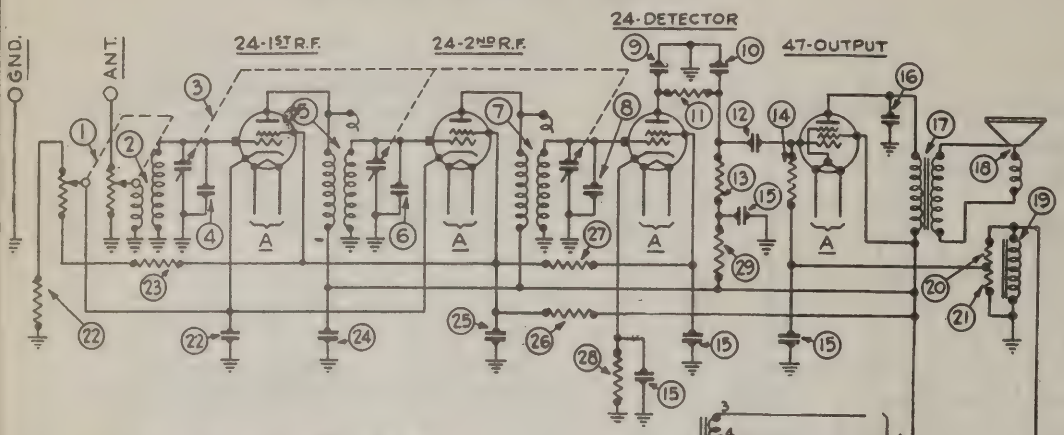
Table 2—Condenser Data
(Other than Filter Condenser)

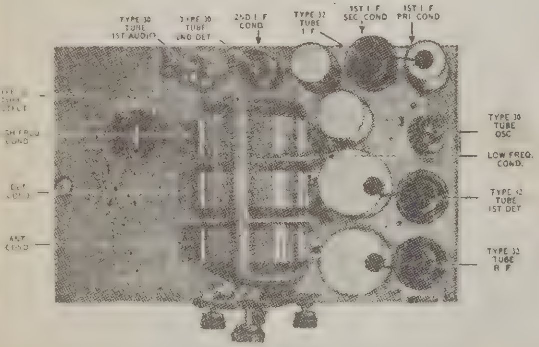
No. on Figs. 2 and 3	Capacity MFD
⑲	.0005
㉑	.01
⑤—⑪—⑮	.05
⑫	.05 and 250-ohm resistor
⑦	.25
⑱—㉓	.25 (two sections)

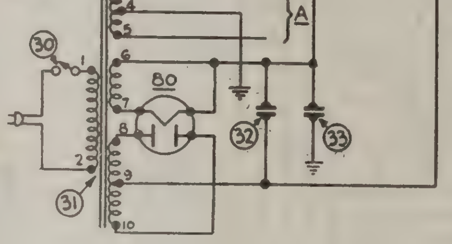
MODEL 50,50-A
Schematic
Chassis

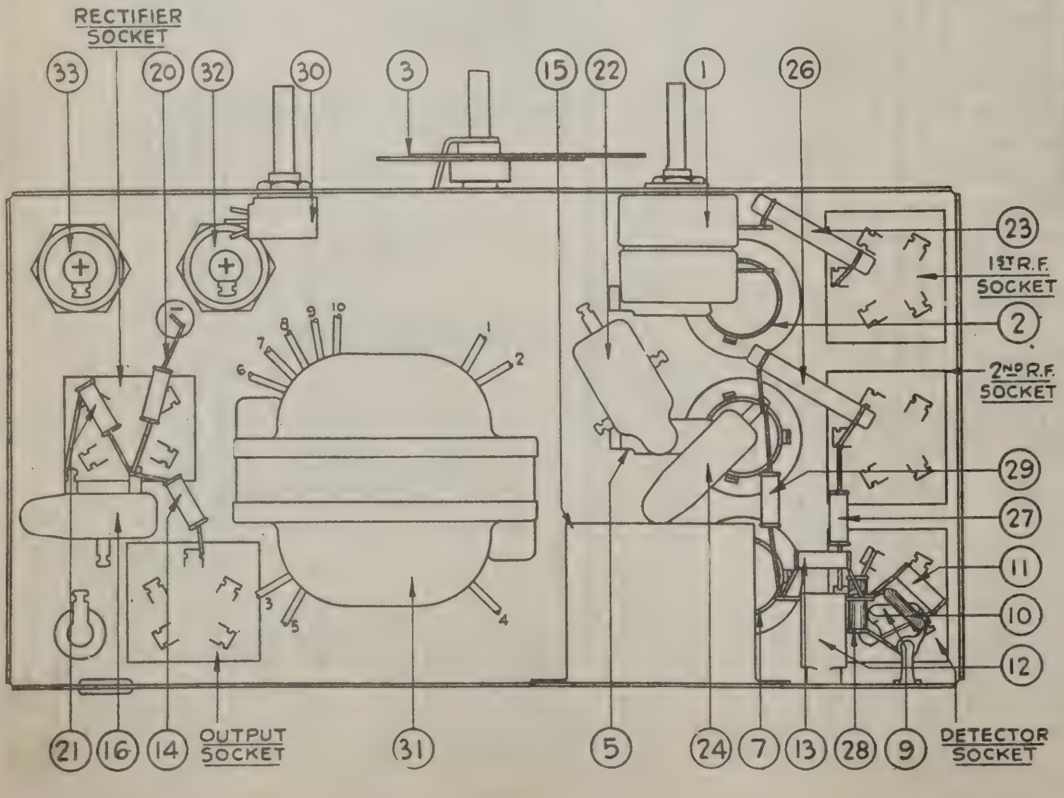
PHILCO RADIO & TELEVISION CORP.

PHILCO MODELS 50 AND 50-A


GND.
ANT.
24-1ST R.F.
24-2ND R.F.
24-DETECTOR
47-OUTPUT
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
A


TYPE 30 TUBE 1ST AUDIO
TYPE 30 TUBE 2ND DET
2ND I F COND
TYPE 32 TUBE I F
1ST I F SEC COND
1ST I F PRI COND
TYPE 30 TUBE OSC
LOW FREQ. COND.
TYPE 32 TUBE 1ST DET
TYPE 32 TUBE R F
HIGH FREQ COND
DET COND
ANT COND


1
2
3
4
5
6
7
8
9
10
A
80
30
31
32
33


RECTIFIER SOCKET
33
20
32
30
3
15
22
1
26
23
1ST R.F. SOCKET
2
2ND R.F. SOCKET
29
27
11
10
12
21
16
14
OUTPUT SOCKET
31
5
24
7
13
28
9
DETECTOR SOCKET
1
2
3
4
5
6
7
8
9
10

ADJUSTMENT OF MODELS 50 AND 50-A

Adjustment of the compensating condensers in the model 50 should be done with the aid of a good oscillator for the R.F. signal. The oscillator lead should be connected to the "ANT" terminal of the receiver. A good ground connection must be made from the receiver to the grounded side of the oscillator and to a water or radiator pipe.

Either the ear method or an output meter, connected across the speaker voice coil terminals can be used while adjusting.

When the Receiver is set up for operation, adjust the oscillator signal to a frequency which is approximately 1400 kilocycles.

With the volume control advanced to maximum, and using a weak oscillator signal, tune the receiver sharply to the oscillator note.

Adjust the third R. F. compensating condenser by means of the Philco fibre wrench, part 3164, for maximum output signal. If an output meter is being used, adjust for maximum reading.

Next adjust the second R. F. compensating condenser and finally the first. In each case, always adjust for maximum signal or reading.

Models 50 and 50-A Receivers

Model 50 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines
Model 50-A Receivers are for operation on 100-130 volt, 25-60 cycle AC lines

Table 1—Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts	Control Grid Volts	Cathode Volts	Plate Milli-amperes
Type	Circuit						
24	1st R.F.	2.4	245	90	2.5	3.0	4.5
24	2nd R.F.	2.4	250	90	2.5	3.0	5.5
24	Det.	2.4	100	42	8.0	8.0	0
47	Output	2.4	175*	190*	1.0*	...	2.7*
80	Rect.	5.0	...	...	...	...	30

Note—Volume Control on full; Station Selector turned to Low Frequency End.

*These readings must be taken from the underside of the chassis, using test prods and leads unless the set checker is specially equipped for testing pentode tubes.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts		Color
1-2	105 to 125	Primary	Black (Small Gauge)
3-5	2.5	Filament of 24 and 47	Black
6-7	5.	Filament of 80	Light Blue
8-10	700.	Plates of 80	Yellow
4	.....	Center Tap of 3-5	Black, Yellow Tracer
9	.....	Center Tap of 8-10	Yellow, Green Tracer

Table 3—Condenser Data

No. on Figs. 2 and 3	Capacity MFD	Container
⑨ ⑩	.00025	Yellow
⑫ ⑯	.01	Black Bakelite Container
㉕	.05	Black Bakelite Container
㉒	.05 and 150 Ohm resistor	Black Bakelite Container
⑮	.1, .15, .25, 2-.5 (50-60 cycles) .05, .15, .25, 2-.5 (25-40 cycles)	Metal Container
㉔	.05	
㉝	(50 to 60 cycles) 6. (25 to 40 cycles) 10.	Electrolytic Electrolytic
㉞	6.	Electrolytic

Table 4—Resistor Data

No. on Figs. 3 and 4	Power (Watts)	Resistance	Color		
			Body	Tip	Dot
㉒	...	150 and .05 Mfd.	Black Bakelite Container		
⑪	.5	10,000	Brown	Black	Orange
㉓	1.	15,000	Brown	Green	Orange
㉖	1.	25,000	Red	Green	Orange
㉘	.5	32,000	Orange	Red	Orange
㉗ ㉙	.5	99,000	White	White	Orange
㉑	.5	160,000	Brown	Blue	Yellow
⑬	.5	240,000	Red	Yellow	Yellow
⑭ ⑳	.5	490,000	Yellow	White	Yellow

MODEL 65

PHILCO RADIO & TELEVISION CORP.

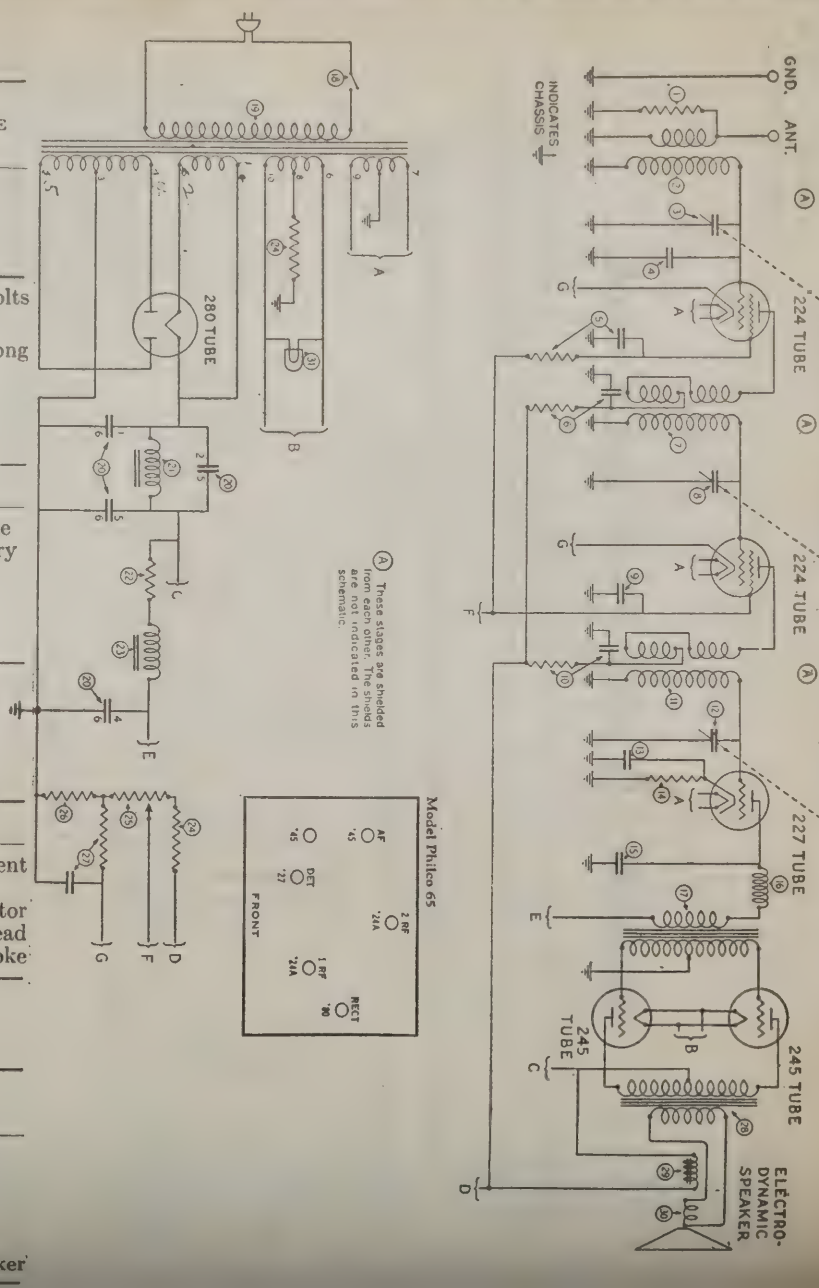

GND.
ANT.
224 TUBE
224 TUBE
227 TUBE
245 TUBE
245 TUBE
ELECTRO-DYNAMIC SPEAKER
INDICATES CHASSIS
280 TUBE
A
B
C
D
E
F
G
Ⓐ These stages are shielded from each other. The shields are not indicated in this schematic.
Model Philco 65
AF '45
2 RF '24A
RECT '80
'45
DET '27
1 RF '24A
FRONT

Table 8
Tube Socket Readings

Type Tube	"A" Volts	"B" Volts	"B" Volts (Screen Grid)	"C" Volts (Control Grid)	MA Plate	Cathode
224	2.5	150	*.2 to 75	1.5	1.5	+1.5
227	2.5	250	....	28	†.8 to 3.5	+28
245	2.5	250	....	50	32	....
280	5.0	350-V. A.C.	....	....	55	....

*The voltage varies from 75 volts with the volume control turned for full volume to .2 volts with the control turned for minimum volume.

†When there is no signal being reproduced the detector plate current will be about .8 MA. Strong signals will cause a rise in current to 3.5 MA.

Table 9
Power Transformer Voltage [AC]

Terminals	A.C. Volts	Secondary
1– 2	700	A.C. Supply to Plates of Rectifier Tube
3		Center Tap of Rectifier Plate Secondary
4– 5	5.0	Rectifier Filament
6–10	2.5	Filament 245 Tubes
8		Center Tap of 245 Tube Secondary
7– 9	2.5	Heater 224 and 227 Tubes

Green lead—Center Tap for Secondary 7–9
Current Consumption—125 V. A.C. 95 Watts

Table 10
D. C. Voltage Across Filter Condenser Block

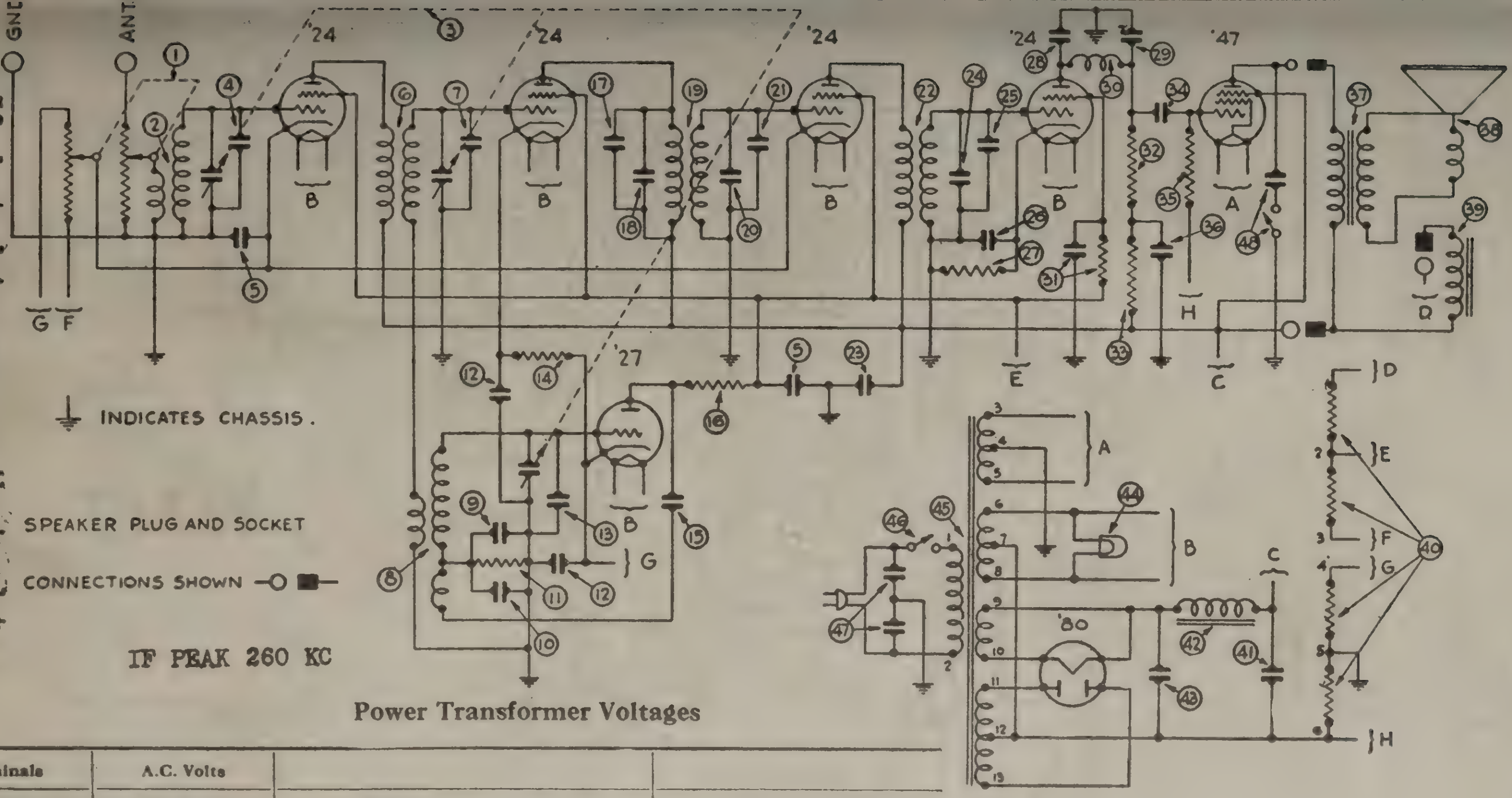
Terminals	D.C. Volts	Capacity	Circuit
1–6	325	2.0 Mfd.	First Filter Section, Ground to 280 Filament
2–5	20	.15 Mfd.	Parallel with First Choke Coil
3	...	....	Blank Terminal for Detector Plate Resistor
4–6	280	1.0 Mfd.	Last Filter Section, Gnd. to Det. Plate Lead
5–6	305	2.0 Mfd.	2d Filter Section, Gnd. to End of First Choke

Table 11
Voltage Across Resistors

Resistor Number	Resistor Terminal	Voltage Drop	Circuit
㉔	1–2	45–50	Grid Bias for the 245 Tubes
	3–4	75–80	Reduces B Voltage for the Screen Grid
㉒	1–2	4–10	Detector Plate Voltage
⑭	1–2	28	Detector Grid Bias
Field Coil of Speaker		135–140	Supplies Field Energy of Dynamic Speaker

PHILCO RADIO & TELEVISION CORP.

MODEL 70,70-A
Below B-22,000
Voltage
Schematic
MODEL 570
Grandfather Clock


GND
ANT
'24
'24
'24
'24
'47
'27
'80
A
B
C
D
E
F
G
H
INDICATES CHASSIS.
SPEAKER PLUG AND SOCKET
CONNECTIONS SHOWN
IF PEAK 260 KC

If electrolyis occurs on the insulation of the wire between the filter choke and the electrolytic condenser, unsolder the wire and cover with spaghetti.

Power Transformer Voltages

Terminals	A.C. Volts		
1-2	105 to 125	Primary	Black (Small Gauge)
3-5	2.5	Filament of 47	Dark Green
6-8	2.5	Filament of 24	Black (Heavy Gauge)
9-10	5.	Filament of 80	Light Blue
11-13	700.	Plates of 80	Yellow
4	.....	Center Tap of 3-5	Black, Green Tracer
7	.....	Center Tap of 6-8	Black, Yellow Tracer
12	.....	Center Tap of 11-13	Yellow, Green Tracer

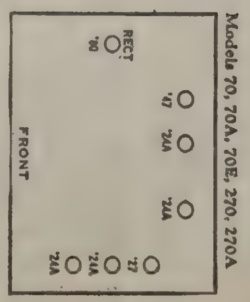
Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts	Control Grid Volts	Cathode Volts	Plate Milli-amperes
Type	Circuit						
24	1st R. F.	2.25	250	85	3.	19.5	3.
24	1st Det.	2.25	250	87	5.5	21.5	.5
27	Osc.	2.25	85	...	2.	19.5	2.5
24	1st I. F.	2.25	250	87	3.	19.5	3.
24	2nd Det.	2.25	105	75	6.	22.	.1
47	Audio	2.25	245	255	1.	...	...
80	Rectifier	4.7	...	...	...	...	40/plate

Note—Volume Control Off; Station Selector turned to Low Frequency End.

MODEL 570 Grandfathers Clock contains the same radio equipment as Model 70

Models 70, 70A, 70E, 270, 270A


'47
'24A
'24A
'27
'24A
'24A
RECT
'80
FRONT

MODEL 70,70-A
Chassis- Data
MODEL 570
Grandfather Clock

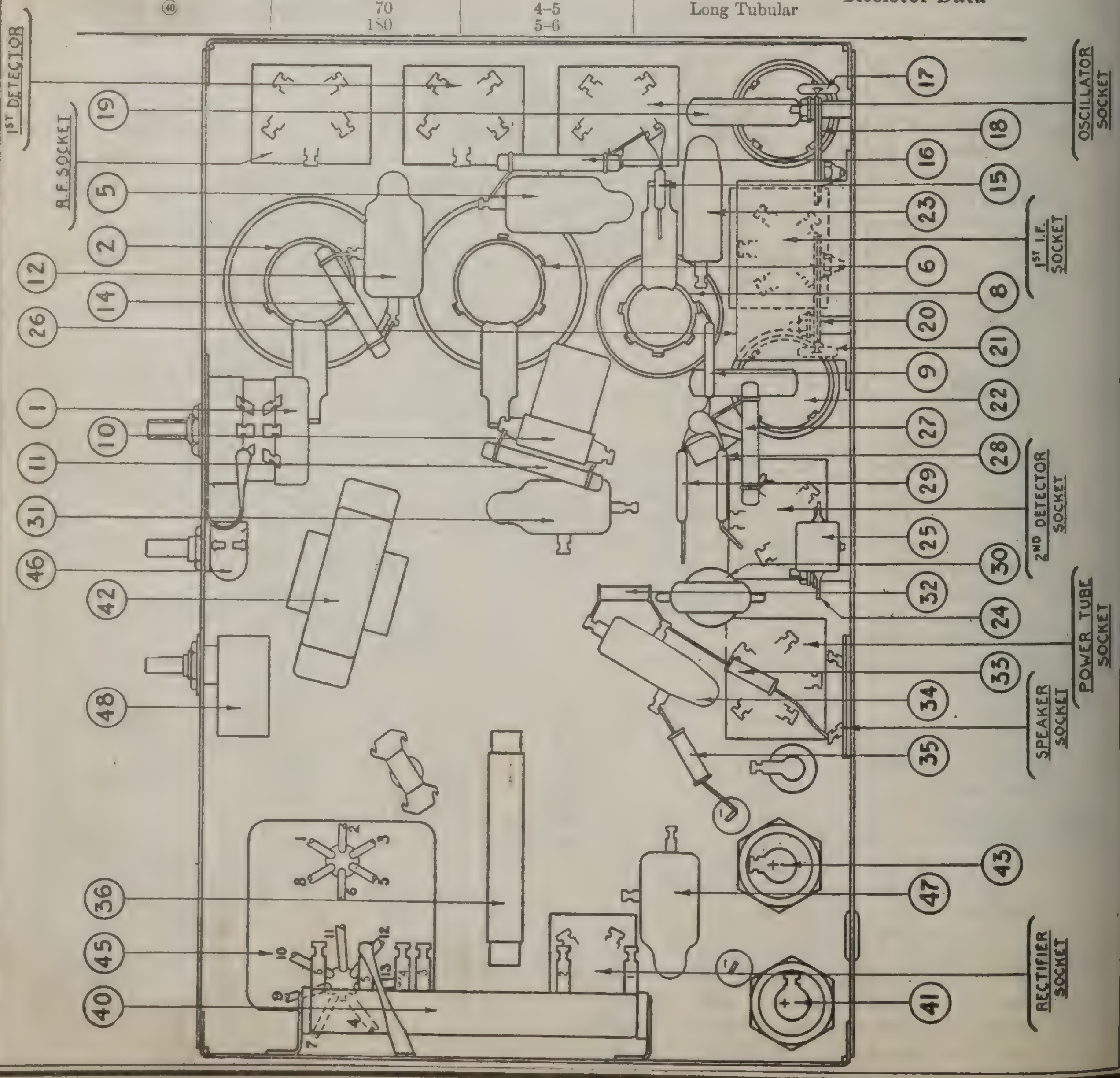
PHILCO RADIO & TELEVISION CORP.

No. on Figs. 3 and 4	Capacity MFD	Color
⑤	.09	
⑨	.00041	Yellow Orange
⑫	.09	
⑮ ⑰ ㉑	.00011	Blue, Golden Yellow
㉓	.05	
[illegible]	.00005	Light Blue, White
㉖	.5	
㉘	.0005	Green
㉙	.00025	Yellow
㉛	.09 and 250 Ohm Resistor	
㉞	.01	
㊱	.25	
㊶	(25 to 40 cycles) 10.	
㊶	(50 to 60 cycles) 6.	
[illegible]	6.	

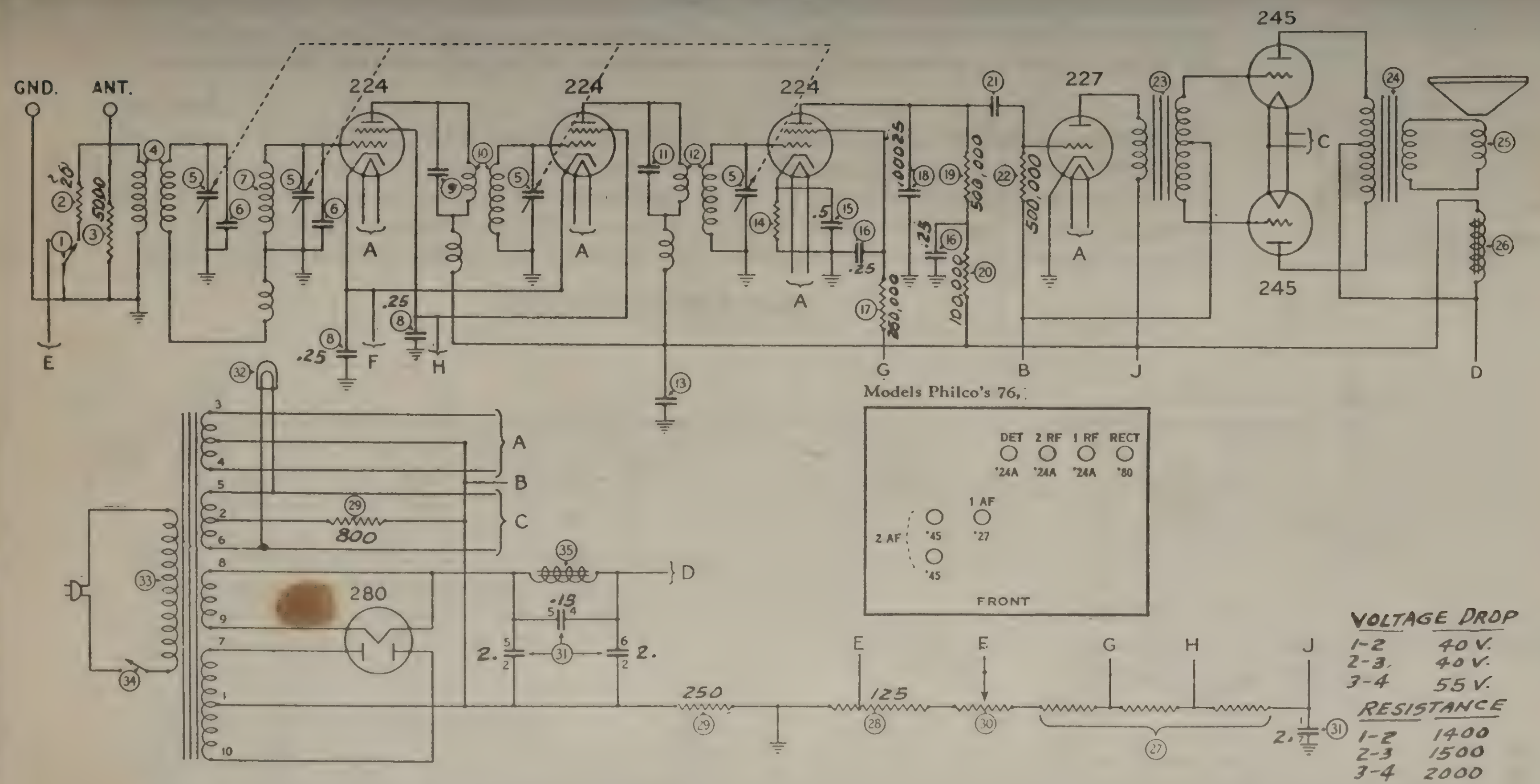
Condenser Data

No. on Figs. 3 and 4	Resistance	Terminal	Color Body	Color Tip	Color Dot
⑪ ㉗	50,000	. . .	Green	Brown	Orange
⑭	5,000	. .	Green	Black	Red
⑯	13,000	. . .	Brown	Orange	Orange
㉜ ㉟	250,000	. .	Red	Yellow	Yellow
㉝	100,000	. . .	White	White	Orange
	1,060	1-2			
	2,300	2-3			
㊵	70	4-5	Long Tubular		
	150	5-6			

Resistor Data


1ST DETECTOR
R.F. SOCKET
19
5
2
12
14
26
1
10
11
31
46
42
48
36
45
40
17
18
OSCILLATOR SOCKET
16
15
23
6
1ST I.F. SOCKET
8
20
21
9
22
27
28
29
2ND DETECTOR SOCKET
25
30
32
24
POWER TUBE SOCKET
33
34
SPEAKER SOCKET
35
47
43
41
RECTIFIER SOCKET

Philco Model 76


GND.
ANT.
224
224
224
227
245
245
280
A
B
C
D
E
F
G
H
J
FRONT
DET
2 RF
1 RF
RECT
'24A
'24A
'24A
'80
1 AF
'27
2 AF
'45
'45
20
5000
.25
.25
.5
.25
.00025
500,000
500,000
100,000
250,000
800
.15
2.
2.
2.
250
125

Models Philco's 76,

VOLTAGE DROP

1-2	40 V.
2-3	40 V.
3-4	55 V.

RESISTANCE

1-2	1400
2-3	1500
3-4	2000

Power Transformer Voltages

Terminals	A.C. Volts	Secondary
1		Center Tap for 280 Plate
2		Center Tap for 245 Tubes
3- 4	2.67	Heaters of 224 and 227 Tubes
5- 6	2.68	Filaments of 245 Tubes
8- 9	5.00	Filament of 280 Tube
7-10	7.50	Plate of 280 Tube
Red Wire		Center Tap for 224 and 227 Tubes
Red Wire		Primary } Through panel together
Red Wire		Primary

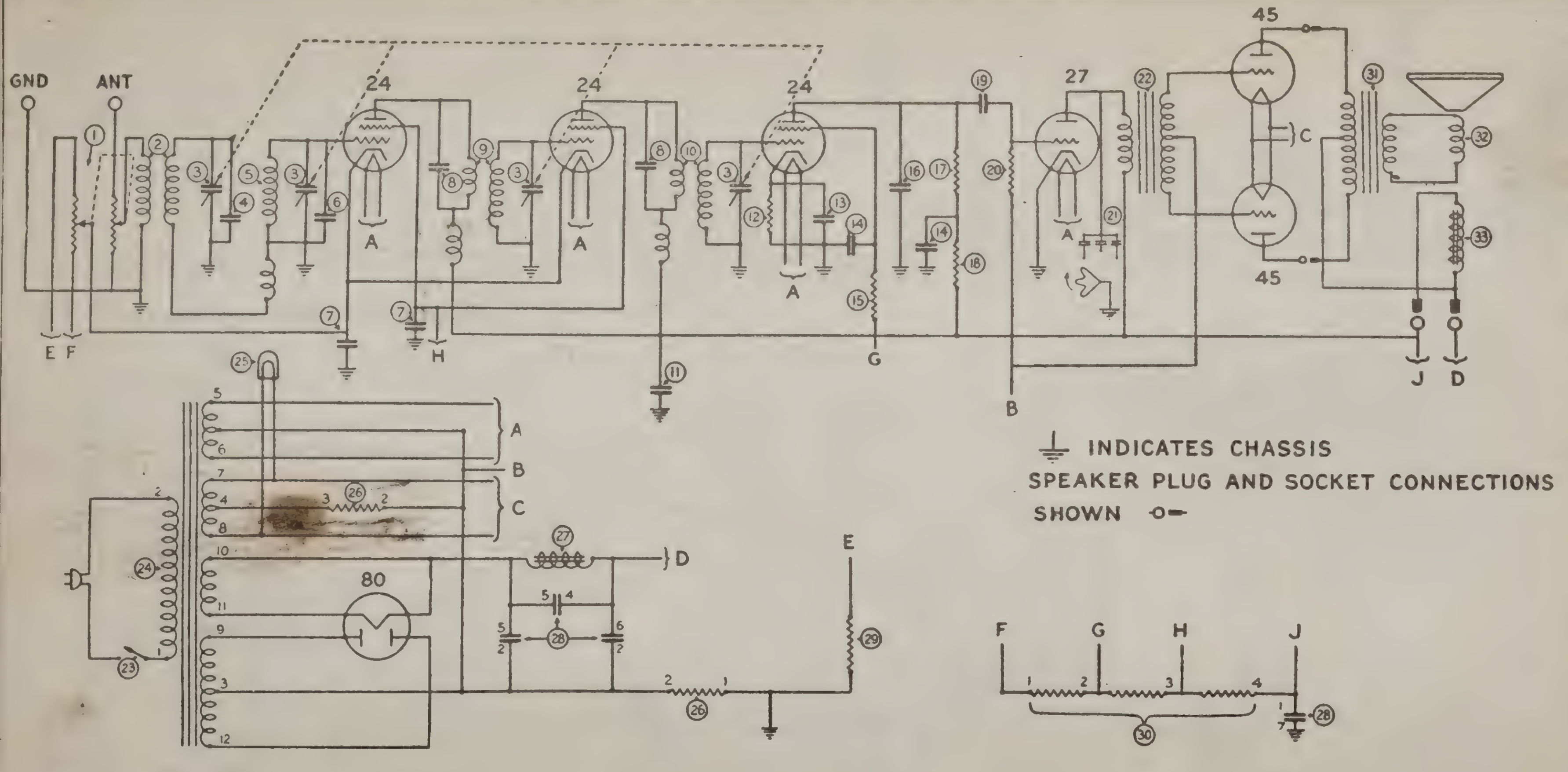
Model 76.

Vol.Contr.set to max. - Line Volts:115

Tube Type	Location	Fil. Volts	Plate Volts	S.G. Volts	Contr. Gr. Volts	Cathode Volts	Plate Ma.
'24	1 R.F.	2.3	145	90	3.	13.	3.5
'24	2 R.F.	2.3	145	90	3.	13.	3.5
'24	Det.	2.3	36	30	1.4	12.	0.
'27	1 A.F.	2.3	140		1.	10.	3.
'45	2 A.F.	2.2	230		46.		30
'45	2 A.F.	2.2	230		46.		30
'80	Rect.	4.5					50

PHILCO RADIO & TELEVISION CORP.

MODEL 77,77-A
Schematic


GND
ANT
24
24
24
27
45
45
A
B
C
D
E
F
G
H
J
80
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
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㉖
㉗
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㉙
㉚
㉛
㉜
㉝

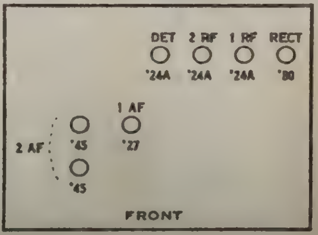
⏚ INDICATES CHASSIS
SPEAKER PLUG AND SOCKET CONNECTIONS
SHOWN -o-

COMPENSATING

Always use an oscillator signal when adjusting compensating condensers. With the Receiver set up for operation, adjust the oscillator and Receiver so the signal is turned in between 120 and 140 on the tuning scale. Have the Receiver volume control turned on full. Adjust the oscillator so that the received signal is very weak. Using a fibre wrench turn down on the adjusting nut of the first compensating condenser until it is quite tight. This purposely throws the first stage out of balance while adjusting the second stage.

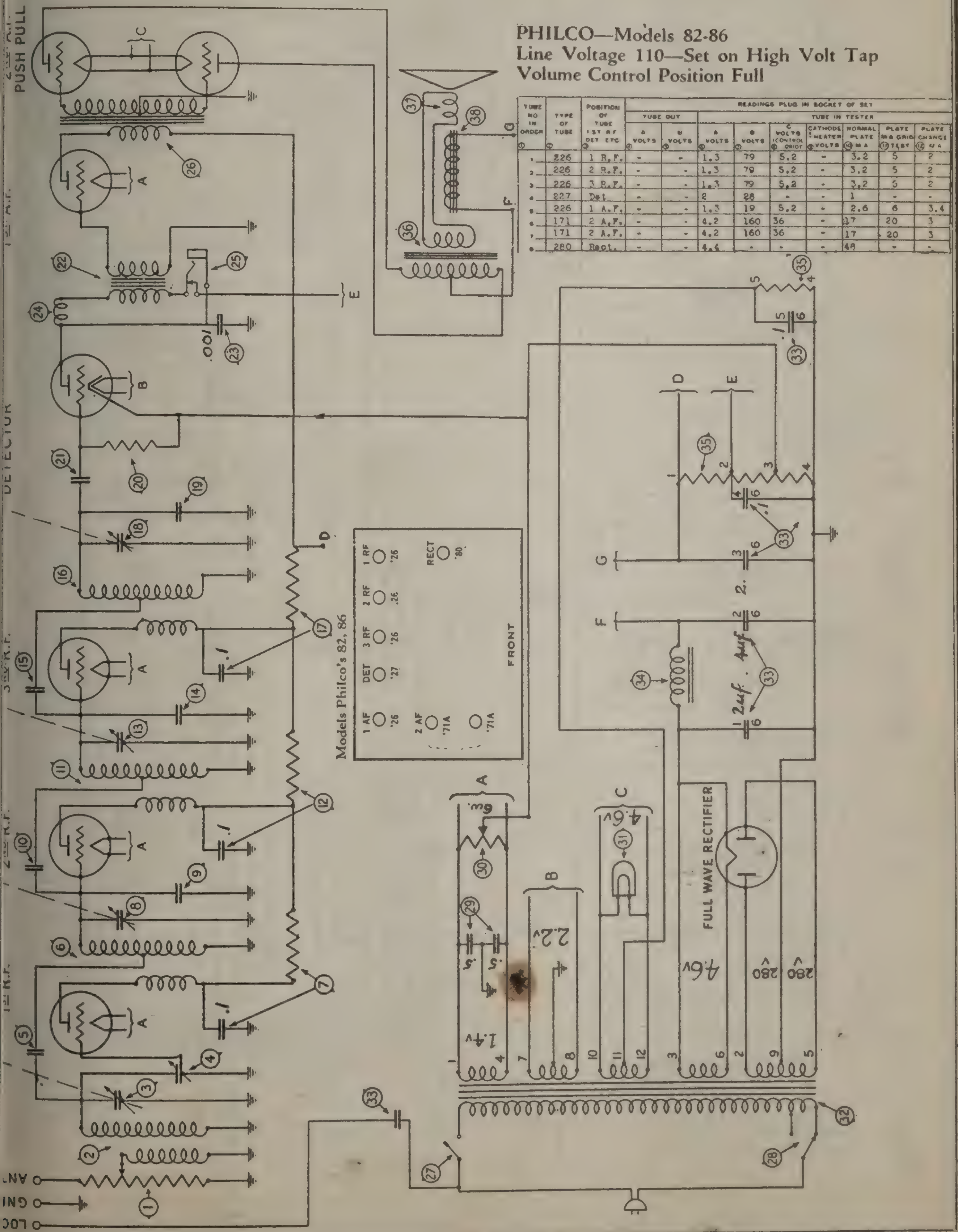
After tightening this first adjusting nut compensate the second condenser in the usual manner, that is, tune the Receiver very carefully to the oscillator signal and adjust the compensating condenser for the maximum signal. After this adjustment has been made, adjust the first compensating condenser in the same manner.

Models Philco's 76, 77, 77A


DET
2 RF
1 RF
RECT
'24A
'24A
'24A
'80
1 AF
'27
2 AF
'45
'45
FRONT

MODEL 82,86

PHILCO RADIO & TELEVISION CORP.


PUSH PULL
C
DETECTOR
ANT.
GND
LOC
A
B
C
D
E
F
G
.001
.1
.5
2.
2uf
4uf
6v.
4.6v
2.2v
1.4v
280
FULL WAVE RECTIFIER
Models Philco's 82, 86
1 AF '26
DET '27
3 RF '26
2 RF '26
1 RF '26
2 AF '71A
'71A
RECT '80
FRONT
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38

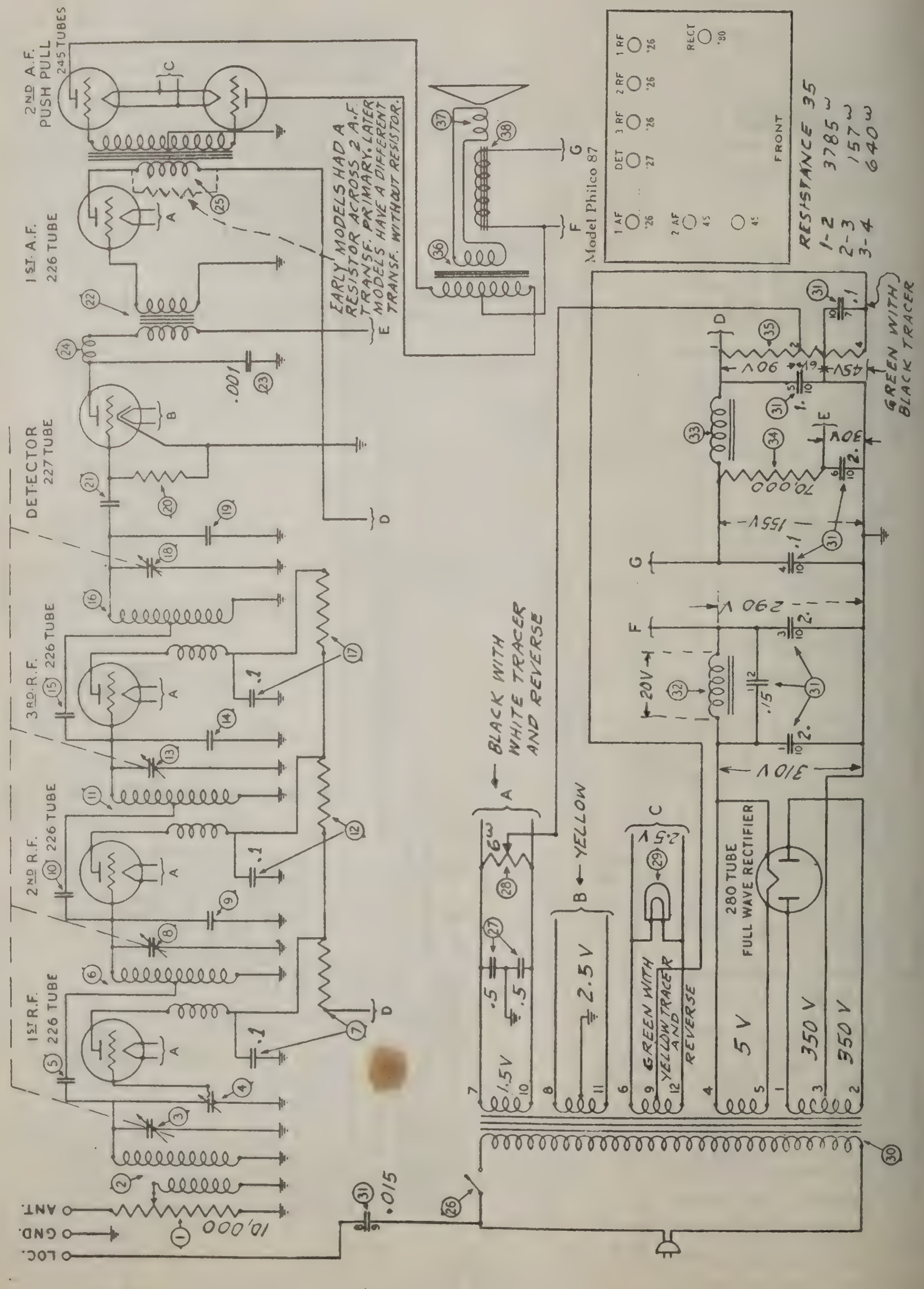
PHILCO—Models 82-86
Line Voltage 110—Set on High Volt Tap
Volume Control Position Full

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫
1	226	1 R.F.	-	-	1.3	79	5.2	-	3.2	5	2
2	226	2 R.F.	-	-	1.3	79	5.2	-	3.2	5	2
3	226	3 R.F.	-	-	1.3	79	5.2	-	3.2	5	2
4	227	Det	-	-	2	28	-	-	1	-	-
5	226	1 A.F.	-	-	1.3	19	5.2	-	2.6	6	3.4
6	171	2 A.F.	-	-	4.2	160	36	-	17	20	3
7	171	2 A.F.	-	-	4.2	160	36	-	17	20	3
8	280	Rect.	-	-	4.4	-	-	-	48	-	-

PHILCO RADIO & TELEVISION CORP.

MODEL 87
Schematic
Socket

Philco Model 87


ANT.
GND.
LOC.
10,000
1ST R.F. 226 TUBE
2ND R.F. 226 TUBE
3RD R.F. 226 TUBE
DETECTOR 227 TUBE
1ST A.F. 226 TUBE
2ND A.F. PUSH PULL 245 TUBES
A
B
C
D
E
F
G
.1
.001
.015
EARLY MODELS HAD A RESISTOR ACROSS 2 A.F. TRANSF. PRIMARY. LATER MODELS HAVE A DIFFERENT TRANSF. WITHOUT RESISTOR.
Model Philco 87
1 AF '26
DET '27
3 RF '26
2 RF '26
1 RF '26
2 AF '45
'45
RECT '80
FRONT
RESISTANCE 35
1-2 3785ω
2-3 157ω
3-4 640ω
BLACK WITH WHITE TRACER AND REVERSE
YELLOW
GREEN WITH YELLOW TRACER AND REVERSE
GREEN WITH BLACK TRACER
6ω
.5
.5
1.5V
2.5V
2.5V
5V
350V
350V
280 TUBE FULL WAVE RECTIFIER
310V
290V
20V
155V
70,000
30V
90V
45V
2.
.15
2.
.1
.1
.1
1.

PHILCO RADIO & TELEVISION CORP.

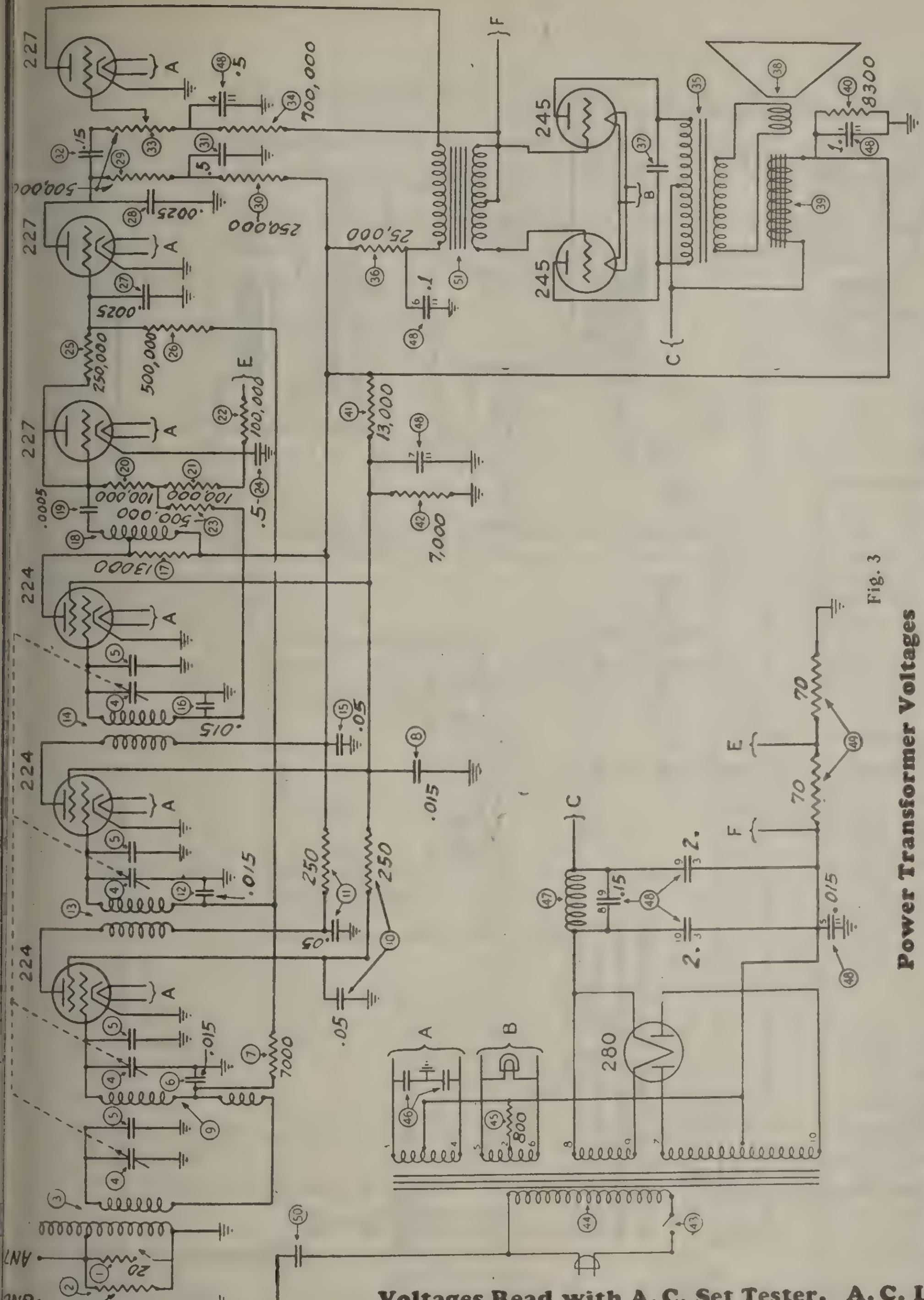
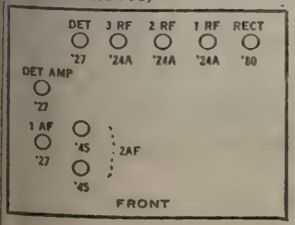

227
227
227
224
224
224
245
245
280
A
B
C
E
F
700,000
.5
.15
500,000
.0025
250,000
25,000
.1
8300
1.
250,000
500,000
100,000
13,000
7,000
.0005
100,000
500,000
13000
.015
.05
250
250
7000
.015
2.
.15
2.
70
70
800
20
5000
ANT
GND
LOC

Fig. 3

Power Transformer Voltages

Terminals	A.C. Volts	Secondary
3—4	2.67	Heaters of 224 and 227 Tubes
5—6	2.68	Filaments of 245 Tubes
2		Center Tap for 245 Tubes
8—9	5.00	Filament of 280 Tube
7—10	7.50	Plate of 280 Tube
1		Center Tap for 280 Tube
Yellow Wire		Center Tap for 224 and 227 Tubes
Black Wire		Primary
Green Wire		Primary

Models Philco's 95,


DET
3 RF
2 RF
1 RF
RECT
'27
'24A
'24A
'24A
'80
DET AMP
'27
1 AF
'45
'27
2AF
'45
FRONT

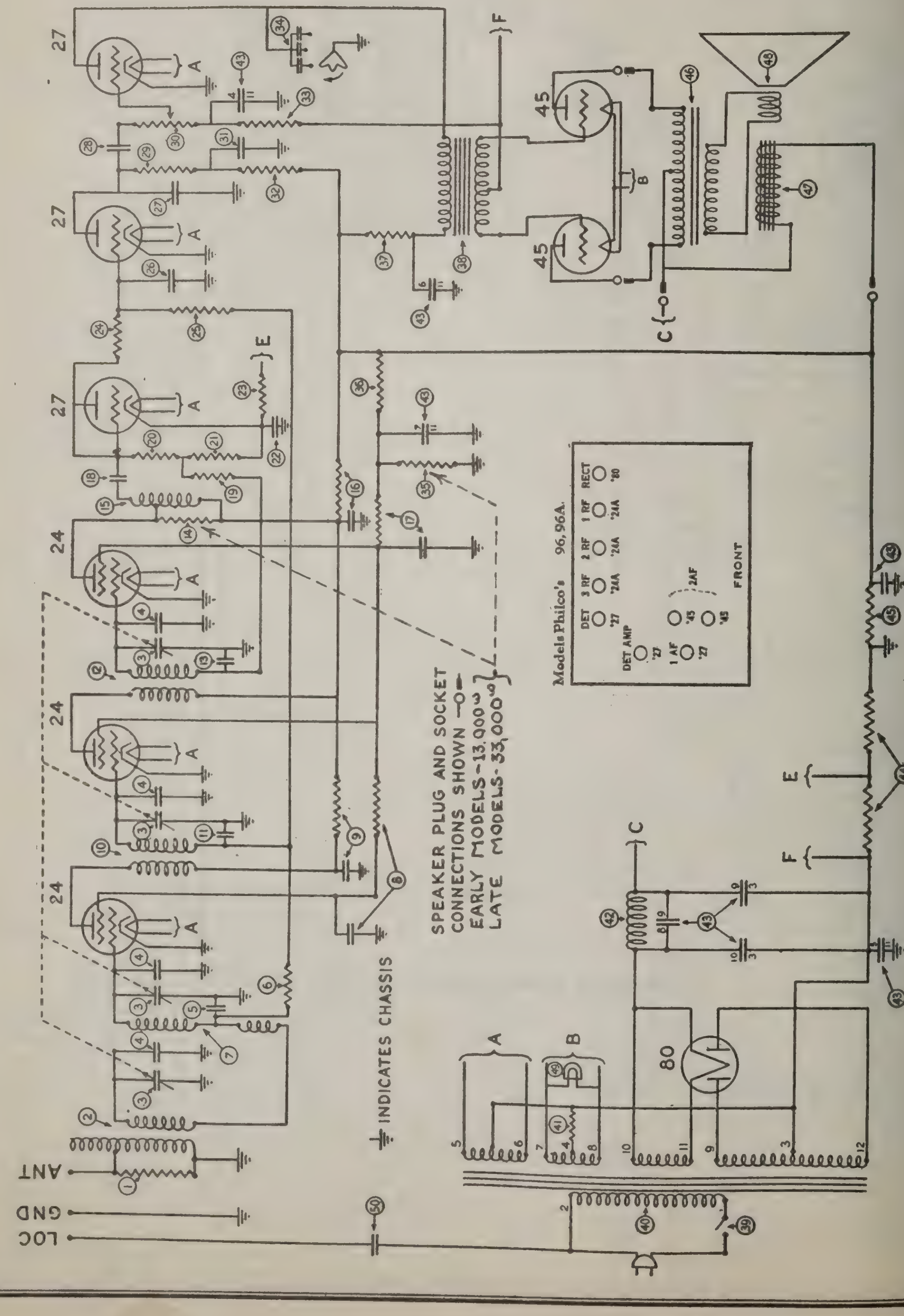
Voltages Read with A.C. Set Tester. A.C. Line 115 Volts.

Tube		Filament Volts	Plate Volts	Screen Grid Volts	Control Grid Volts	Cathode Volts	Plate Milli-Amperes
Type	Circuit						
280	Rectifier	4.5					43/Plate
224	1st R. F.	2.15	155	95	0	5.3	4
224	2d R. F.	2.15	155	95	0	5.3	4
224	3d R. F.	2.15	155	95	0	5.3	4
227	Det.	2.15	0		–.5	.7	0
227	Det. Amp.	2.15	27		–.5	5.5	0
227	1st A. F.	2.15	85		–2.0*	5.5	2.5
245	2d A. F.	2.2	250		41		28
245	2d A. F.	2.2	250		41		28

*This is read with Volume Control off. With it on the reading will be .2 volt.

PHILCO RADIO & TELEVISION CORP.

MODEL 96,96-
Schematic


27
27
27
24
24
24
45
45
80
A
B
C
E
F
ANT
GND
LOC
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN —o—
EARLY MODELS-13,000Ω
LATE MODELS-33,000Ω
INDICATES CHASSIS
Models Philco's 96, 96A.
DET
3 RF
2 RF
1 RF
RECT
'27
'24A
'24A
'24A
'80
DET AMP
'27
1 AF
'27
2AF
'45
'45
FRONT

PHILCO RADIO & TELEVISION CORP.

MODEL 112,112-A
Below 174,001
Voltage
Electrical Values

Models 112 and 112-A Receivers

Model 112 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines
Model 112-A Receivers are for operation on 100-130 volt, 25-60 cycle AC lines

Table 1—Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts*	Control Grid Volts	Cathode Volts	Plate Milli-Amperes	Screen-Grid Milli-Amperes ‡
Type	Circuit							
24	1st R. F.	2.1	190	60	.2	5	1.7	1.75
27	Osc.	2.1	45	..	.7	7	1.6	....
24	1st Det.	2.1	180	62	4.6	8	.5†	.15
24	1st I. F.	2.1	185	65	...	5	1.5	1.7
24	2nd I. F.	2.1	190	82	2.2	5	3	1.85
27	Det. Rect.	2.2	...	..	.4	.5	.....	....
27	Det. Amp.	2.2	35	..	.4	5	.20‡	....
27	1st A. F.	2.1	95	..	1.2	5	4.	....
45	2nd A. F.	2.2	255	..	50	...	32.5	....
45	2nd A. F.	2.2	255	..	50	...	32.5	....
80	Rect.	4.9	...	..	...	...	50/Plate	....

*Read with C 100 Scale.
†Read with 20 Mil. Scale.
‡Read with 2 Mil. Scale.

Note—Volume Control Off; Station Selector turned to Low Frequency End; Range Switch set in "Normal" Position.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts	
1—2		Primary
3		Center Tap 80 Tube
4		Center Tap 45 Tubes
5—6	2.67	Heaters for 24 and 27 Tubes
7—8	2.68	Filaments for 45 Tubes
9—12	750.	Plates 80 Tube
10—11	5.0	Filament 80 Tube
Rubber Covered Lead		Center Tap for 24 and 27 Tubes

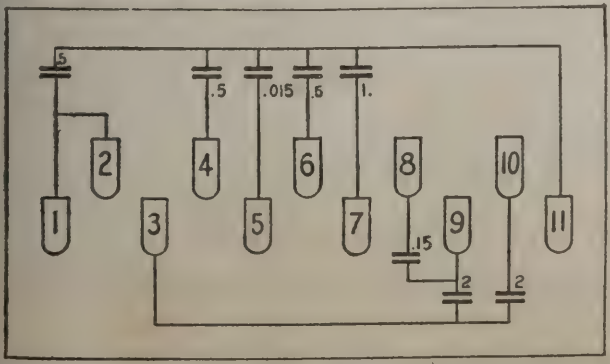
Table 3—Condenser Data
(Other Than Filter Condenser)

No. on Figs.	CAPACITY	COLOR
⑥	.05	Bakelite Container
⑩ ⑪	.05 and 250 Ohm Resistor	Bakelite Container
⑰	.25 (two sections)	Metal Container
⑲㉓㉗㉝㊳	.00011	Blue, Golden Yellow
㉑	.0007	White, Golden Yellow
㉘	.05	Bakelite Container
㉙	.05 and 250 Ohm Resistor	Bakelite Container
㉟	.00005	Light Blue, White
㊵	.5	Metal Container
㊷	.00025	Yellow
㊸	.015	Bakelite Container
㊺	.05	Bakelite Container
(61)	.015 (two sections)	Bakelite Container
(67)	.05	Bakelite Container

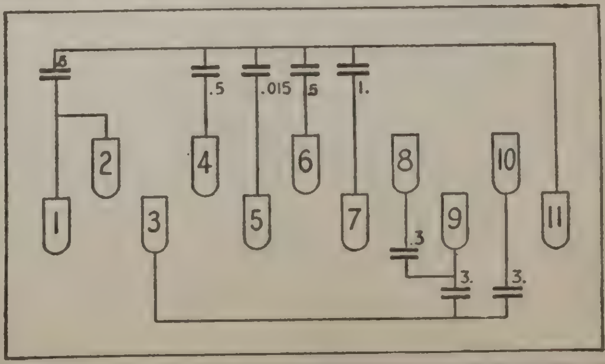
Table 4—Resistor Data

No. on Figs.	Power (Watts)	Resistance	COLOR Body	Tip	Dot
⑳	1.	1,000	Brown	—Black	—Red
①	.5	10,000	Brown	—Black	—Orange
⑱	1.	13,000	Brown	—Orange	—Orange
(51)(52)	1.	25,000	Red	—Green	—Orange
⑯㊴(70)	.5	50,000	Green	—Brown	—Orange
㊽(64)	1.	70,000	Violet	—Black	—Orange
⑧㊶(66)(68)	.5	100,000	White	—White	—White
㊻	1.	250,000	Red	—Yellow	—Yellow
㉞	.5	500,000	Yellow	—White	—Yellow
㊹	1.	500,000	Yellow	—White	—Yellow
(58)		70	Flat Wire Wound (two sections)		
(59)		800	Short Tubular		
(57)		10,000	Long Tubular		

Model 112 Condenser Block Part No. 3754

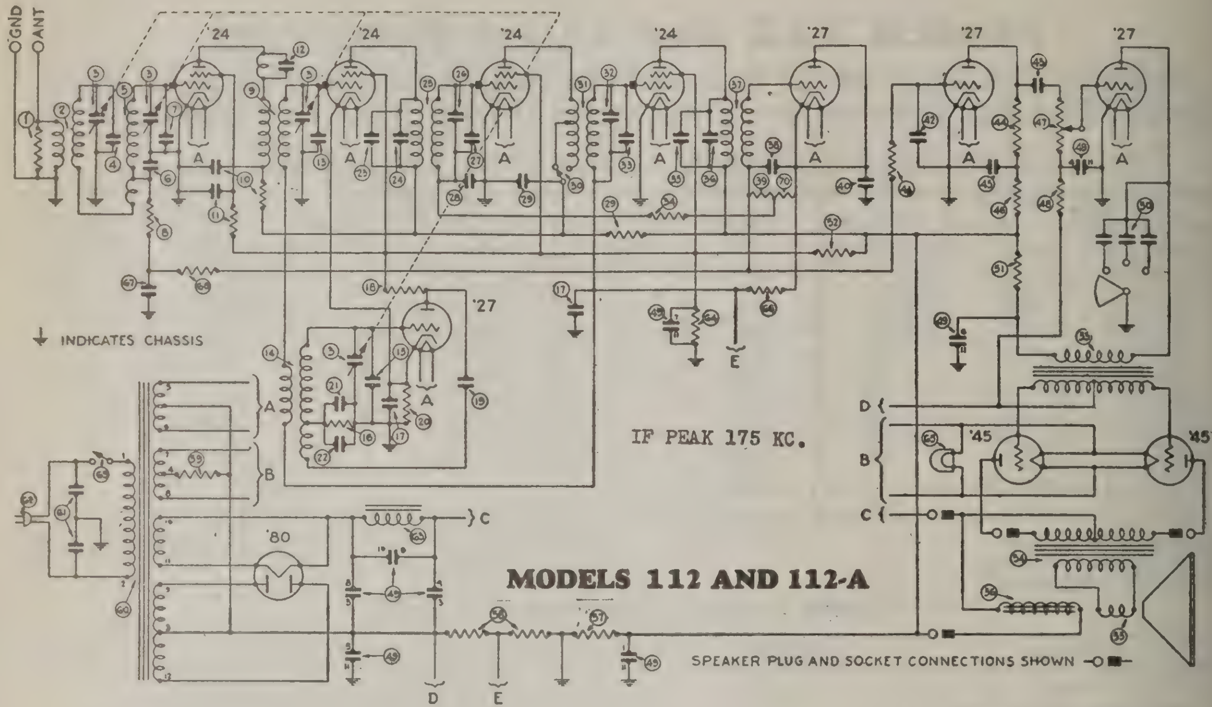


Model 112-A Condenser Block Part No. 3755



PHILCO RADIO & TELEVISION CORP.

MODEL 112,112-A
Below #174,001
MODEL 212,212-A
Schematics

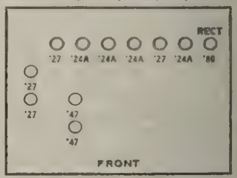

GND
ANT
'24
'24
'24
'24
'27
'27
'27
'27
INDICATES CHASSIS
IF PEAK 175 KC.
'80
'45
'45
A
B
C
D
E
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN

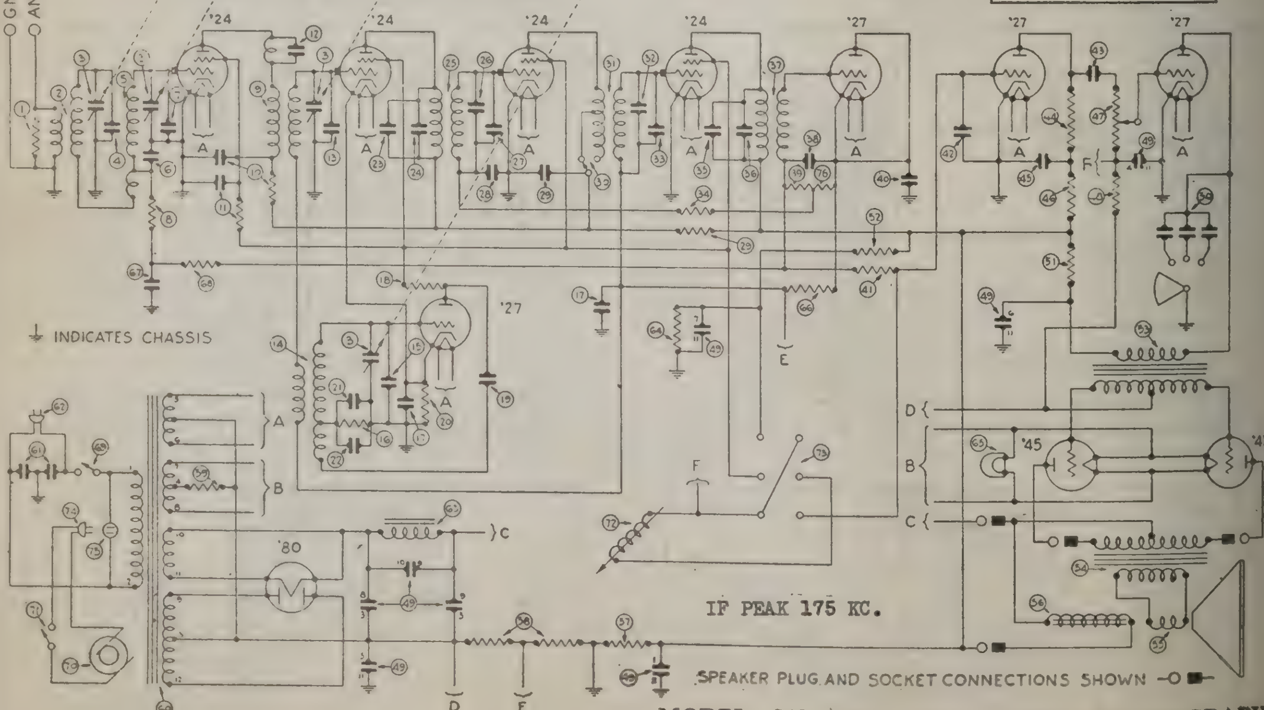
MODELS 112 AND 112-A

SPECIAL NOTE
Resistor (70) in models 112,112-A
is (76) in models 212,212-A

For voltage data and other values applying to models 212,212-A, see data for models 112,112-A

Models 112, 112A, 112E, 212, 212E

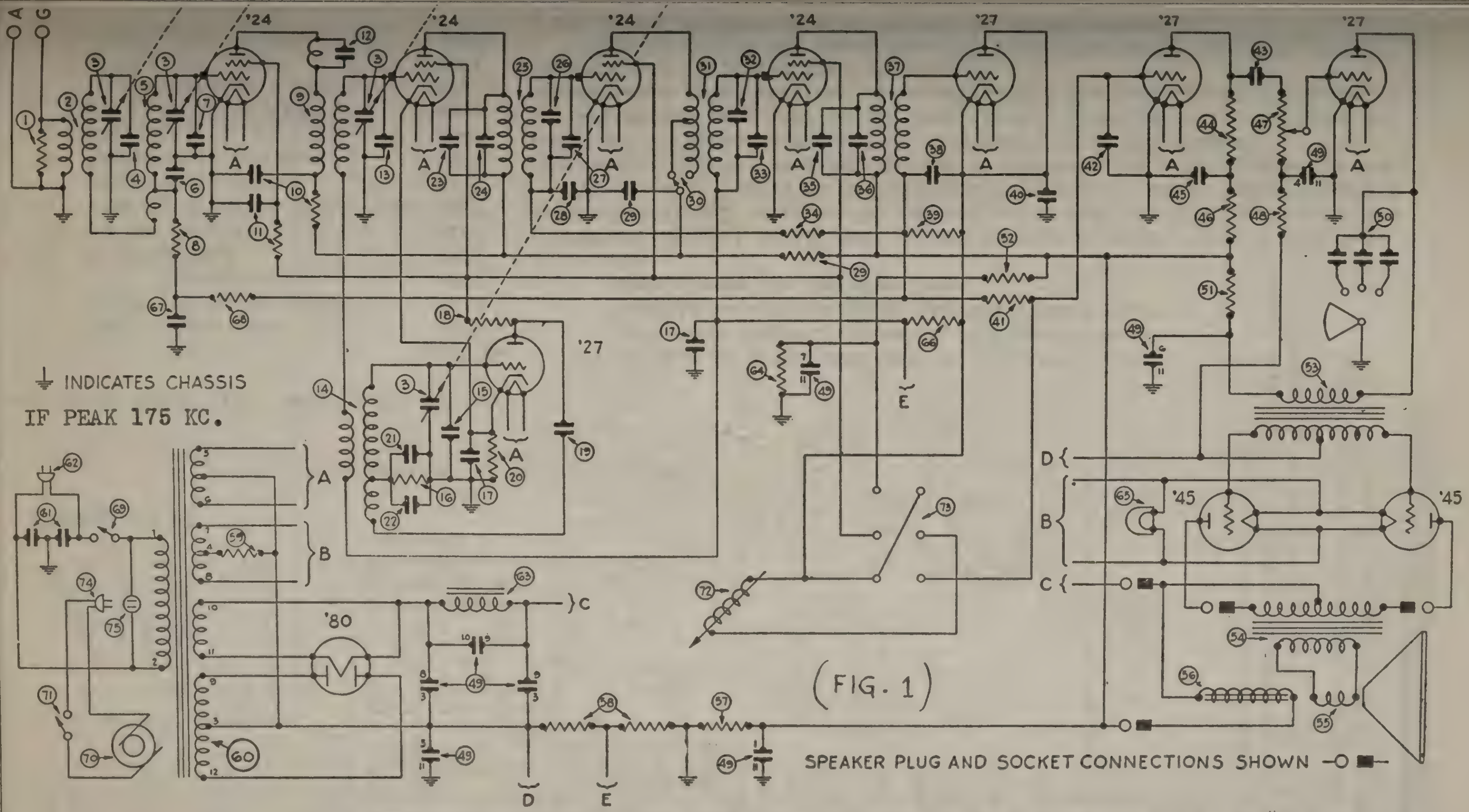

RECT
'27
'24A
'24A
'24A
'27
'24A
'80
'27
'27
'47
'47
FRONT


GND
ANT
'24
'24
'24
'24
'27
'27
'27
'27
INDICATES CHASSIS
IF PEAK 175 KC.
'80
'45
'45
A
B
C
D
E
F
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN

MODEL 212 AND 212-A RADIO-PHONOGRAPH

PHILCO RADIO & TELEVISION CORP.

MODEL 211,211-A


A
G
'24
'24
'24
'24
'27
'27
'27
'27
'45
'45
'80
A
B
C
D
E
INDICATES CHASSIS
IF PEAK 175 KC.
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
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46
47
48
49
50
51
52
53
54
55
56
57
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59
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61
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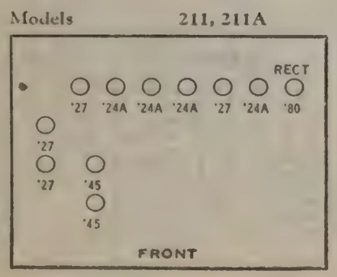
63
64
65
66
67
68
69
70
71
72
73
74
75

(FIG. 1)


Models
211, 211A
RECT
'27
'24A
'24A
'24A
'27
'24A
'80
'27
'27
'45
'45
FRONT

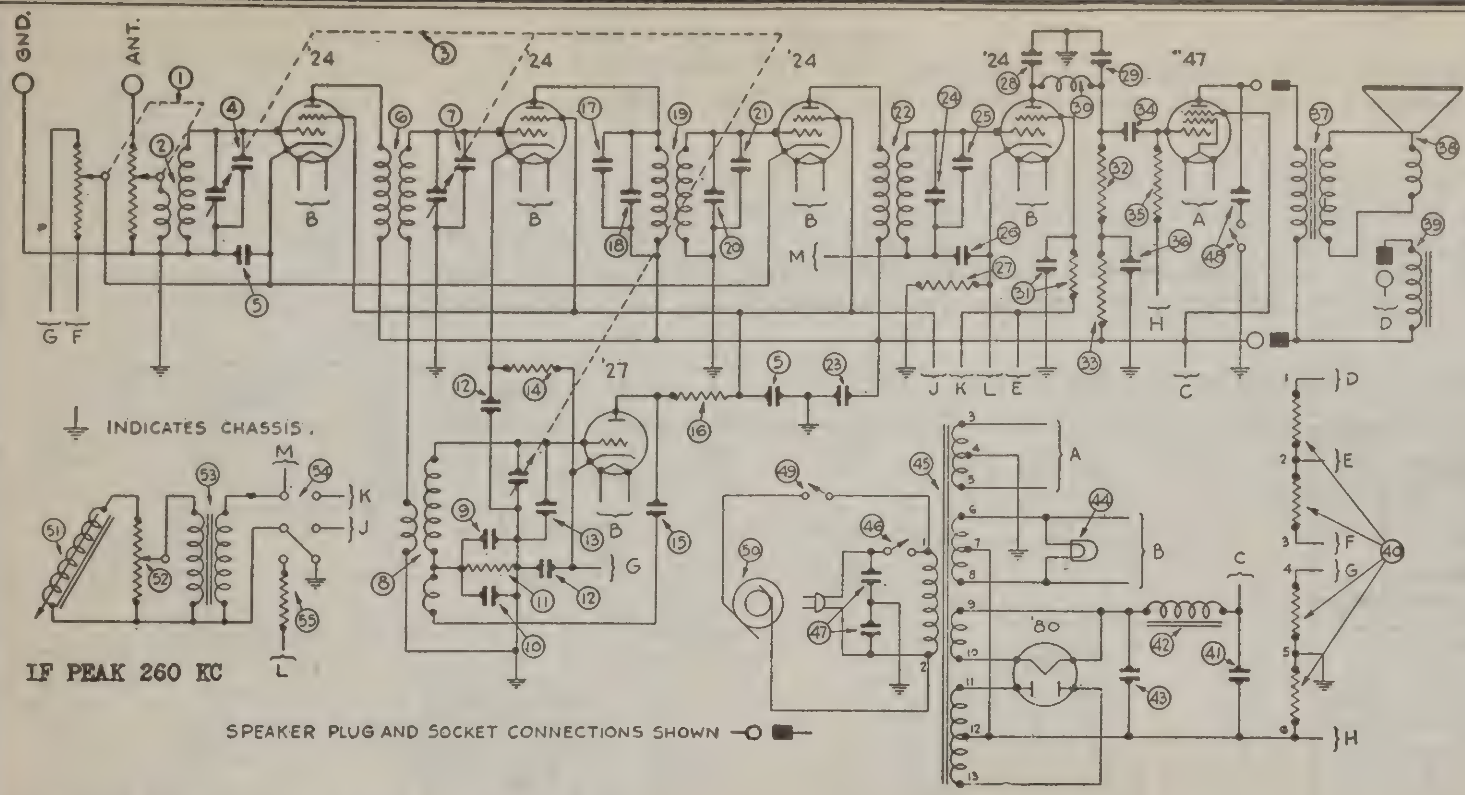
NOTE:—Starting January 15th, the connection from the pick-up to the Detector Rectifier Cathode is changed so as to reach the connection between the volume control No. 47 and resistor No. 48. This change has been made by removing the green wire in the radio-phono switch cable from resistor No. 66, and lengthening it to reach the connection indicated at the volume control.

Voltage, resistor and condenser data furnished in connection with Models 111 and 111-A is applicable in every respect to Models 211 and 211-A.

MODEL 270 AND 270-A RADIO-PHONOGRAPH

MODEL 70 IS FOR USE ON 50-60 CYCLE 105-125 VOLT AC LINES
MODEL 70-A IS FOR USE ON 25 CYCLE 105-125 VOLT AC LINES

The chassis of the 270 and 270-A are the same as the chassis for the 70 and 70-A except for the additional wiring to the radio-phono switch and the electric turntable and pick-up.


GND.
ANT.
'24
'24
'24
'24
'47
'27
'80
A
B
C
D
E
F
G
H
J
K
L
M
① ② ③ ④ ⑤ ⑥ ⑦ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿ (51) (52) (53) (54) (55)
INDICATES CHASSIS.
IF PEAK 260 KC
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN

ADDITIONAL PARTS LIST – MODELS 270 AND 270-A

		Part No.
㊾	Switch (for motor)	5168
㊿	Motor (50 to 60 cycle)	4543
	(25 cycle)	4561
(51)	Pick-Up Head	5251
(52)	Volume Control	5117
(53)	Pick-Up Coupling Transformer	5167
(54)	Phono-Radio Switch	5170
(55)	Resistor (33000 ohms)	3525
	Turntable	4547
	Cord Connector Plug	4091
	Cord Connector Socket	4124
	Needle Cup	4101
	Needle Box	4102

In case of audio howl and the shipping screws have been properly loosened, the condition can usually be eliminated by placing a metal tube shield over the detector tube

Do not attempt repair work on the turntable motor. Should this part become defective, replace with another motor and return it to the factory

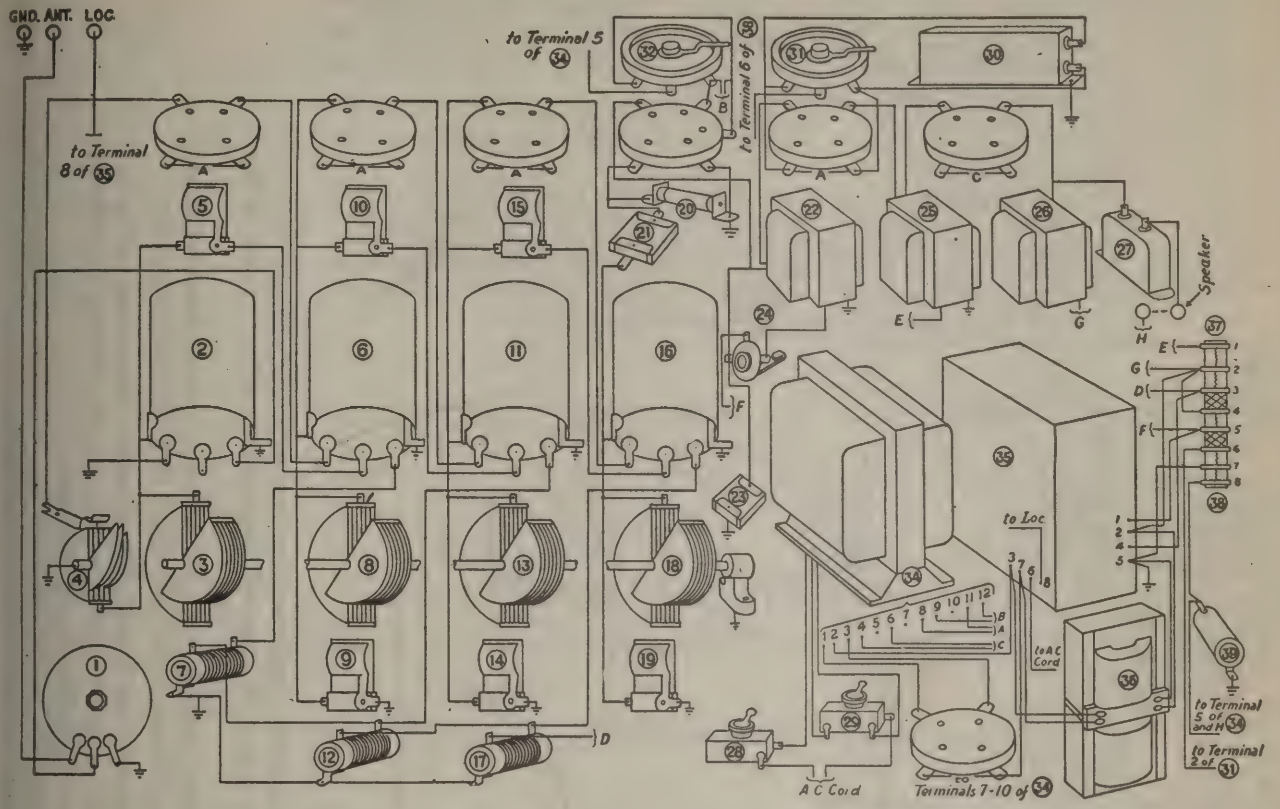
The pick-up should be handled in the same way. If it doesn't operate properly, – remove the mounting bolt which holds the pick-up head to the tone arm, – replace with another and return it to the factory.

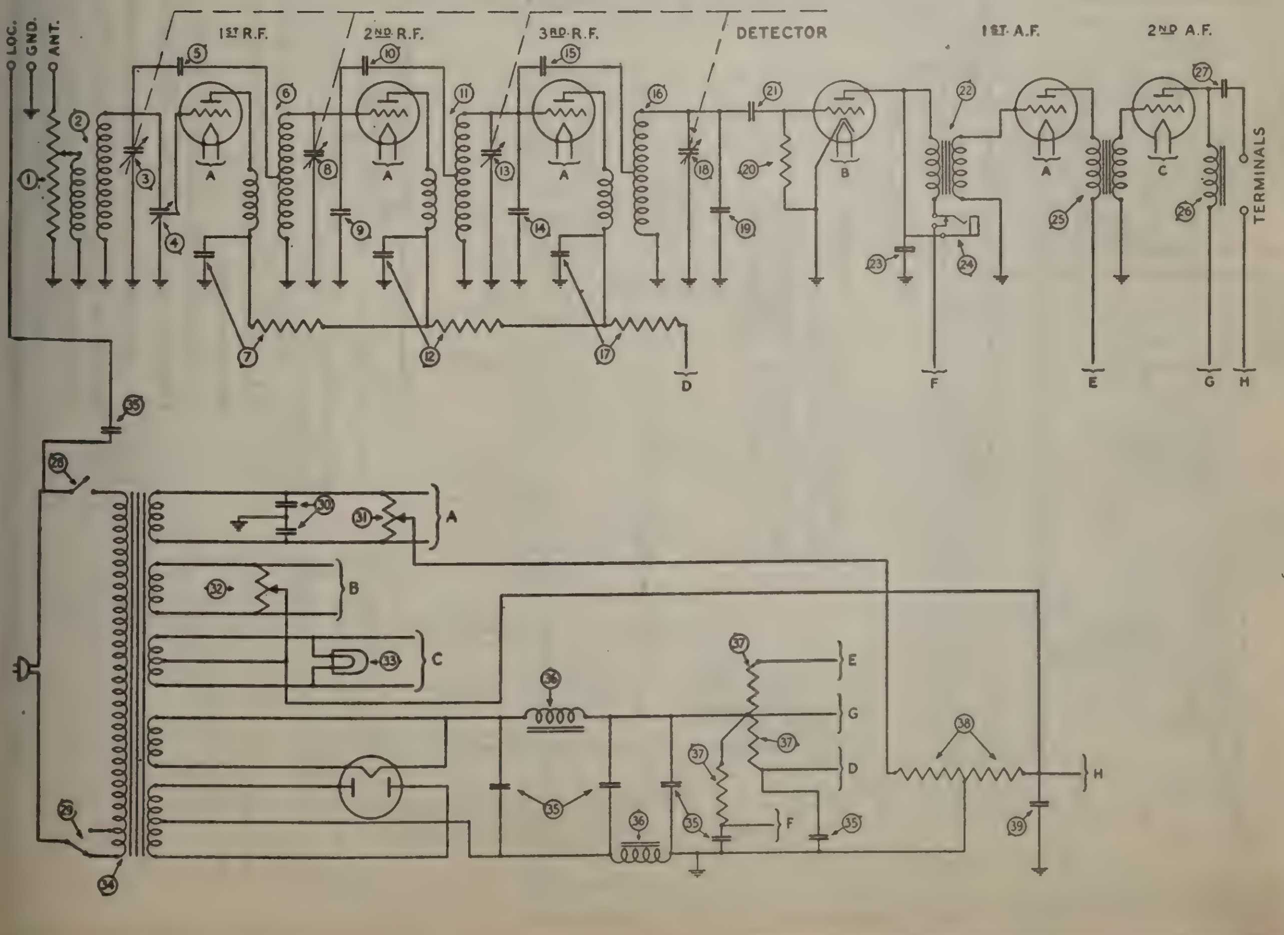
Grease the worm gear of the motor with a clear petroleum jelly or a commercially pure vaseline. In order to oil the bearings of the motor it is necessary to remove the turntable.

There is an oil cup located at the top of the motor board, in which a few drops of light machine oil may be added as needed.

PHILCO RADIO & TELEVISION CORP.

MODEL 500 Series
Schematic
Chassis


GND. ANT. LOC.
to Terminal 8 of ㉟
to Terminal 5 of ㉞
to Terminal 6 of ㊳
A
B
C
D
E
F
G
H
Speaker
to Loc.
to A C Cord
A C Cord
Terminals 7-10 of ㉞
to Terminal 5 of and H ㉞
to Terminal 2 of ㉛


LOC.
GND.
ANT.
1ST R.F.
2ND R.F.
3RD R.F.
DETECTOR
1ST A.F.
2ND A.F.
TERMINALS
A
B
C
D
E
F
G
H

Installation Hints on Model 296 Radio-Phonograph

Cardboard packing is placed between the motor disc and the field coils to protect the disc in shipping. Be sure that this packing is removed before placing in service.

There are three causes for complaints such as "distorted," "fuzzy" or "noisy" reproduction when playing records on the Model 296.

Usually the trouble is caused by the turntable motor board being in contact with the cabinet. It is absolutely necessary that the four bolts holding the motor board in place be loosened when the Model 296 is put into service. Pure gum washers are between the motor board and the cabinet, so that when the bolts are loosened the motor board is freely floating on the gum washers.

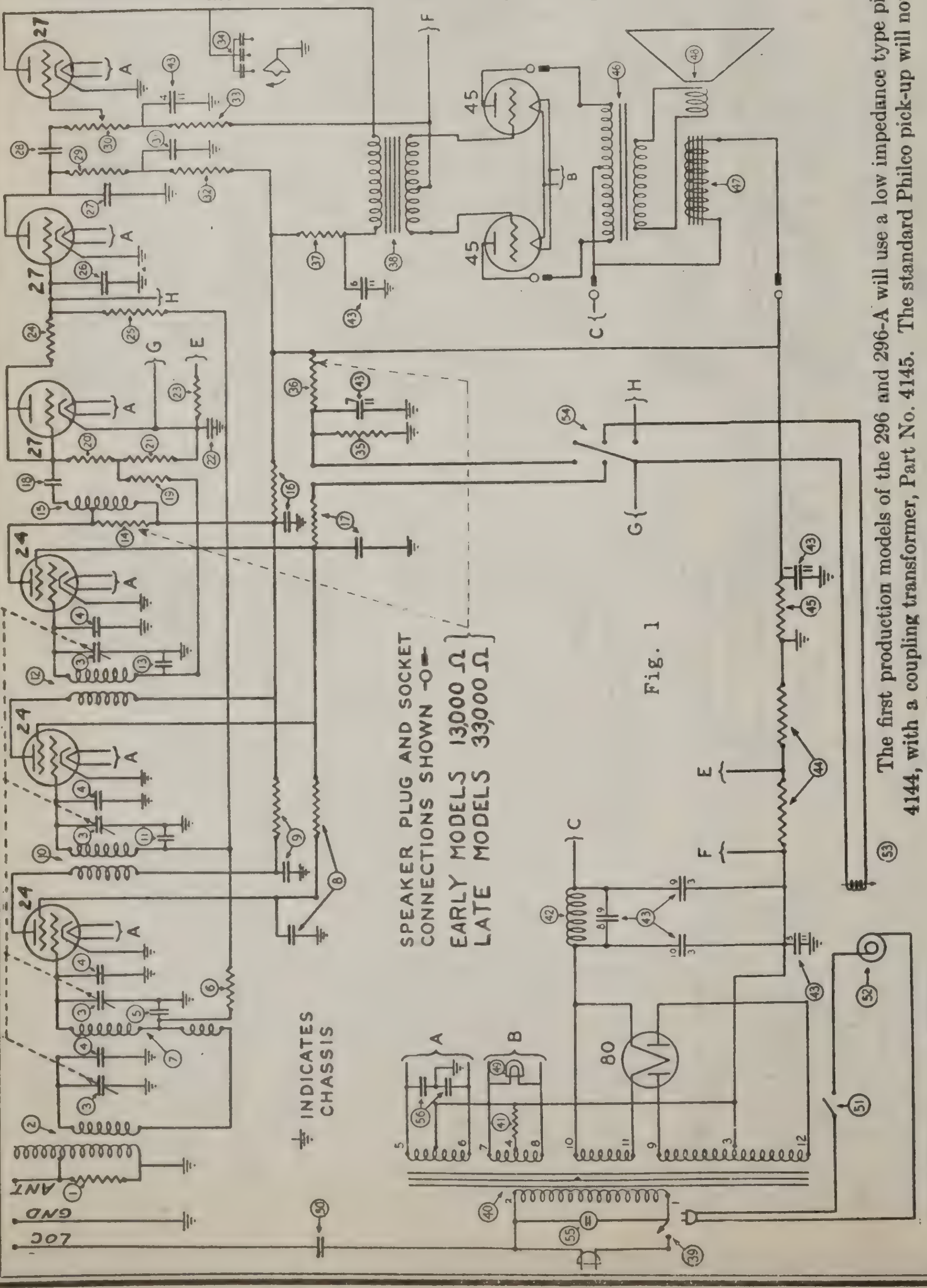

27
27
27
24
24
24
45
45
80
A
B
C
E
F
G
H
ANT
GND
LOC
(53)
SPEAKER PLUG AND SOCKET CONNECTIONS SHOWN -○■-
EARLY MODELS 13000 Ω
LATE MODELS 33000 Ω
⏚ INDICATES CHASSIS

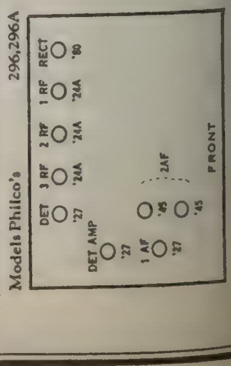
Fig. 1

The first production models of the 296 and 296-A will use a low impedance type pick-up, Part No. 4144, with a coupling transformer, Part No. 4145. The standard Philco pick-up will not be used for the first few weeks.

Whenever the low impedance type pick-up, Part No. 4144 is used be sure the coupling transformer Part No. 4145 is used also. The transformer, however, must not be used with the standard pick-up.

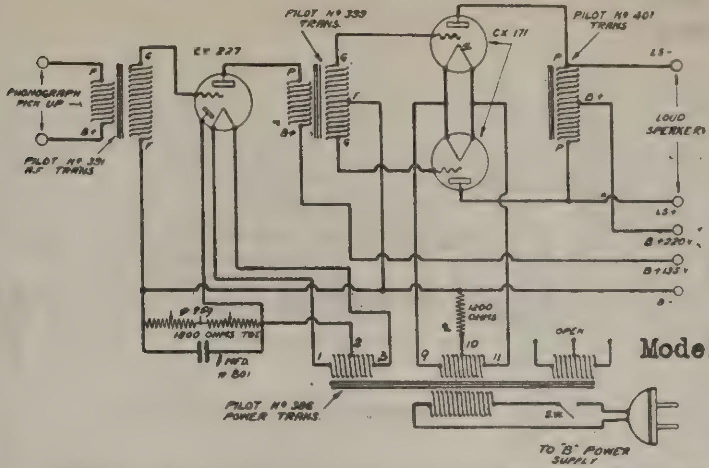
A heater by-pass condenser has been added to the 296 and 296-A chassis. The number in Fig. 1 is (56) and the part number is 3557. This condenser prevents any tendency of the Receiver to oscillate, which may have been noticed on the first few Radio-Phonograph Receivers.

The chassis of the 296 and 296-A are the same as the chassis for the 96 and 96-A except for the additional wiring to the radio-phono switch and the electric turntable and pickup.

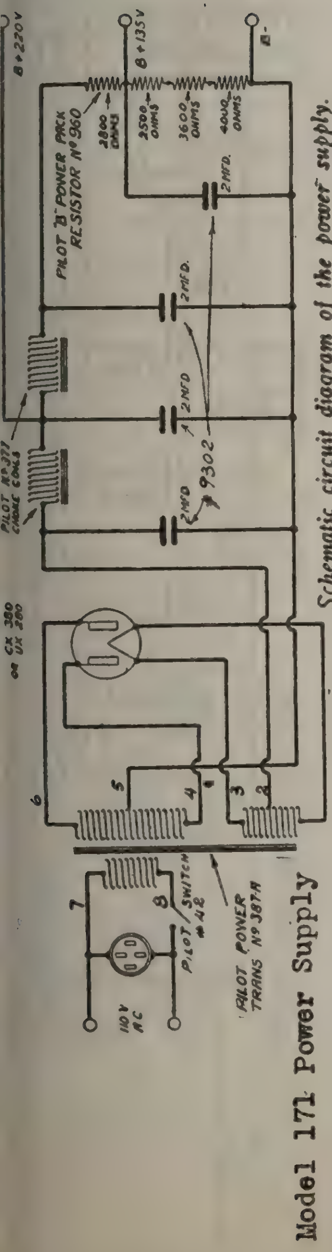

Models Philco's 296,296A
DET '27
3 RF '24A
2 RF '24A
1 RF '24A
RECT '80
DET AMP '27
1 AF '27
'45
2AF
'45
FRONT

PILOT RADIO & TUBE CORP.

MODEL "171"
Power Amplifier
MODEL "Pilot"
Public Address
System

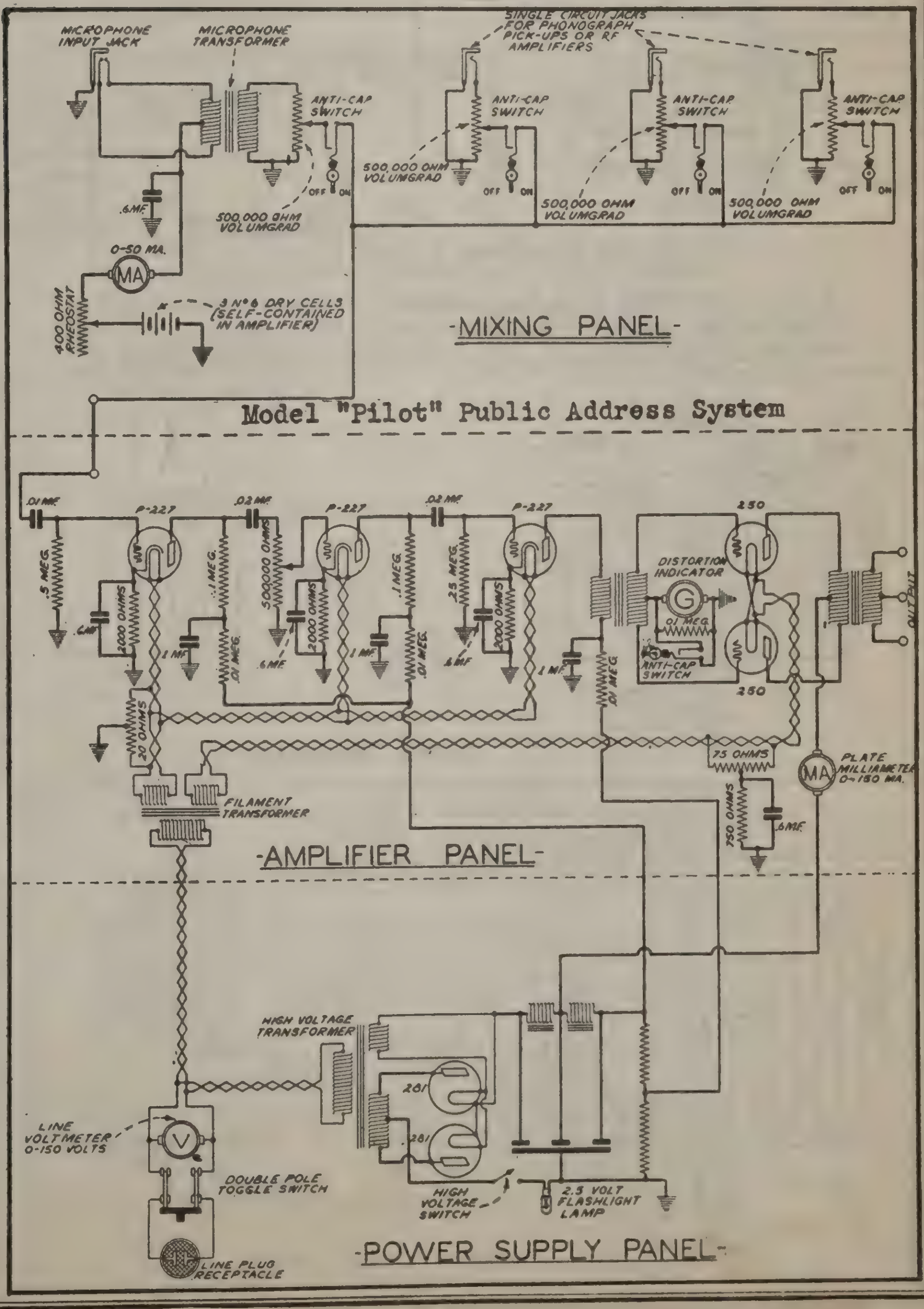

PHONOGRAPH PICK UP
PILOT Nº 391 A.F. TRANS
CX 327
PILOT Nº 339 TRANS
CX 171
PILOT Nº 401 TRANS
LS-
LOUD SPEAKER
LS+
B+220V
B+135V
B-
1800 OHMS TOT
1 MFD. # 801
1200 OHMS
OPEN
PILOT Nº 386 POWER TRANS.
S.W.
TO "B" POWER SUPPLY

Model 171 Amplifier


B+220V
B+135V
B-
PILOT "B" POWER PACK RESISTOR Nº 960
2800 OHMS
2500 OHMS
3600 OHMS
4000 OHMS
2 MFD.
2 MFD.
2 MFD.
2 MFD.
9302
PILOT Nº 377 CHOKE COILS
CX 380 or UX 280
6
5
4
3
2
1
7
8
PILOT SWITCH # 42
PILOT POWER TRANS Nº 387A
110V AC

Schematic circuit diagram of the power supply.

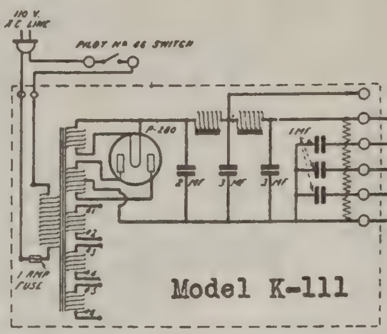
Model 171 Power Supply


MICROPHONE INPUT JACK
MICROPHONE TRANSFORMER
ANTI-CAP SWITCH
SINGLE CIRCUIT JACKS FOR PHONOGRAPH PICK-UPS OR RF AMPLIFIERS
ANTI-CAP SWITCH
ANTI-CAP SWITCH
ANTI-CAP SWITCH
OFF
ON
500,000 OHM VOLUMGRAD
500,000 OHM VOLUMGRAD
500,000 OHM VOLUMGRAD
500,000 OHM VOLUMGRAD
.6MF
0-50 MA.
MA
400 OHM RHEOSTAT
3 Nº 6 DRY CELLS (SELF-CONTAINED IN AMPLIFIER)
-MIXING PANEL-
.01 MF
.02 MF
.02 MF
P-227
P-227
P-227
250
250
.5 MEG.
.1 MEG.
500000 OHMS
.1 MEG.
.25 MEG.
2000 OHMS
2000 OHMS
2000 OHMS
.6MF
1 MF
1 MF
1 MF
1 MF
.6MF
.6MF
.01 MEG.
.01 MEG.
.01 MEG.
DISTORTION INDICATOR
G
.01 MEG.
ANTI-CAP SWITCH
OUTPUT
20 OHMS
75 OHMS
750 OHMS
.6MF
PLATE MILLIAMMETER 0-150 MA.
FILAMENT TRANSFORMER
-AMPLIFIER PANEL-
HIGH VOLTAGE TRANSFORMER
281
281
LINE VOLTMETER 0-150 VOLTS
V
DOUBLE POLE TOGGLE SWITCH
HIGH VOLTAGE SWITCH
2.5 VOLT FLASHLIGHT LAMP
LINE PLUG RECEPTACLE
-POWER SUPPLY PANEL-

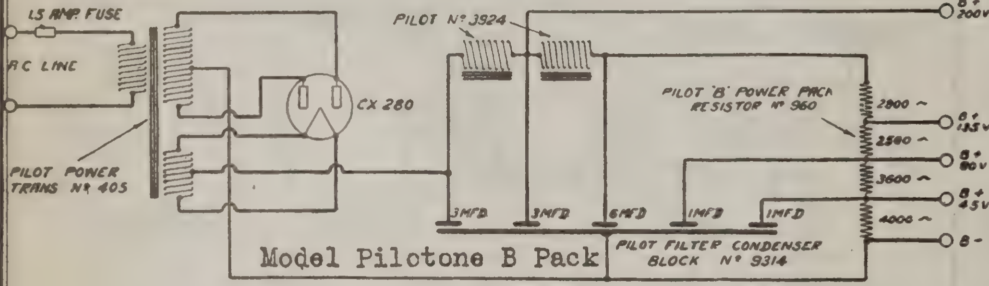
Model "Pilot" Public Address System

MODEL K-111 ABC Pack
MODEL Pilotone B Pack
MODEL ABC Pack for SP5
MODEL Jumbo Power Pack
MODEL Jumbo ABC

PILOT RADIO & TUBE CORP.

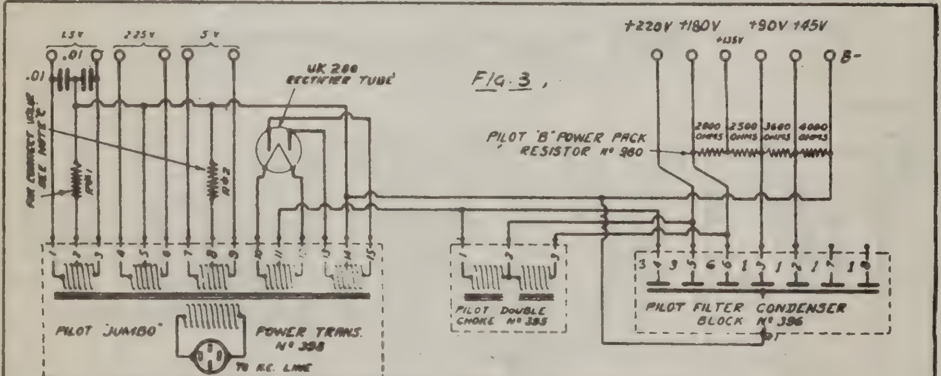

110 V. A.C. LINE
PILOT Nº 46 SWITCH
P-280
2 MF
3 MF
3 MF
1 MF
B+180
B+135
B+90
B+45
B-
1 AMP FUSE

Model K-111


1.5 AMP FUSE
AC LINE
PILOT POWER TRANS Nº 405
CX 280
PILOT Nº 3924
B+ 200V
PILOT 'B' POWER PACK RESISTOR Nº 960
2800 ~
B+ 135V
2500 ~
B+ 90V
3600 ~
B+ 45V
4000 ~
B-
3MFD
3MFD
6MFD
1MFD
1MFD
PILOT FILTER CONDENSER BLOCK Nº 9314

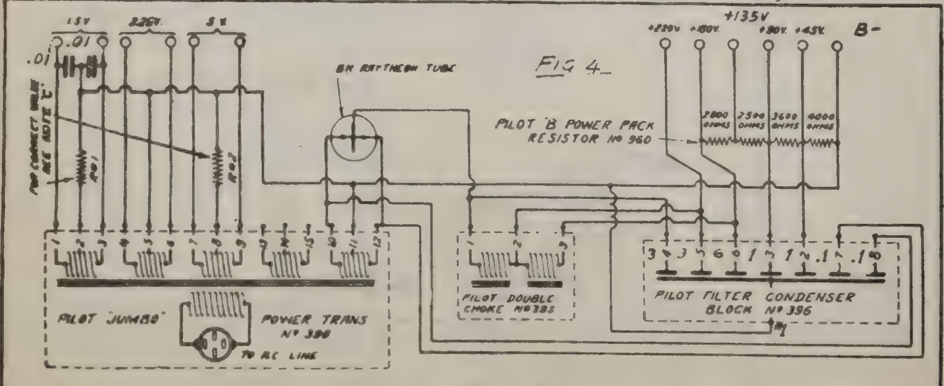
Model Pilotone B Pack

— SCHEMATIC DIAGRAM OF A PILOT "JUMBO" A.B.C ELIMINATOR USING THE UX 280 RECTIFIER TUBE FOR THE PLATE SUPPLY —
(FOR THE CORRECT VALUE OF THE "C" BIAS RESISTANCE SEE NOTE C)

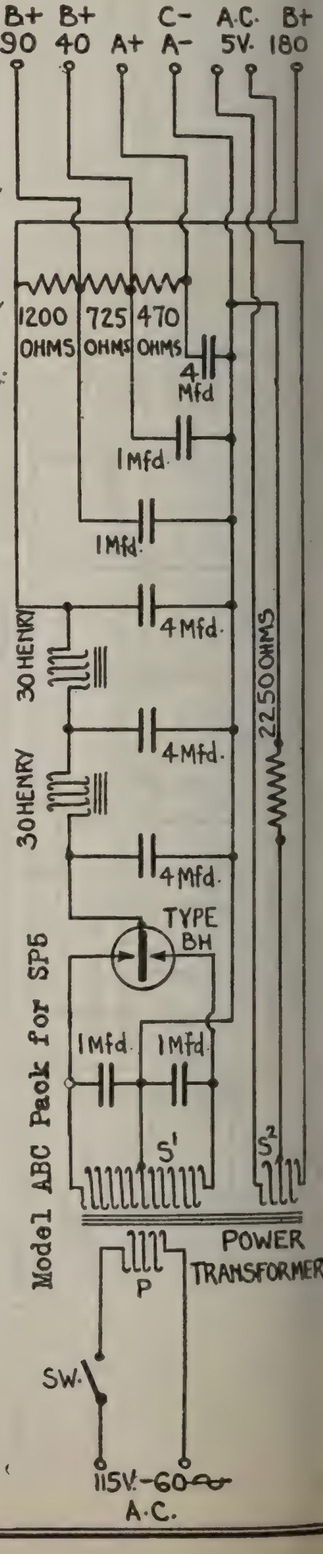

1.5V
2.25V
5V
.01
.01
FOR CORRECT VALUE SEE NOTE "C"
R.B.1
R.B.2
UX 280 RECTIFIER TUBE
FIG. 3,
+220V
+180V
+135V
+90V
+45V
B-
PILOT 'B' POWER PACK RESISTOR Nº 960
2800 OHMS
2500 OHMS
3600 OHMS
4000 OHMS
PILOT "JUMBO" POWER TRANS. Nº 398
TO A.C. LINE
PILOT DOUBLE CHOKE Nº 395
PILOT FILTER CONDENSER BLOCK Nº 396
3
3
6
1
1
1
1

Model Jumbo ABC

— SCHEMATIC DIAGRAM OF A PILOT "JUMBO" ABC ELIMINATOR USING THE BH RAYTHEON GAS RECTIFIER TUBE FOR PLATE SUPPLY —
(FOR THE CORRECT VALUE OF THE "C" BIAS RESISTANCE SEE NOTE "C")


1.5V
2.25V
5V
.01
.01
FOR CORRECT VALUE SEE NOTE "C"
R.B.1
R.B.2
BH RAYTHEON TUBE
FIG 4
+220V
+180V
+135V
+90V
+45V
B-
PILOT 'B' POWER PACK RESISTOR Nº 960
2800 OHMS
2500 OHMS
3600 OHMS
4000 OHMS
PILOT "JUMBO" POWER TRANS Nº 398
TO A.C. LINE
PILOT DOUBLE CHOKE Nº 395
PILOT FILTER CONDENSER BLOCK Nº 396
3
3
6
1
1
1
1

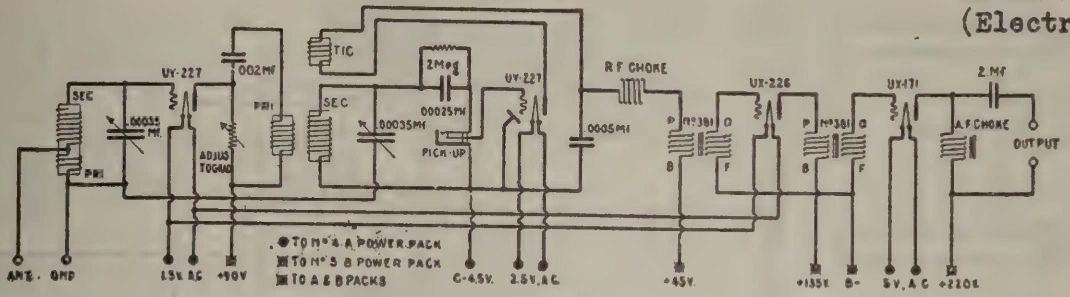
Model Jumbo Pack


B+ 90
B+ 40
A+
C- A-
A.C. 5V.
B+ 180
1200 OHMS
725 OHMS
470 OHMS
4 Mfd
1 Mfd.
1 Mfd.
4 Mfd.
4 Mfd.
4 Mfd.
30 HENRY
30 HENRY
2250 OHMS
TYPE BH
1 Mfd.
1 Mfd.
S¹
S²
POWER TRANSFORMER
P
SW.
115V.-60~
A.C.

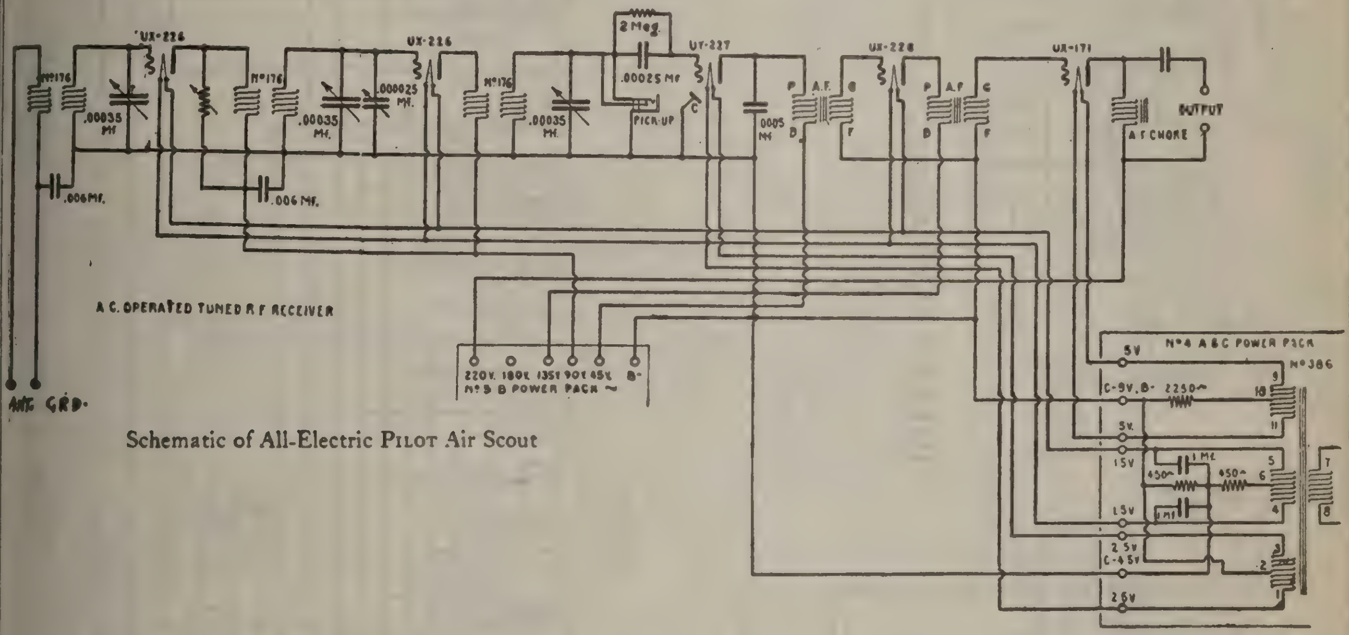
Model ABC Pack for SP5

PILOT RADIO & TUBE CORP.

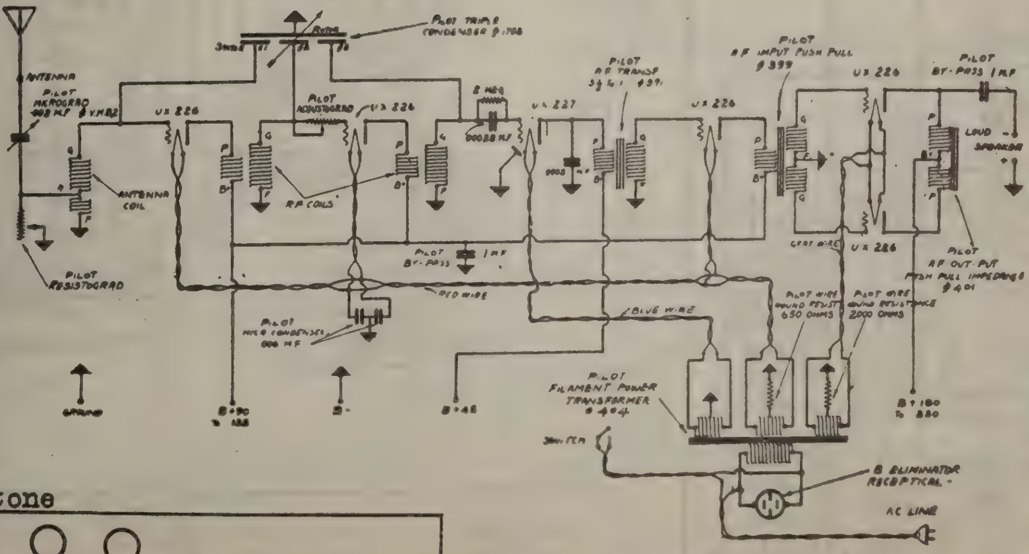
MODEL Air Hound
(All-Electric)
MODEL Air Scout
(All-Electric)
MODEL Pilotone
(Electric)


TIC
RF CHOKE
UY-227
.002MF
SEC
PRI
.00035 MF
ADJUSTOGRAD
2 Meg
.00025MF
.00035MF
PICK-UP
UY-227
.0005MF
P Nº381 G
B F
UX-226
Nº381
UX-171
2.MF
A.F CHOKE
OUTPUT
ANT.
GND
1.5V. A.C.
+90V
● TO Nº 4 A POWER PACK
▣ TO Nº 5 B POWER PACK
▣ TO A & B PACKS
C-4.5V.
2.5V. A.C.
+45V.
+135V.
B-
5V. A.C.
+220V.

The Air Hound All-Electric Receiver, One Stage R.F., Detector, Two Stages A.F.

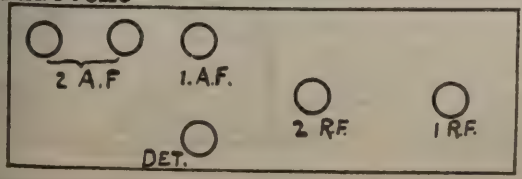

UX-226
Nº176
.00035 MF
Nº176
.00035 MF.
.000025 MF.
UX-226
Nº176
.00035 MF.
2 Meg.
.00025 MF
PICK-UP
UY-227
.0005 MF
A.F.
UX-226
A.F.
UX-171
OUTPUT
A.F. CHOKE
.006MF.
.006 MF.
A.C. OPERATED TUNED R.F. RECEIVER
220V. 180V. 135V. 90V. 45V. B-
Nº5 B POWER PACK ~
ANT. GRD.
Nº4 A & C POWER PACK
Nº386
5V
C-9V. B-
2250~
5V.
1.5V
1 MF
450~
450~
1.5V
2.5V
C-4.5V
2.5V

Schematic of All-Electric Pilot Air Scout


PILOT TRIPLE CONDENSER # 1708
ANTENNA
PILOT AEROGRAD .0008 MF. # V.M.82
UX 226
PILOT ACOUSTOGRAD
UX 226
2 MEG
.00025 MF
UX 227
.0005 MF
PILOT A F TRANSF 3½ to 1 # 391
UX 226
PILOT A F INPUT PUSH PULL # 399
UX 226
PILOT BY-PASS 1 MF
LOUD SPEAKER
ANTENNA COIL
RF COILS
PILOT RESISTOGRAD
PILOT BY-PASS 1 MF
RED WIRE
GREY WIRE
UX 226
PILOT AF OUT-PUT PUSH PULL IMPEDANCE # 401
PILOT MICA CONDENSER .006 MF
BLUE WIRE
PILOT WIRE WOUND RESIST 650 OHMS
PILOT WIRE WOUND RESISTANCE 2000 OHMS
GROUND
B+90 to 135
B-
B+45
PILOT FILAMENT POWER TRANSFORMER # 404
SWITCH
B+180 to 220
B ELIMINATOR RECEPTICAL
AC LINE

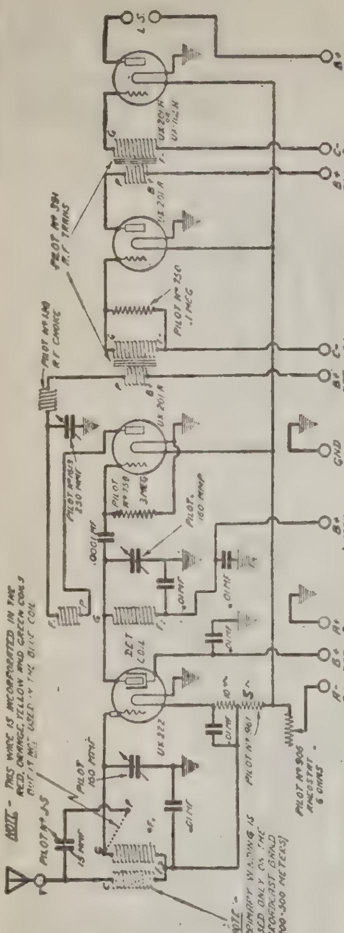
Pilotone Electric receiver

Pilotone

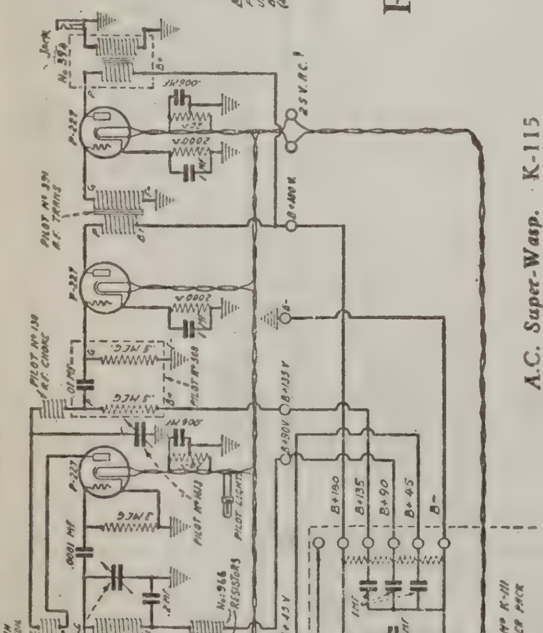

2 A.F
1.A.F.
DET.
2 RF
1 RF

PILOT RADIO & TUBE CORP.

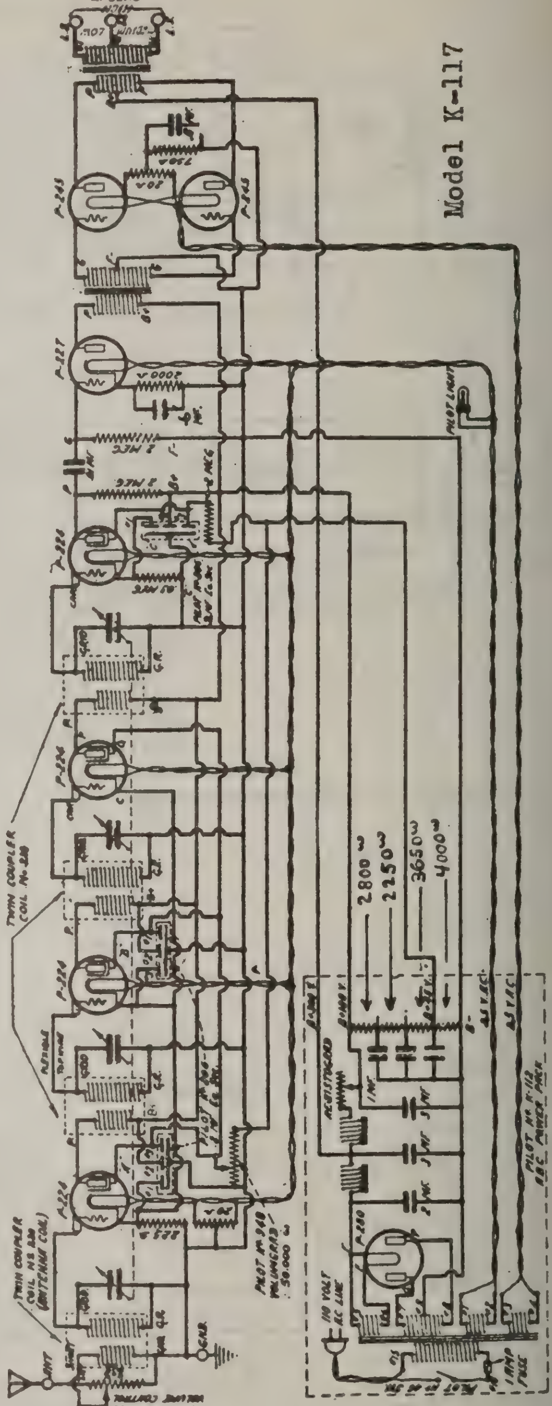
MODEL K-11
MODEL K-11
MODEL K-11


L.S.
B+ 135 V
UX 201-A OR UX 112-A
C- 9V
B+ 90V
PILOT No. 391 A.F. TRANS
PILOT No. 750 .1 MEG
C- 4.5V
B+ DET 45V
PILOT No. 130 R.F. CHOKE
UX 201-A
GND
PILOT 100 MMF
B+ 135V
DET COIL
.01 MF
A+ B- C+
UX 222
PILOT No. 961
PILOT No. 906 RHEOSTAT 6 OHMS
NOTE - THIS WIRE IS INCORPORATED IN THE RED, ORANGE, YELLOW AND GREEN COILS BUT IS NOT USED IN THE BLUE COIL
NOTE - PRIMARY WINDING IS USED ONLY ON THE BROADCAST BAND (200-500 METERS)
ANT

PILOT "SUPER-WASP" Battery Model, K-110


JACK No. 392
P-227
PILOT No. 391 A.F. TRANS
2.5 V. A.C.
B+ 90 V
P-227
PILOT No. 130 R.F. CHOKE
B+ 135 V
B+ 180 V
P-227
PILOT LIGHT
B+ 135 V
No. 966 RESISTORS
P-224
B+180 B+135 B+90 B+45 B-
PILOT No. K-111 ABC POWER PACK
P-280
110 V A.C. LINE
PILOT No. 46 SWITCH
1 AMP FUSE
GND
ANT
NOTE - THIS WIRE IS INCORPORATED IN ALL COILS EXCEPT THE BLUE COIL
NOTE - PRIMARY WINDING IS USED ONLY ON THE BROADCAST BAND (BLUE RING COIL)

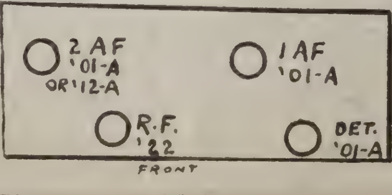
A.C. Super-Wasp. K-115
14-500 Meter Wavelength Range


OUTPUT
P-245
P-245
P-227
P-224
P-224
P-224
P-224
TWIN COUPLER COIL No. 220
PILOT No. 948 VOLUMGRAD 50,000 Ω
TWIN COUPLER COIL No. 222 (ANTENNA COIL)
ANT
GND
2800 Ω
2250 Ω
3650 Ω
4000 Ω
PILOT LIGHT
PILOT No. K-112 ABC POWER PACK
P-280
110 VOLT AC LINE
1 AMP FUSE

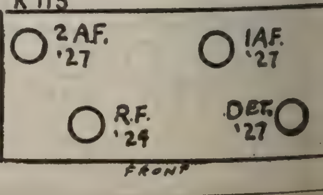
Model K-117

"Pilot Twin Screen-Grid 8"

K 110

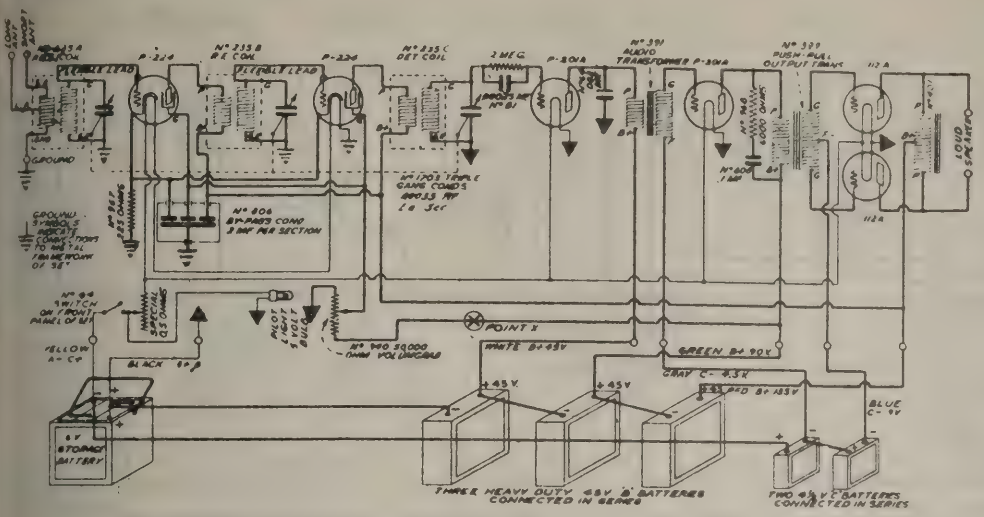

2 AF '01-A OR '12-A
1 AF '01-A
R.F. '22
DET. '01-A
FRONT

K 115

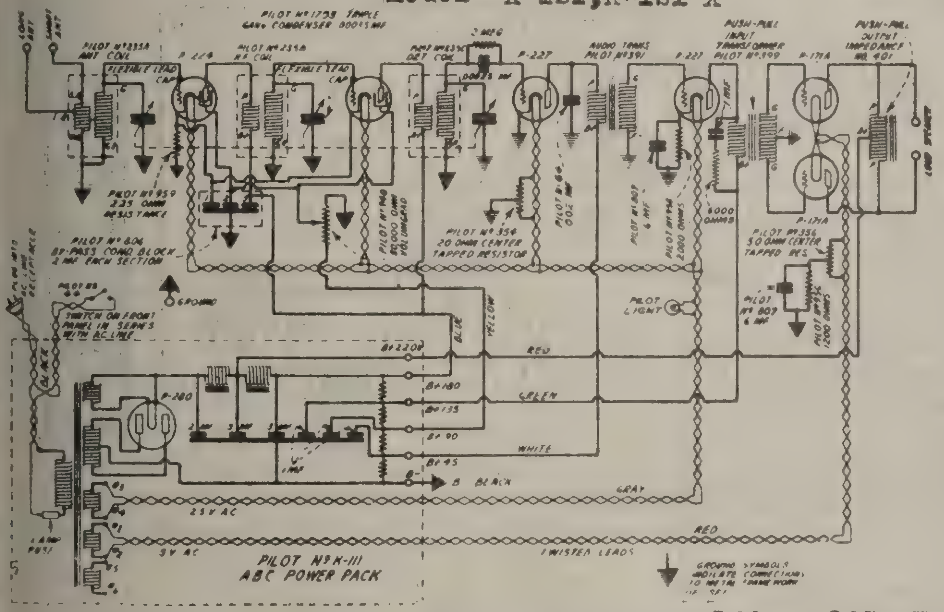

2 AF. '27
1 AF. '27
R.F. '24
DET. '27
FRONT

MODEL K-121,K-121X
MODEL PE-6 SG, K-122,
K-123,K-124
MODEL K-126,K-128

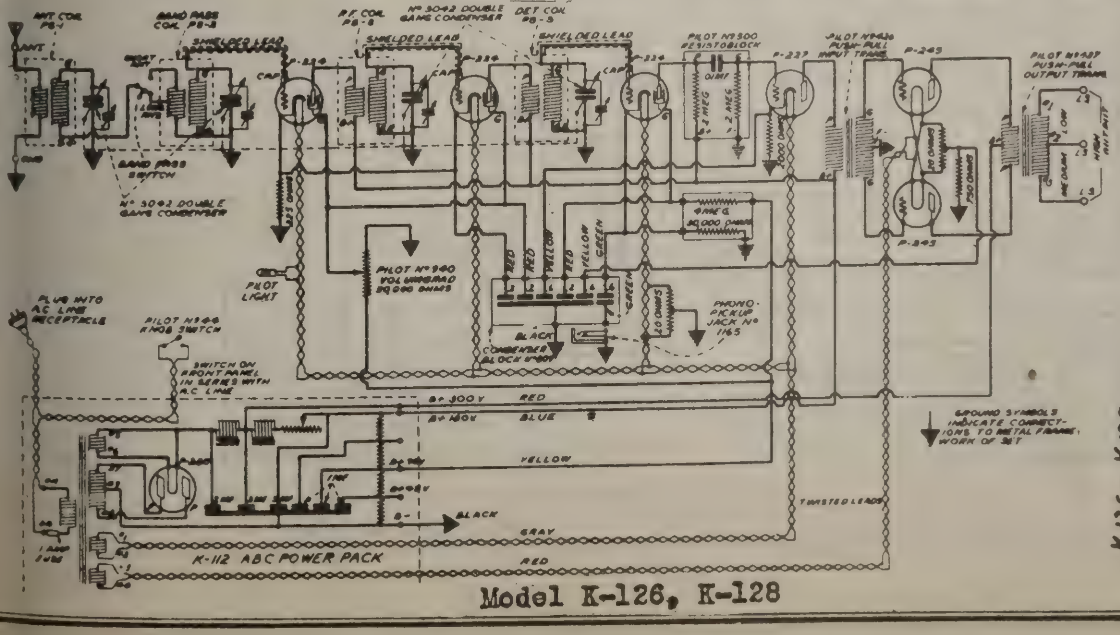
PILOT RADIO & TUBE CORP.


P-224
P-224
P-201A
P-201A
112A
112A
FLEXIBLE LEAD
2 MEG
AUDIO TRANSFORMER
PUSH-PULL OUTPUT TRANS
LOUD SPEAKER
GROUND
GROUND SYMBOLS INDICATE CONNECTIONS TO METAL FRAMEWORK OF SET
SWITCH ON FRONT PANEL OF SET
YELLOW A- C+
BLACK B+ A
PILOT LIGHT
POINT X
WHITE B+ 45V
GREEN B+ 90V
GRAY C- 4.5V
RED B+ 135V
BLUE C- 9V
+45V
+45V
6V STORAGE BATTERY
THREE HEAVY DUTY 45V 'B' BATTERIES CONNECTED IN SERIES
TWO 4½V C BATTERIES CONNECTED IN SERIES

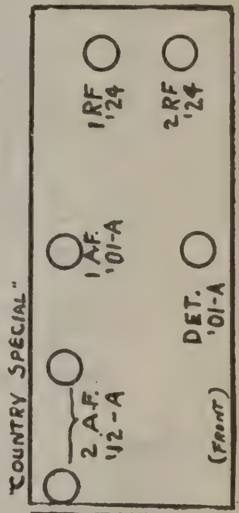
Model K-121,K-121 X

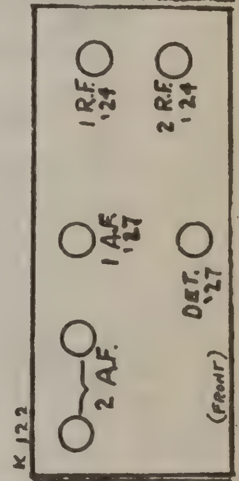

PILOT Nº 1798 TRIPLE GANG CONDENSER .00035 MF
PILOT Nº 235A ANT COIL
PILOT Nº 235B RF COIL
DET COIL
FLEXIBLE LEAD
CAP
P-224
P-224
P-227
P-227
AUDIO TRANS PILOT Nº 391
PUSH-PULL INPUT TRANSFORMER PILOT Nº 399
P-171A
P-171A
PUSH-PULL OUTPUT IMPEDANCE Nº 401
LOUD SPEAKER
PILOT Nº 959 235 OHM RESISTANCE
PILOT Nº 806 BY-PASS COND BLOCK 2 MF EACH SECTION
PILOT Nº 354 20 OHM CENTER TAPPED RESISTOR
PILOT Nº 356 50 OHM CENTER TAPPED RES
PILOT Nº 807 6 MF
PILOT LIGHT
GROUND
SWITCH ON FRONT PANEL IN SERIES WITH AC LINE
BLACK
BLUE
YELLOW
RED
GREEN
WHITE
GRAY
B+ 220V
B+ 180
B+ 135
B+ 90
B+ 45
B- BLACK
2.5 V AC
5V AC
P-280
TWISTED LEADS
PILOT Nº K-111 ABC POWER PACK
GROUND SYMBOLS INDICATE CONNECTIONS TO METAL FRAMEWORK OF SET

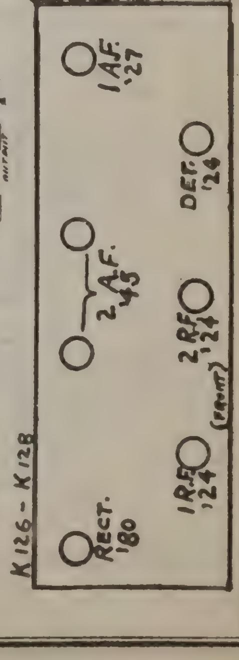
Model PE 6 SG, K-122, K-123, K-124


ANT COIL PB-1
BAND PASS COIL PB-2
RF COIL PB-3
Nº 3042 DOUBLE GANG CONDENSER
DET COIL PB-5
SHIELDED LEAD
P-224
P-224
P-224
P-227
P-245
P-245
PILOT Nº 300 RESISTOBLOCK
PILOT Nº 430 PUSH-PULL INPUT TRANS
PILOT Nº 407 PUSH-PULL OUTPUT TRANS
BAND PASS SWITCH
Nº 3042 DOUBLE GANG CONDENSER
PILOT Nº 940 VOL CONTROL 50,000 OHMS
PILOT LIGHT
PHONO-PICKUP JACK Nº 1165
CONDENSER BLOCK
PLUG INTO AC LINE RECEPTACLE
PILOT Nº 946 KNOB SWITCH
SWITCH ON FRONT PANEL IN SERIES WITH AC LINE
B+ 300V RED
B+ 180V BLUE
YELLOW
BLACK
GRAY
RED
TWISTED LEADS
K-112 ABC POWER PACK
GROUND SYMBOLS INDICATE CONNECTIONS TO METAL FRAMEWORK OF SET

Model K-126, K-128

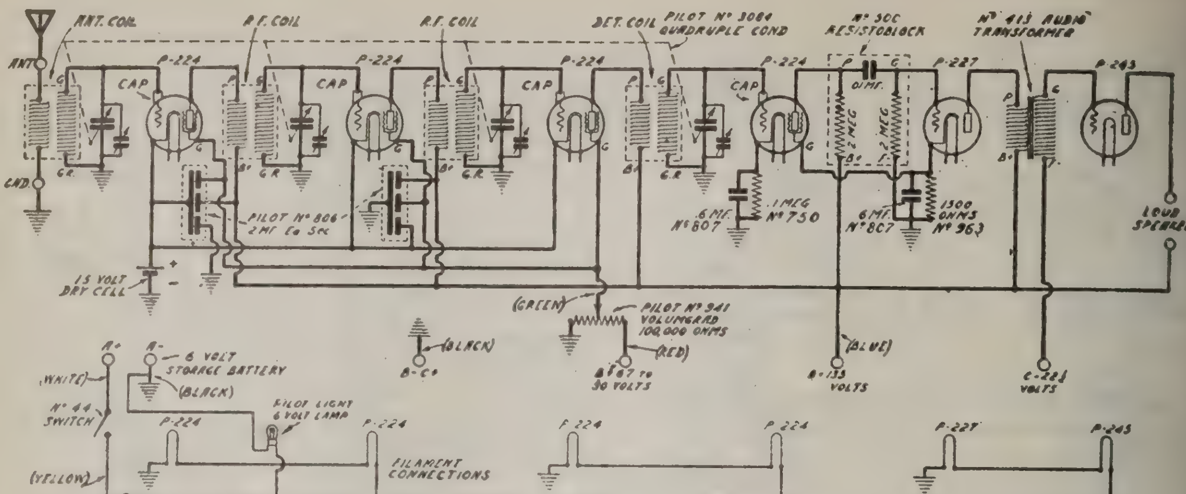

"COUNTRY SPECIAL"
1 RF '24
2 RF '24
1 AF '01-A
DET. '01-A
2 A.F. '12-A
(FRONT)


K 122
1 R.F. '24
2 R.F. '24
1 A.F. '27
DET. '27
2 A.F.
(FRONT)

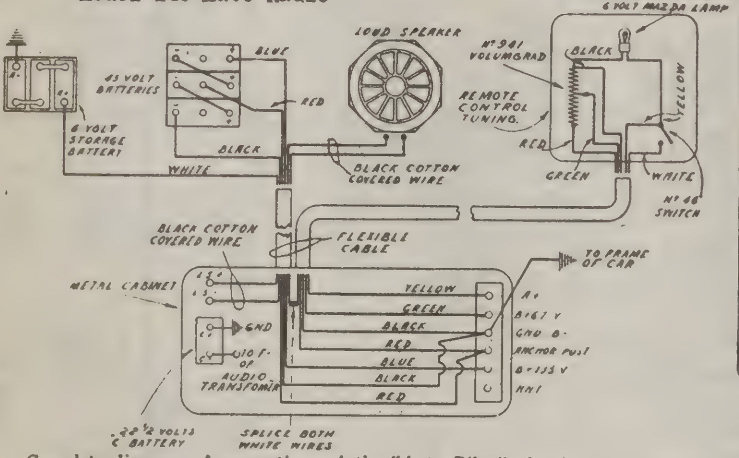

K126 - K128
1 A.F. '27
DET. '24
2 A.F. '45
2 R.F. '24
(FRONT)
RECT. '80
1 R.F. '24

PILOT RADIO & TUBE CORP.

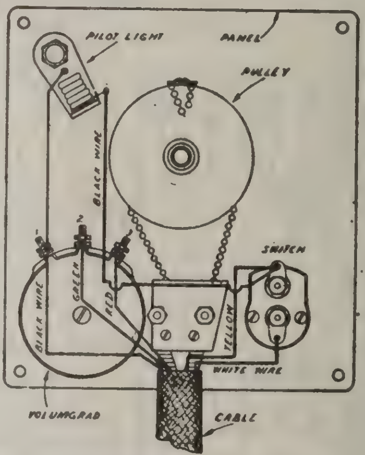
MODEL 140 Auto Radio
MODEL S.W.Converter


ANT. COIL
R.F. COIL
R.F. COIL
DET. COIL
PILOT Nº 3084 QUADRUPLE COND
Nº 50C RESISTOBLOCK
Nº 413 AUDIO TRANSFORMER
ANT.
GND.
P-224
P-224
P-224
P-224
P-227
P-245
CAP
G.R.
PILOT Nº 806 .2 MF Co Sec
.6 MF. Nº 807
.1 MEG Nº 750
.6 MF. Nº 807
1500 OHMS Nº 963
2 MEG
LOUD SPEAKER
1.5 VOLT DRY CELL
(GREEN)
PILOT Nº 941 VOLUMGRAD 100,000 OHMS
(RED)
(BLACK)
B- C+
B+67 TO 90 VOLTS
(BLUE)
B+135 VOLTS
C-22½ VOLTS
A+
A-
6 VOLT STORAGE BATTERY
(WHITE)
(BLACK)
Nº 44 SWITCH
PILOT LIGHT 6 VOLT LAMP
(YELLOW)
FILAMENT CONNECTIONS

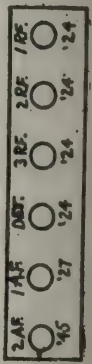
Model 140 Auto Radio

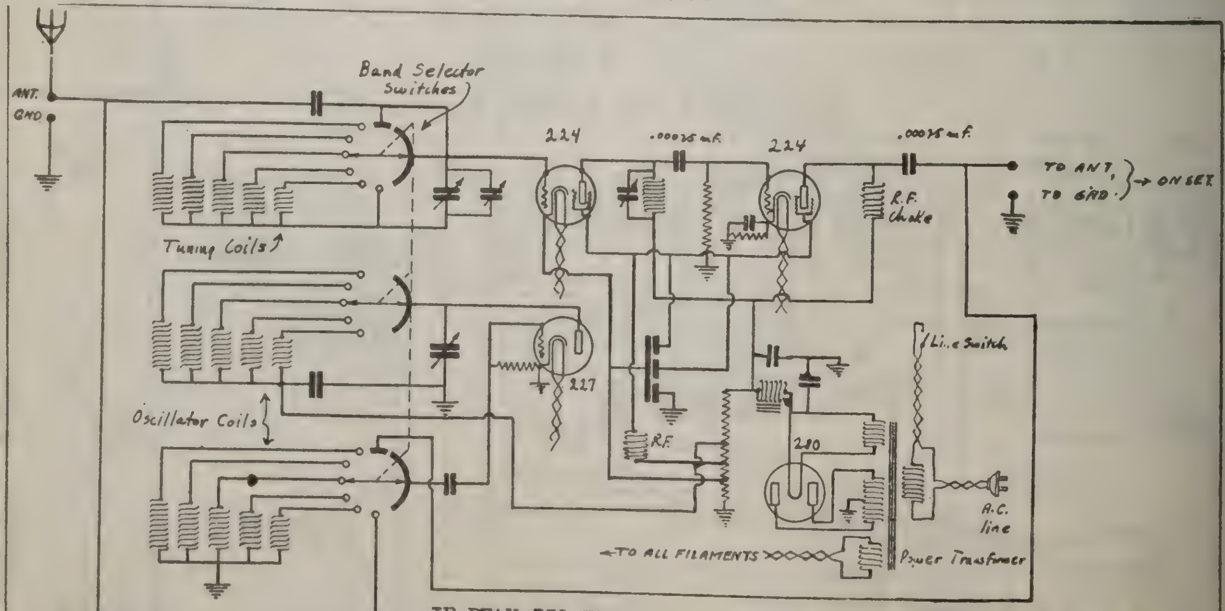

LOUD SPEAKER
45 VOLT BATTERIES
6 VOLT STORAGE BATTERY
BLUE
RED
BLACK
WHITE
BLACK COTTON COVERED WIRE
Nº 40 PILOT LIGHT 6 VOLT MAZDA LAMP
Nº 941 VOLUMGRAD
REMOTE CONTROL TUNING.
BLACK
YELLOW
RED
GREEN
WHITE
Nº 46 SWITCH
BLACK COTTON COVERED WIRE
FLEXIBLE CABLE
TO FRAME OF CAR
METAL CABINET
GND
10 F. OF AUDIO TRANSFORMER
YELLOW
GREEN
BLACK
RED
BLUE
BLACK
RED
A+
B+67 V
GND B-
ANCHOR POST
B+135 V
ANT
22½ VOLTS C BATTERY
SPLICE BOTH WHITE WIRES

Complete diagram of connections of the "Auto Pilot," showing the receiver proper, the control panel, the loud speaker, and the "A" and "B" batteries.


PILOT LIGHT
PANEL
PULLEY
BLACK WIRE
SWITCH
BLACK WIRE
GREEN
RED
YELLOW
WHITE WIRE
VOLUMGRAD
CABLE

The connections of the control devices in picture form.


1RF. '24
2RF. '24
3RF. '24
DET. '24
1AF. '27
2AF. '45

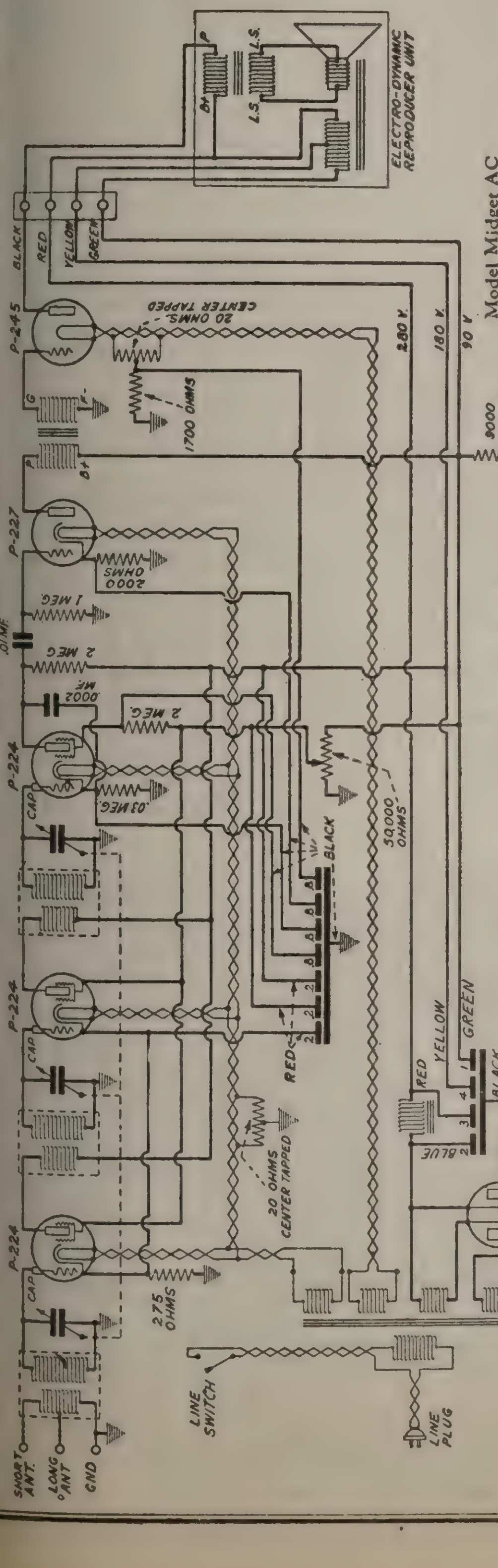

ANT.
GND
Band Selector Switches
Tuning Coils
Oscillator Coils
224
224
227
280
.00025 mf.
.00025 mf.
R.F. Choke
TO ANT.
TO GND.
ON SET
Line Switch
R.F.
A.C. line
TO ALL FILAMENTS
Power Transformer

IF PEAK 550 KC

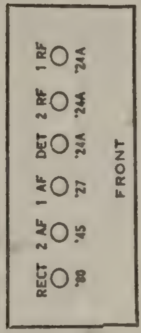
Model S.W.Converter

PILOT RADIO & TUBE CORP.

MODEL AC Midget
S-155,S-155-A,
S-155-B,S-155-F,
C-157,C-157-A,
C-157-B,C-157-F

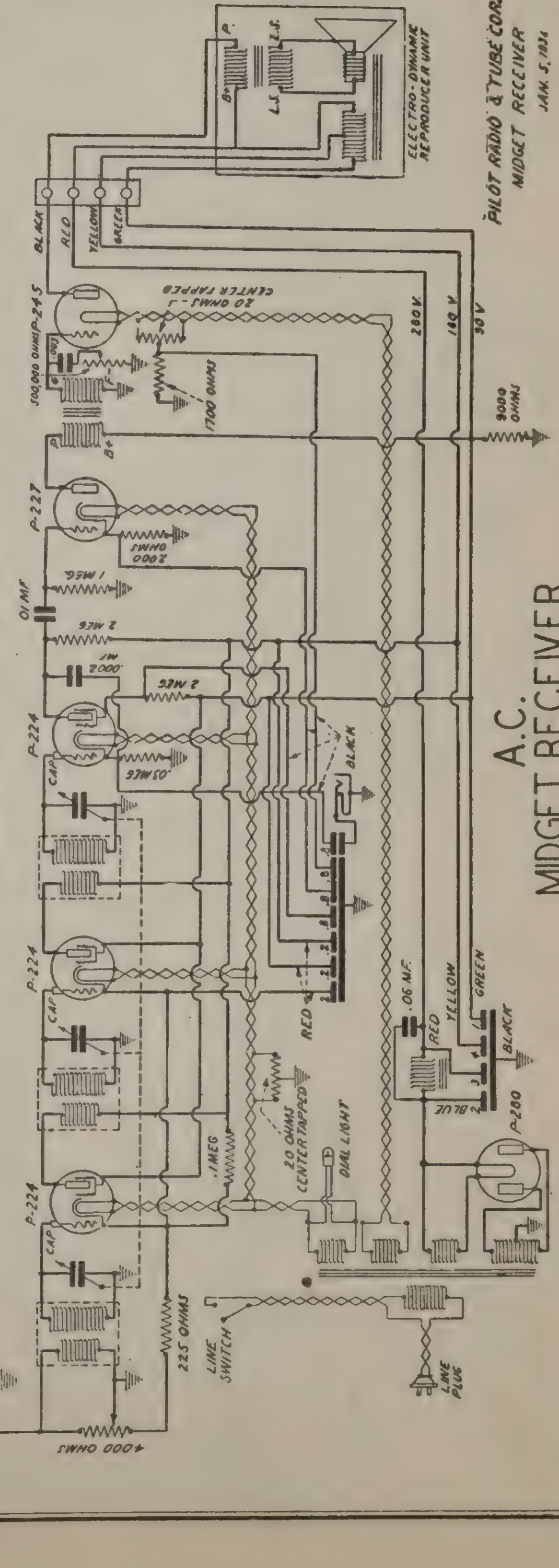

SHORT ANT.
LONG ANT
GND
P-224
CAP
275 OHMS
P-224
CAP
P-224
CAP
.03 MEG.
2 MEG.
.0002 MF
2 MEG
.01 MF
1 MEG
2000 OHMS
P-227
P
B+
G
F
1700 OHMS
20 OHMS - CENTER TAPPED
P-245
BLACK
RED
YELLOW
GREEN
P
B+
L.S.
ELECTRO-DYNAMIC REPRODUCER UNIT
280 V.
180 V.
90 V
9000 OHMS
50000 OHMS
BLACK
RED
20 OHMS CENTER TAPPED
LINE SWITCH
LINE PLUG
RED
YELLOW
GREEN
BLACK
BLUE
P-280

Model AC Midget (1st Type.)


RECT
'80
2 AF
'45
1 AF
'27
DET
'24A
2 RF
'24A
1 RF
'24A
FRONT

Model Midget AC

SCHEMATIC DIAGRAM

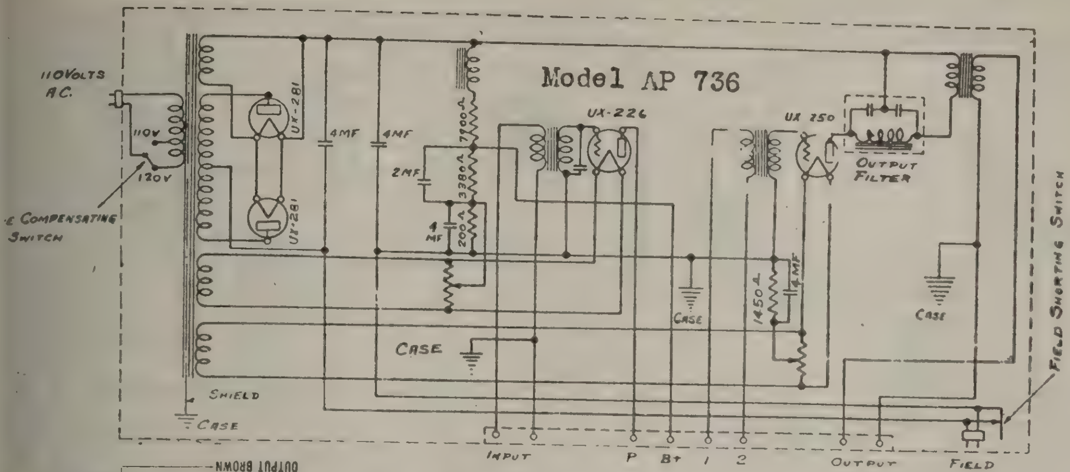

ANT.
GND.
4000 OHMS
P-224
CAP
225 OHMS
LINE SWITCH
LINE PLUG
.1 MEG
20 OHMS CENTER TAPPED
DIAL LIGHT
P-224
CAP
RED
P-224
CAP
.03 MEG.
2 MEG
.0002 MF
2 MEG
.01 MF
1 MEG
2000 OHMS
P-227
B+
50,000 OHMS
P-245
1700 OHMS
20 OHMS - CENTER TAPPED
BLACK
RED
YELLOW
GREEN
B+
P
L.S.
ELECTRO-DYNAMIC REPRODUCER UNIT
280 V.
180 V.
90 V
9000 OHMS
BLACK
.06 MF.
RED
YELLOW
GREEN
BLACK
BLUE
P-280
PILOT RADIO & TUBE CORP.
MIDGET RECEIVER
JAN. 5, 1931

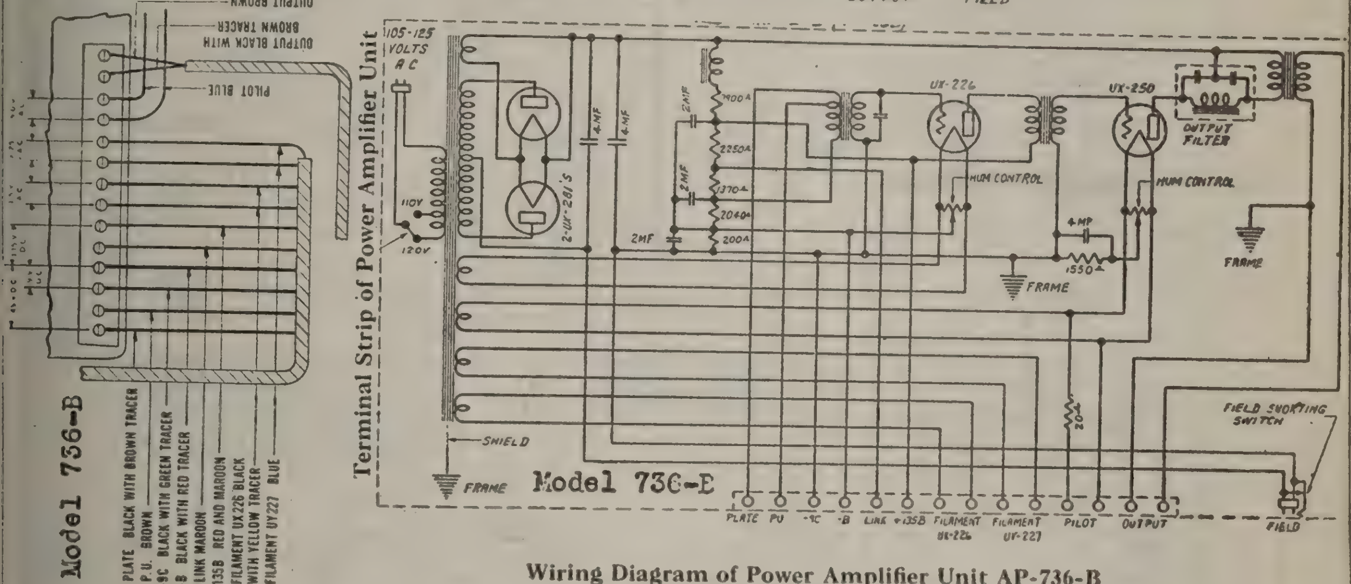
A.C.
MIDGET RECEIVER

Model AC Midget (2nd Type)

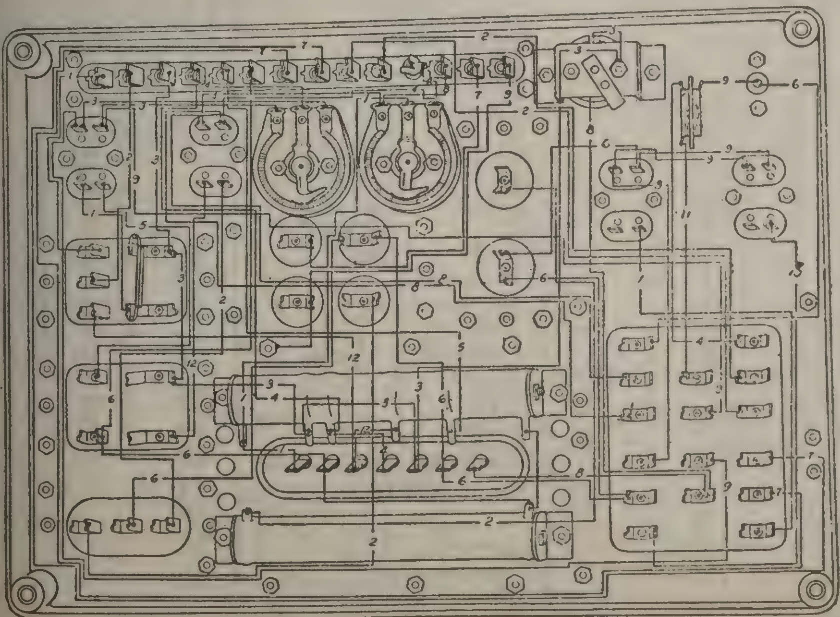
R. C. A. VICTOR CO., INC.

MODEL AP-736
MODEL AP-736-B


Model AP 736
110 Volts A.C.
110V
120V
Compensating Switch
UX-281
UX-281
4MF
4MF
2MF
4 MF
7900Ω
3380Ω
200Ω
UX-226
UX 250
Output Filter
1450Ω
4MF
Case
Case
Case
Shield
Case
Field Shorting Switch
Input
P
B+
1
2
Output
Field


Output Brown
Output Black with Brown Tracer
Pilot Blue
Terminal Strip of Power Amplifier Unit
Model 736-B
Plate Black with Brown Tracer
P.U. Brown
-9C Black with Green Tracer
-B Black with Red Tracer
Link Maroon
+135B Red and Maroon
Filament UX226 Black with Yellow Tracer
Filament UY227 Blue
105-125 Volts AC
110V
120V
2-UX-281's
4MF
4MF
2MF
1900Ω
2250Ω
2MF
1370Ω
2040Ω
2MF
200Ω
UX-226
UX-250
Output Filter
Hum Control
Hum Control
4MF
1550Ω
Frame
Frame
20Ω
Shield
Frame
Model 736-B
Field Shorting Switch
Plate
PU
-9C
-B
Link
+135B
Filament UX-226
Filament UY-227
Pilot
Output
Field

Wiring Diagram of Power Amplifier Unit AP-736-B


1
2
3
4
5
6
7
8
9
11
12

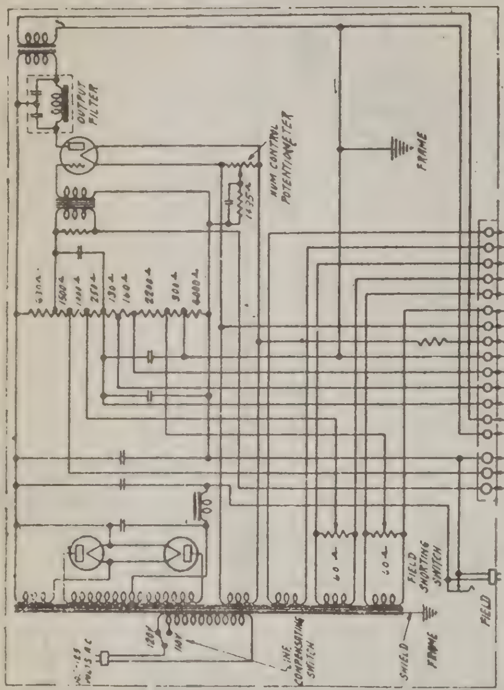
Color Code

1. Brown
2. Blue
3. Yellow
4. Black with Red Tracer
5. Red and Maroon
6. Red
7. Black with Yellow Tracer
8. Green
9. Black
10. Light Brown
11. Red and Black
12. Maroon

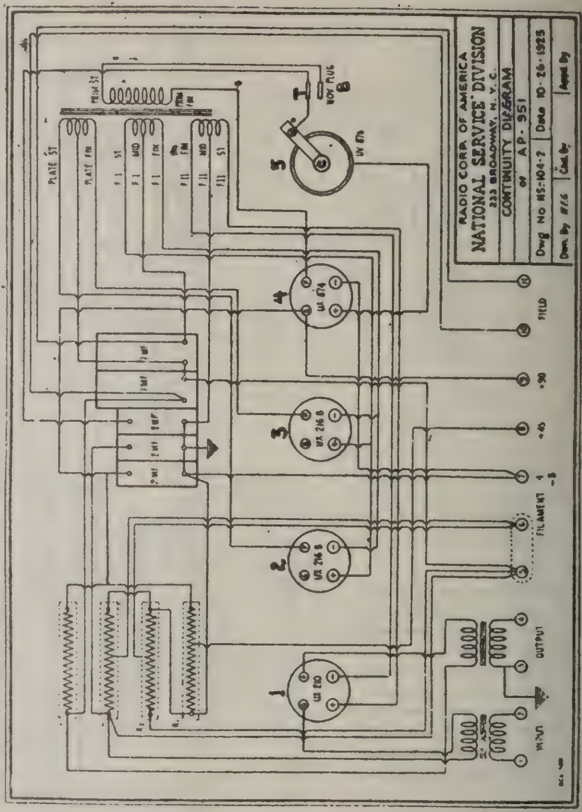
Bottom of Power Amplifier Unit AP-736-B, showing wiring between terminals

MODEL AP-777-C
MODEL AP-947
MODEL AP-951
MODEL AP-951-A, 974-A
AP-997-A

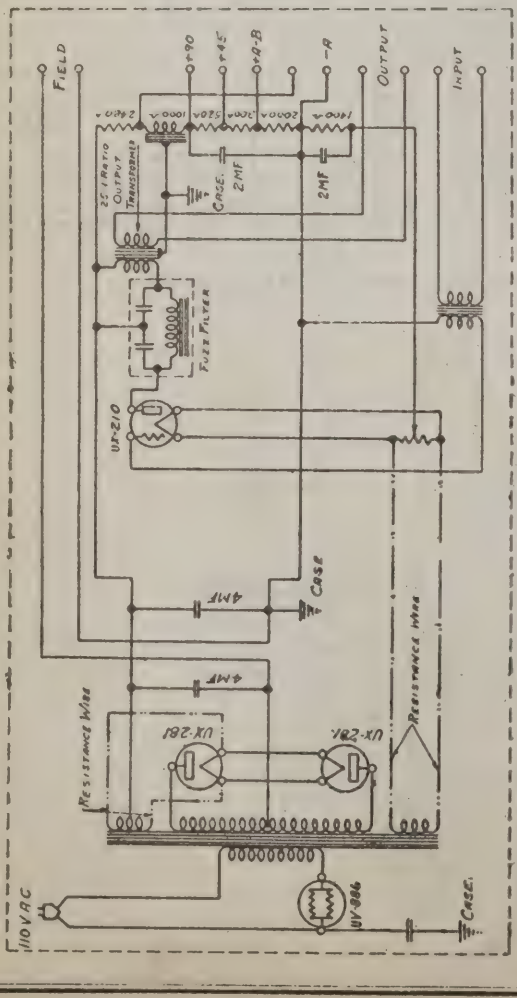
R. C. A. VICTOR CO., INC.


OUTPUT FILTER
HUM CONTROL POTENTIOMETER
FRAME
FILAMENT-R.C.
FILAMENT-DETECTORS
FILAMENT-AMPLIFIERS
PILOT
AMPLIFIER CATHODE
AMPLIFIER PLATE
BIAS
INPUT
OSCILLATOR PLATE
OUTPUT
DETECTOR CATHODE
FIELD SHORTING SWITCH
FIELD
LINE COMPENSATING SWITCH
SHIELD
FRAME
120V
114V

Model AP-777-C

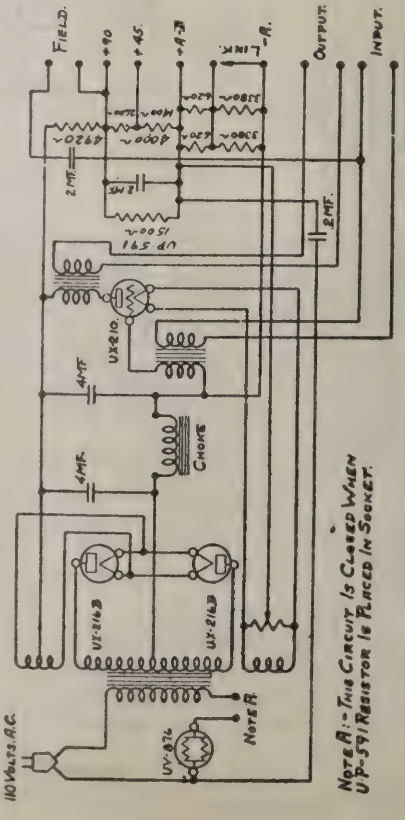

RADIO CORP. OF AMERICA
NATIONAL SERVICE DIVISION
233 BROADWAY, N.Y.C.
CONTINUITY DIAGRAM OF AP-951
Drwg No NS-104-2
Date 10-26-1928
FIELD
+90
+45
FILAMENT
OUTPUT
INPUT
1
2
3
4
5
UX 210
UX 216 B
UX 874
BOX PLUG B

Model AP 951


FIELD
+90
+45
+A-B
-A
OUTPUT
INPUT
25:1 RATIO OUTPUT TRANSFORMER
CASE
2MF
FUZZ FILTER
UX-210
4MF
CASE
UX-281
UX-281
RESISTANCE WIRE
RESISTANCE WIRE
110V AC
UV-886
CASE

Wiring Diagram of Power Amplifier Units AP-974-A, 951-A and 997-A

Used on Victor 9-25, 9-55


FIELD
+90
+45
+A-B
-A
LINK
OUTPUT
INPUT
2MF
UP-591
UX-210
4MF
CHOKE
4MF
UX-216B
UX-216B
110 VOLTS A.C.
UV-876
NOTE A

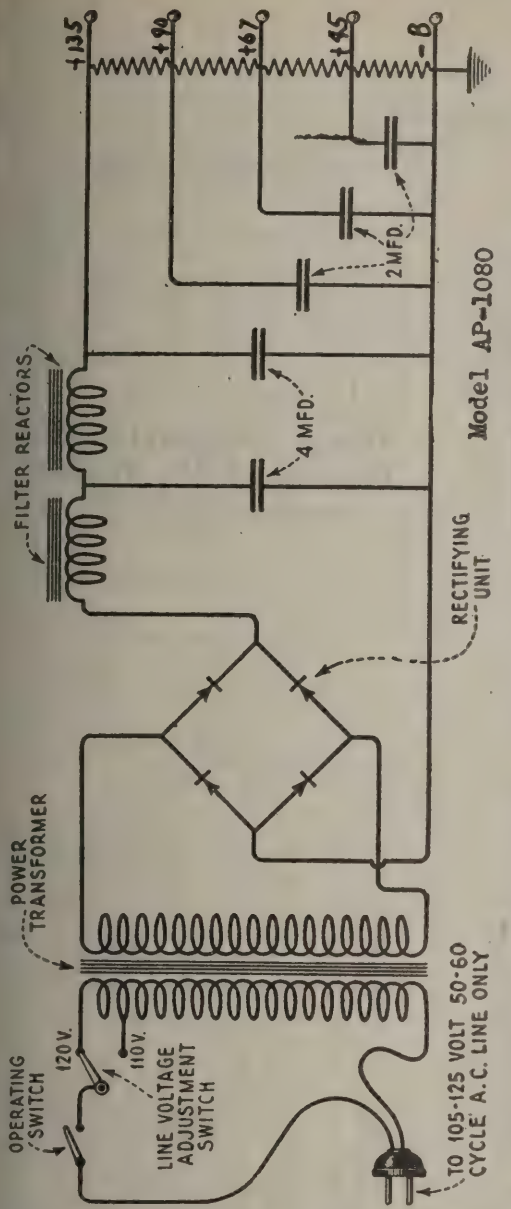
NOTE A:- THIS CIRCUIT IS CLOSED WHEN UP-591 RESISTOR IS PLACED IN SOCKET.

Victor designation RPA 14
Used on 9-40, Borgia II, Hyperion

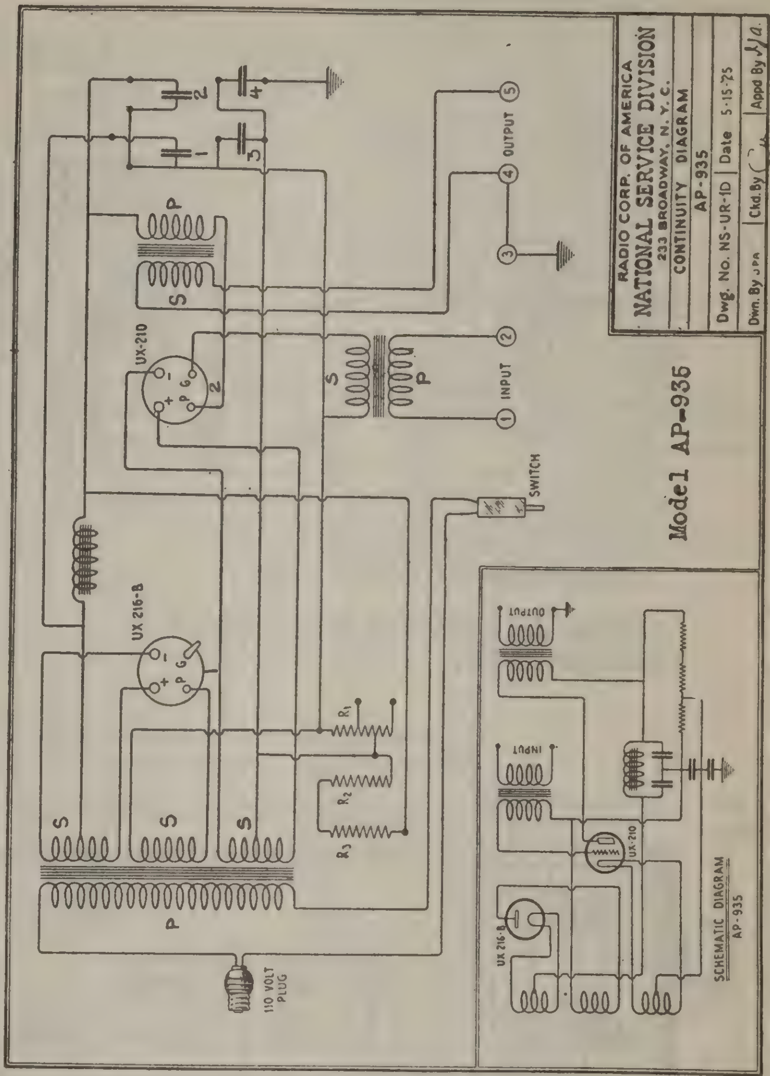
Model AP-947

R. C. A. VICTOR CO., INC.

MODEL AP-937
MODEL AP-935
MODEL AP-1080

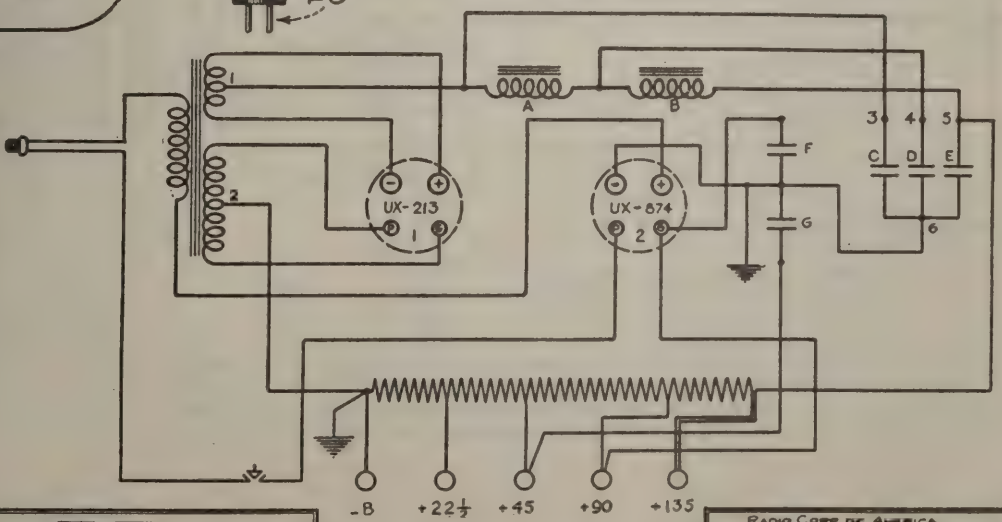

+135
+90
+67
+45
-B
2 MFD.
4 MFD.
FILTER REACTORS
RECTIFYING UNIT
POWER TRANSFORMER
120 V.
110 V.
OPERATING SWITCH
LINE VOLTAGE ADJUSTMENT SWITCH
TO 105-125 VOLT 50-60 CYCLE A.C. LINE ONLY

Model AP-1080

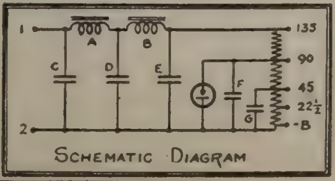

1
2
3
4
5
OUTPUT
INPUT
SWITCH
UX-210
UX 216-B
P
G
+
-
P
S
R1
R2
R3
110 VOLT PLUG
OUTPUT
INPUT
UX-210
UX 216-B
SCHEMATIC DIAGRAM AP-935

RADIO CORP. OF AMERICA
NATIONAL SERVICE DIVISION
233 BROADWAY, N. Y. C.
CONTINUITY DIAGRAM
AP-935
Dwg. No. NS-UR-1D | Date 5-15-25
Dwn. By JPA | Ckd. By | Appd By

Model AP-935


1
2
A
B
3
4
5
C
D
E
F
G
6
UX-213
1
UX-874
2
-B
+22½
+45
+90
+135

CONTINUITY DIAGRAM


1
2
A
B
C
D
E
F
G
135
90
45
22½
-B

Schematic Diagram

Model AP-937

Radio Corp of America
National Service Division
233 Broadway NYC

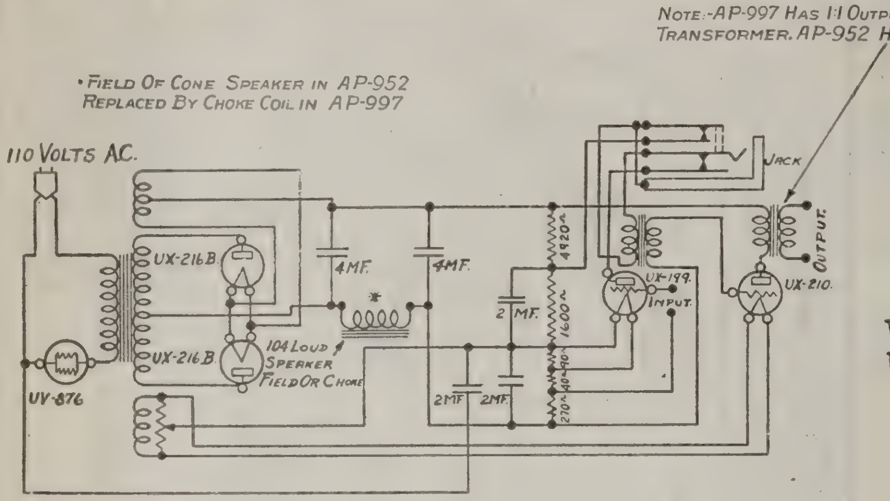
RCA Duo-Rectron

Model AP-937

Dwg. NS-DR-1D | Date 4-9-26
Dwn by JM | Ckd by C.R.U. | Appd by

MODEL AP-995
MODEL AP-952
MODEL AP-997-C
MODEL 12-25 Tuscany
MODEL 8-60

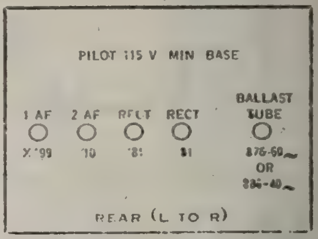
R. C. A. VICTOR CO., INC.


NOTE:-AP-997 HAS 1:1 OUTPUT TRANSFORMER. AP-952 HAS 25:1.
•FIELD OF CONE SPEAKER IN AP-952 REPLACED BY CHOKE COIL IN AP-997
110 VOLTS AC.
UX-216B
UX-216B
UV-876
4MF.
4MF.
*
104 LOUD SPEAKER FIELD OR CHOKE
2MF.
2MF.
2MF.
4920Ω
1600Ω
40Ω
40Ω
270Ω
UX-199.
INPUT.
JACK
OUTPUT.
UX-210.

Wiring Diagram AP 952, and AP 997

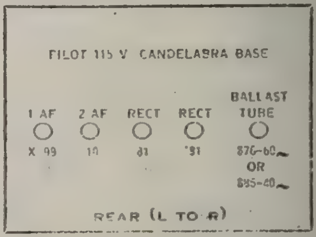
Victor designation RPA-5 Spec.
Used on 8-60.

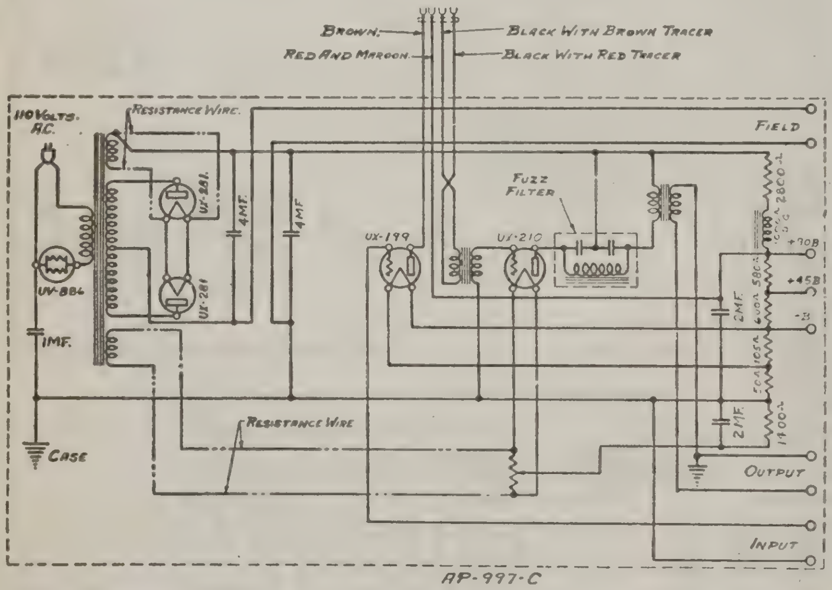
Model Electrola Tuscany (1926)


PILOT 115 V MIN BASE
1 AF
2 AF
RECT
RECT
BALLAST TUBE
X-99
10
81
81
876-60~ OR 886-40~
REAR (L TO R)

Victor designation RPA 5
Used on 12-25, Tuscany

Models Victors 8-60, 12-2, 12-25 (1926)


FILOT 115 V CANDELABRA BASE
1 AF
2 AF
RECT
RECT
BALLAST TUBE
X-99
10
81
81
876-60~ OR 885-40~
REAR (L TO R)


BROWN
RED AND MAROON
BLACK WITH BROWN TRACER
BLACK WITH RED TRACER
110 VOLTS AC.
RESISTANCE WIRE
FIELD
UX-281
UX-281
4MF
4MF
UV-886
1MF.
CASE
FUZZ FILTER
UX-199
UX-210
2800Ω
+90B
+45B
-B
2MF.
2MF.
1400Ω
RESISTANCE WIRE
OUTPUT
INPUT
AP-997-C

Wiring Diagram of Power-Amplifier Unit AP-997-C

Used on Victor 12-15.

a. The AP-947-X differs from the AP-947 in that it has a 25 to 1 output transformer and no filter choke.

b. The AP-997-X differs from the AP-997 in this same manner.

c. The AP-952-Y differs from the AP-952 only in the substitution of a terminal strip for the input jack.

d. The AP-997-Y differs from the AP-997 in that it has a 25 to 1 output transformer, a fuzz filter, a terminal strip instead of a jack, and no filter choke.

e. The AP-947-A, AP-951-B, and AP-997-A differ from the AP-947 in that they require the UX-281 and UV-886 Radiotrons instead of the UX-216-B and UV-876; a 25 to 1 output transformer is used; the resistors are of different values; resistance wire is used in the UX-281 and UX-210 filament leads; and the filter choke instead of being connected in the filter circuit is used in the voltage drop circuit to stabilize the amplifier.

f. The AP-997-C differs from the AP-997 in the same respects as described in (e) above.

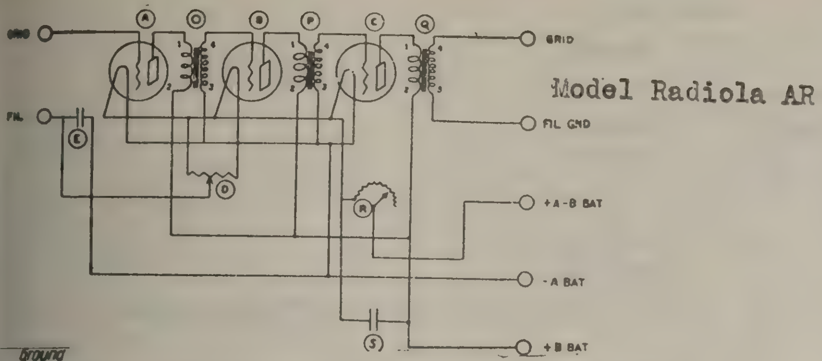
The list below for Victor power-amplifier units contained in new instruments since June 1, 1927 gives the RCA symbol number, the Victor part number, and the instrument on which each unit is used.

RCA SYMBOL	VICTOR PART NO.	USED ON
AP-947-X	20652	9-40*
AP-997-X	18575	10-51
AP-952-Y	18569	10-70
AP-997-Y		
AP-947-A	18891	9-25
AP-997-A	18574	9-55
-AP-951-B		
AP-997-C	20564	12-15

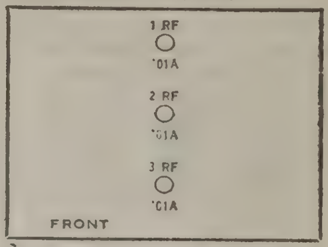
R. C. A. VICTOR CO., INC.

MODEL Radiola Grand
MODEL Radiola Senior
MODEL Radiola AR
MODEL Radiola RS

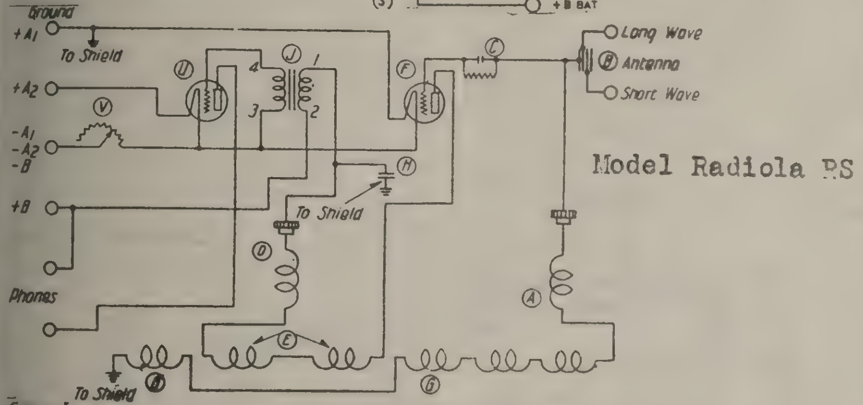
Model Radiola AR


GRID
FIL.
A
O
B
P
C
Q
E
D
R
S
GRID
FIL GND
+A-B BAT
-A BAT
+B BAT

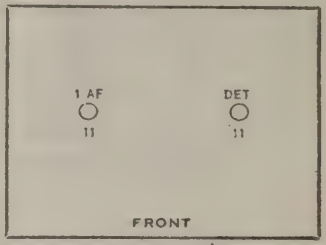
Model Radiola AR (1922)


1 RF
'01A
2 RF
'01A
3 RF
'01A
FRONT

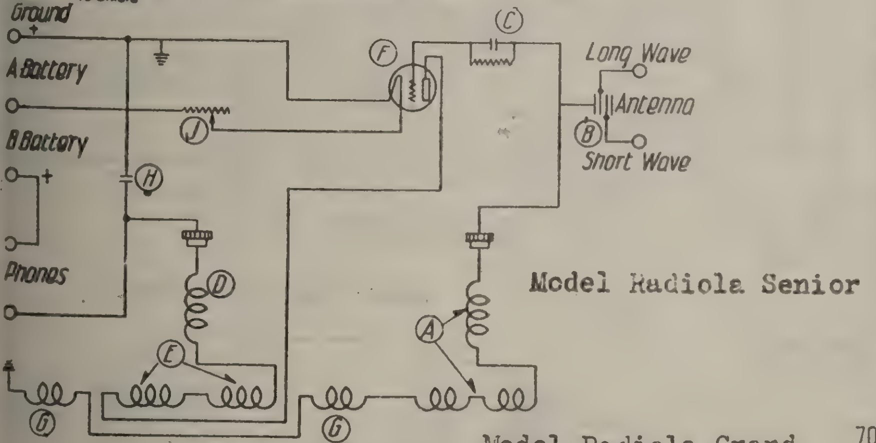
Model Radiola RS


Ground
+A1
To Shield
+A2
-A1
-A2
-B
+B
Phones
U
V
J
4
1
3
2
F
C
H
To Shield
D
A
E
B
G
To Shield
Long Wave
B Antenna
Short Wave

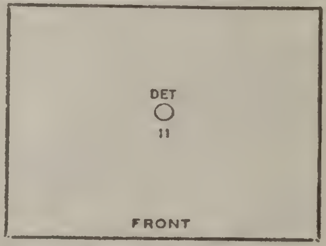
Model Radiola RS (1922)


1 AF
11
DET
11
FRONT

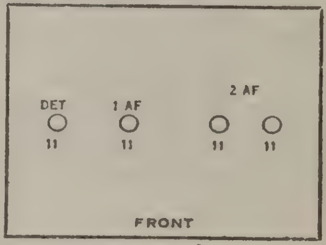
Model Radiola Senior


Ground
+
A Battery
B Battery
+
Phones
F
C
J
H
D
E
G
A
G
Long Wave
Antenna
B
Short Wave

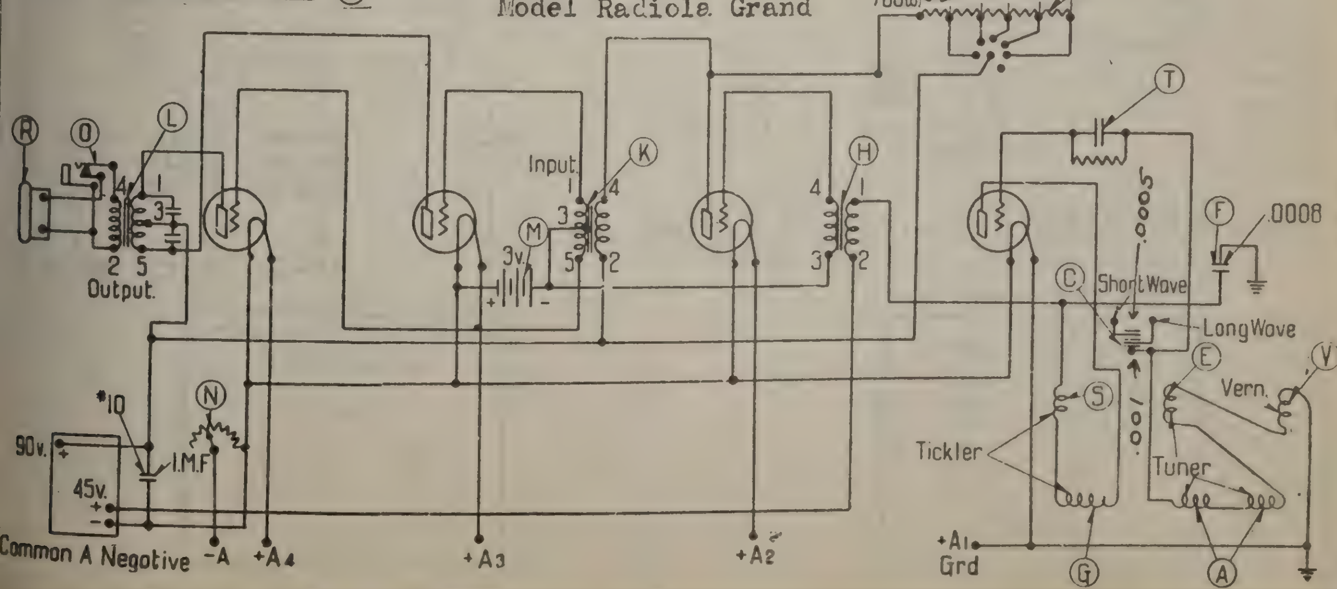
Model Radiola Senior (1922)


DET
11
FRONT

Model Radiola Grand (1922)

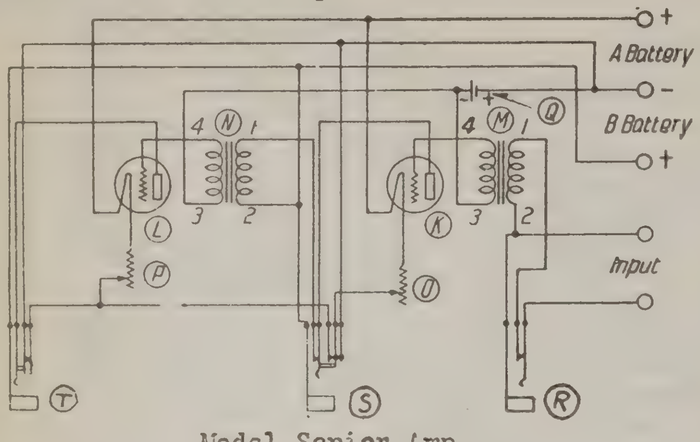

DET
11
1 AF
11
2 AF
11
11
FRONT

Model Radiola Grand


15000ω
7000ω
3000ω
1000ω
700ω
P
R
O
L
4
1
3
2 5
Output
Input
1
4
K
3
M
5
2
3v.
H
4
1
3
2
T
.0005
F
.0008
C
Short Wave
Long Wave
E
V
Vern.
S
Tickler
.001
Tuner
*10
N
I.M.F
90v.
45v.
Common A Negative
-A
+A4
+A3
+A2
+A1
Grd
G
A

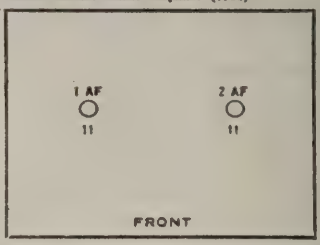
MODEL Radiola II
MODEL Radiola III
MODEL Radiola
Balanced Amp.
MODEL Radiola Sen. Amp.

R. C. A. VICTOR CO., INC.

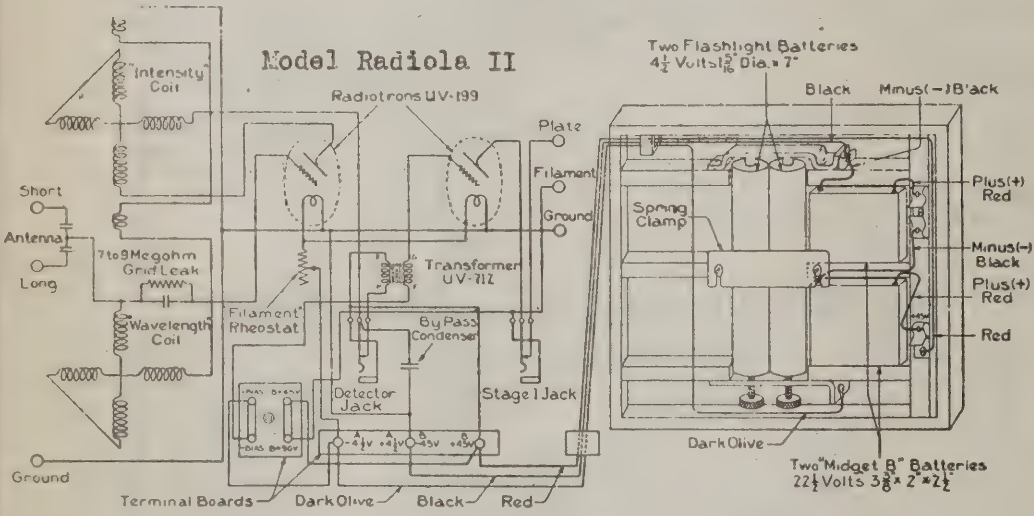

+
A Battery
-
B Battery
+
4
N
1
3
2
L
P
4
M
1
Q
3
2
K
O
Input
T
S
R

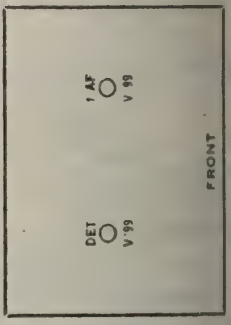
Model Senior Amp.

Model Radiola Senior Amplifier (1922)

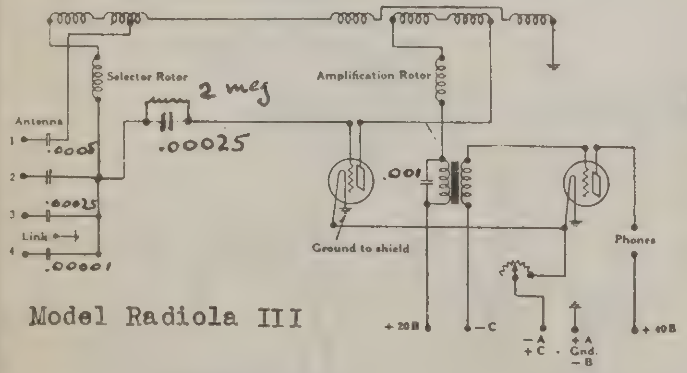

1 AF
11
2 AF
11
FRONT

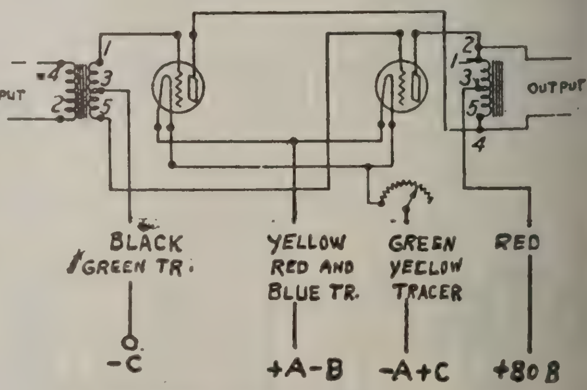
Model Radiola II


"Intensity" Coil
Radiotrons UV-199
Two Flashlight Batteries 4½ Volts 1 5/16" Dia. x 7"
Black
Minus(-) Black
Plate
Filament
Ground
Short
Antenna
Long
7 to 9 Megohm Grid Leak
Transformer UV-712
Spring Clamp
Plus(+) Red
Minus(-) Black
Plus(+) Red
Red
Wavelength Coil
Filament Rheostat
By Pass Condenser
Detector Jack
Stage 1 Jack
Ground
-4½V
+4½V
-45V
+45V
Terminal Boards
Dark Olive
Black
Red
Dark Olive
Two "Midget B" Batteries 22½ Volts 3 3/8 x 2 x 2½


Model Radiola II (1924)
1 AF
V 99
DET
V 99
FRONT

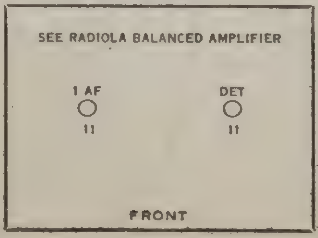
Model Balanced Amp.


Selector Rotor
2 meg
Amplification Rotor
Antenna
1
.0005
.00025
2
3
.00025
Link
4
.00001
.001
Ground to shield
Phones
+20 B
-C
-A
+C
+A
Gnd.
-B
+40 B

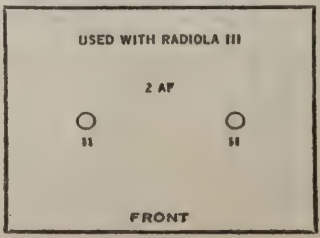

INPUT
4
2
1
3
5
2
1
3
5
4
OUTPUT
BLACK
GREEN TR.
-C
YELLOW
RED AND
BLUE TR.
+A-B
GREEN
YELLOW
TRACER
-A+C
RED
+80 B

Model Radiola III

Model Radiola III (1924)

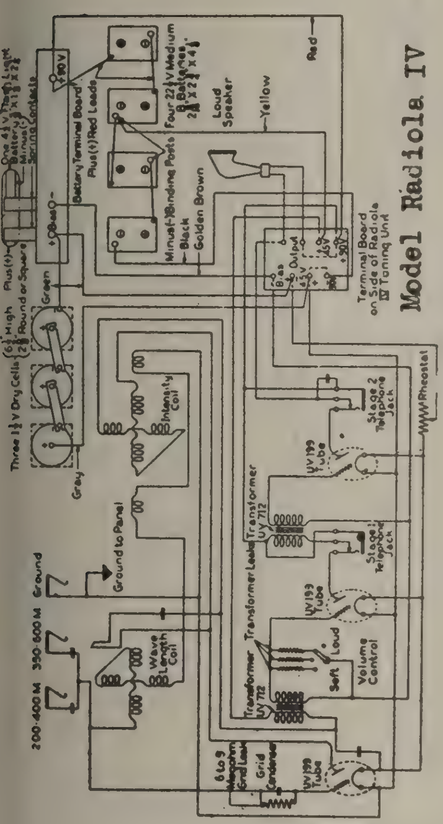

SEE RADIOLA BALANCED AMPLIFIER
1 AF
11
DET
11
FRONT

Model Radiola Balanced Amplifier (1924)


USED WITH RADIOLA III
2 AF
11
11
FRONT

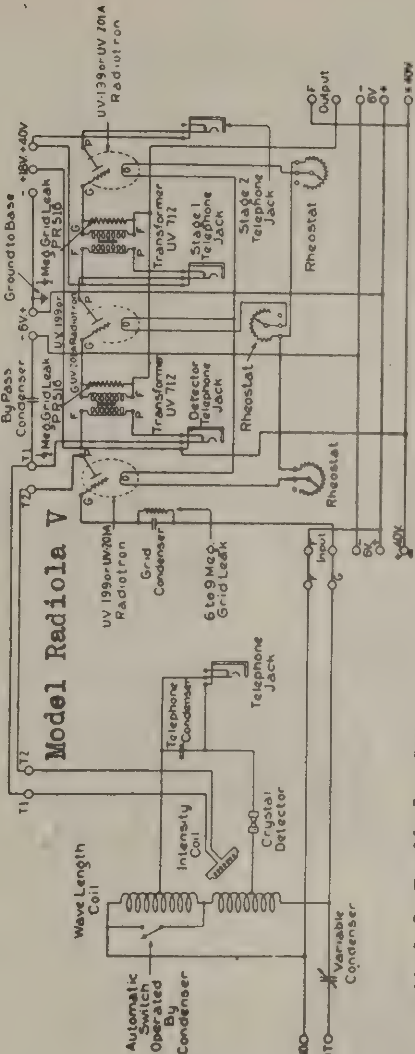
R. C. A. VICTOR CO., INC.

MODEL Radiola III-A
MODEL Radiola IV
MODEL Radiola V
MODEL Radiola VI



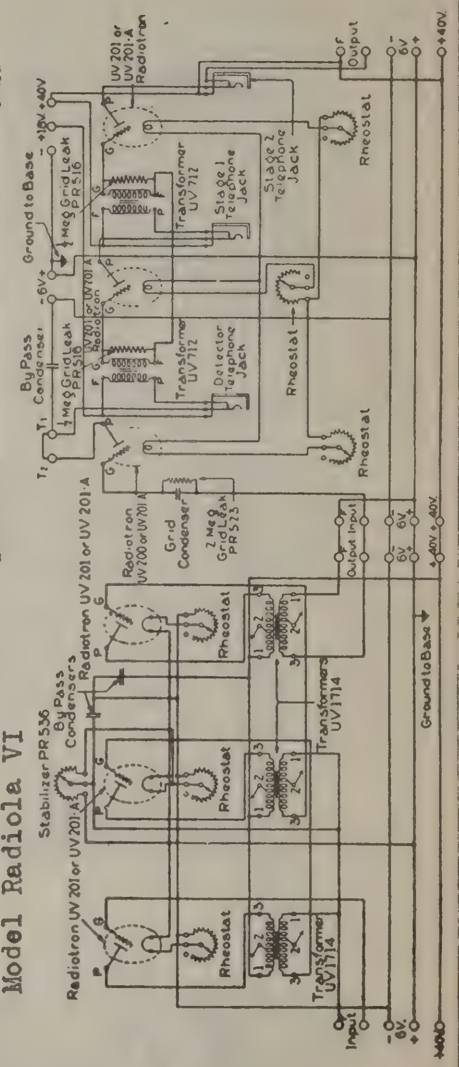
Model Radiola IV

Three 1½ V Dry Cells
Plus(+)
High
Round or Square
One 4½ V Flash Light Battery
Minus(-)
Spring Contacts
Green
Grey
Battery Terminal Board
Plus(+) Red Leads
Minus(-) Binding Posts
Black
Golden Brown
Four 22½ V Medium Batteries
Loud Speaker
Yellow
Red
Terminal Board on Side of Radiola IV Toning Unit
Intensity Coil
Ground to Panel
Ground
200-400 M
350-600 M
Wave Length Coil
UV 199 Tube
Transformer UV 712
Transformer Leads
Stage 1 Telephone Jack
Stage 2 Telephone Jack
Rheostat
Loud
Soft
Volume Control
6 to 9 Megohm Grid Leak
Grid Condenser



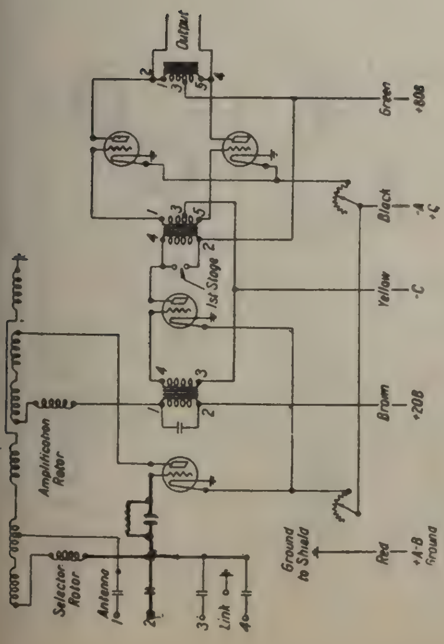
Model Radiola V

UV 199 or UV 201A Radiotron
Grid Condenser
6 to 9 Meg Grid Leak
By Pass Condenser
¼ Meg Grid Leak PR 516
Ground to Base
-6V+
+18V +40V
Transformer UV 712
Detector Telephone Jack
Stage 1 Telephone Jack
Stage 2 Telephone Jack
Rheostat
Output
6V
+40V
Input
T1
T2
Telephone Condenser
Telephone Jack
Crystal Detector
Intensity Coil
Wave Length Coil
Automatic Switch Operated By Condenser
Variable Condenser
GND
ANT



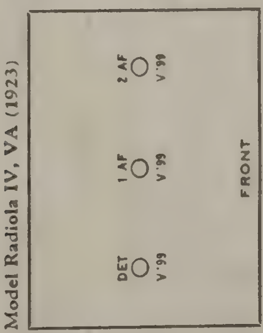
Model Radiola VI

UV 201 or UV 201-A Radiotron
Output
6V
+40V
Rheostat
Stage 2 Telephone Jack
Transformer UV 712
Stage 1 Telephone Jack
Ground to Base
+18V +40V
¼ Meg Grid Leak PR 516
-6V+
By Pass Condenser
Detector Telephone Jack
Radiotron UV 200 or UV 201A
Grid Condenser
2 Meg Grid Leak PR 523
Output Input
Stabilizer PR 536
By Pass Condensers
Radiotron UV 201 or UV 201-A
Transformers UV 1714
Transformer UV 1714
Input



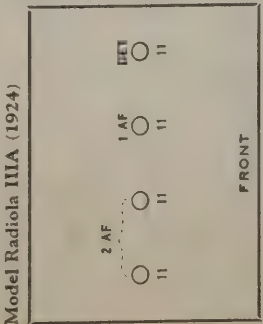
Model Radiola III-A

Selector Rotor
Antenna
Amplification Rotor
1st Stage
Output
Link
Ground to Shield
Red
+A-B Ground
Brown
Yellow
-C
Black
-A
+C
Green



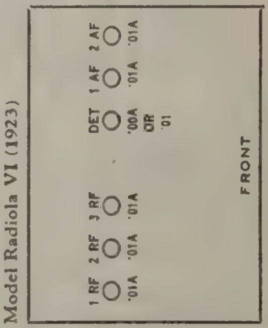
Model Radiola IV, VA (1923)

DET
V'99
1 AF
V'99
2 AF
V'99
FRONT



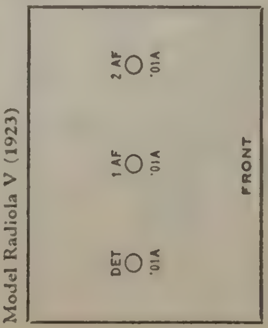
Model Radiola IIIA (1924)

2 AF
11
11
1 AF
11
DET
11
FRONT



Model Radiola VI (1923)

1 RF
'01A
2 RF
'01A
3 RF
'01A
DET
'00A OR '01
1 AF
'01A
2 AF
'01A
FRONT

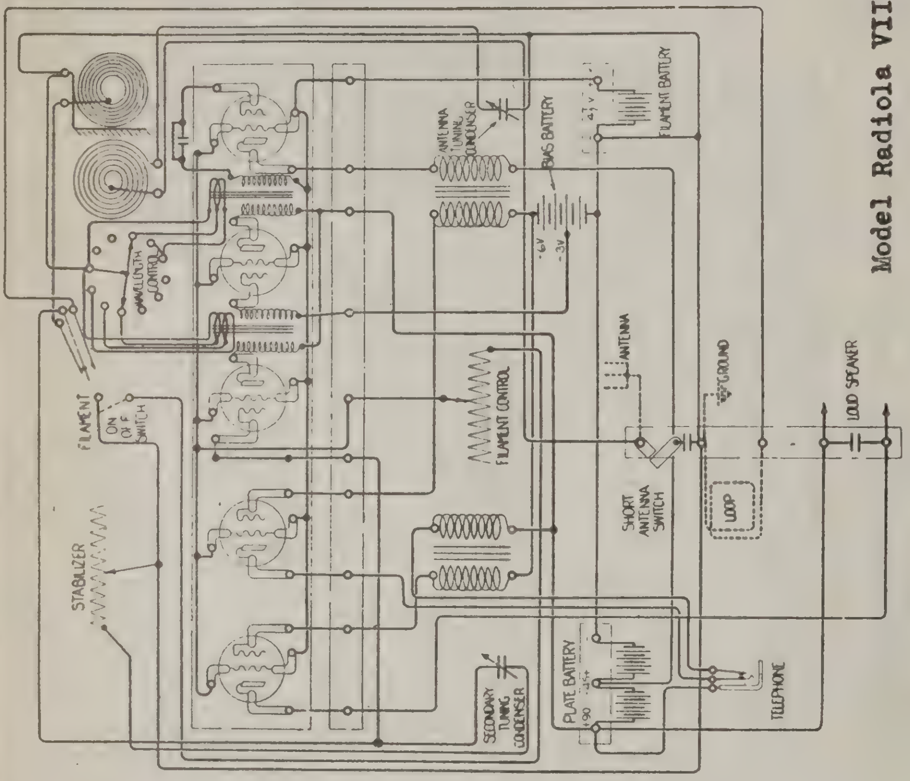


Model Radiola V (1923)

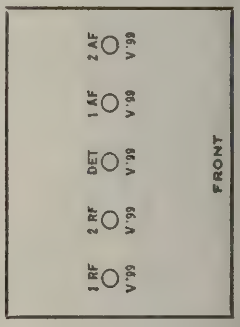
DET
'01A
1 AF
'01A
2 AF
'01A
FRONT

MODEL Radiola VII
MODEL Radiola VII-B
MODEL Radiola IX

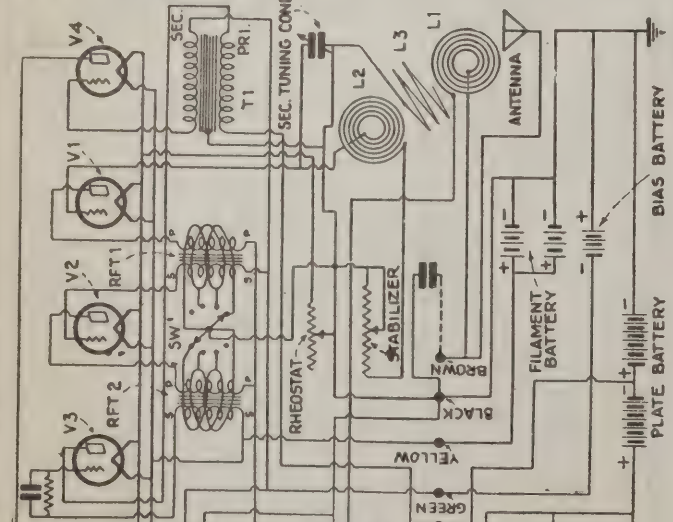
R. C. A. VICTOR CO., INC.


ANTENNA TUNING CONDENSER
BIAS BATTERY
FILAMENT BATTERY
4.7 V
+6V
-3V
WAVELENGTH CONTROL
FILAMENT ON OFF SWITCH
FILAMENT CONTROL
ANTENNA
GROUND
LOUD SPEAKER
SHORT ANTENNA SWITCH
LOOP
STABILIZER
SECONDARY TUNING CONDENSER
PLATE BATTERY
+90
+45
TELEPHONE

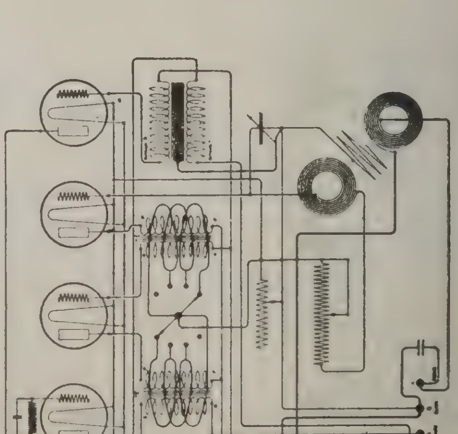
Model Radiola VII


1 RF
V'99
2 RF
V'99
DET
V'99
1 AF
V'99
2 AF
V'99
FRONT

Models Radiolas VII, VII-B, IX (1923)


V4
V1
V2
V3
V5
SEC.
PRI.
T1
SEC. TUNING COND.
L1
L2
L3
ANTENNA
RFT 1
RFT 2
SW
RHEOSTAT
STABILIZER
BROWN
BLACK
YELLOW
GREEN
BLUE
RED
WHITE
FILAMENT BATTERY
BIAS BATTERY
PLATE BATTERY
ANTENNA TUNING COND
SEC
PRI
T2
HEADPHONE JACK
LOUD SPEAKER

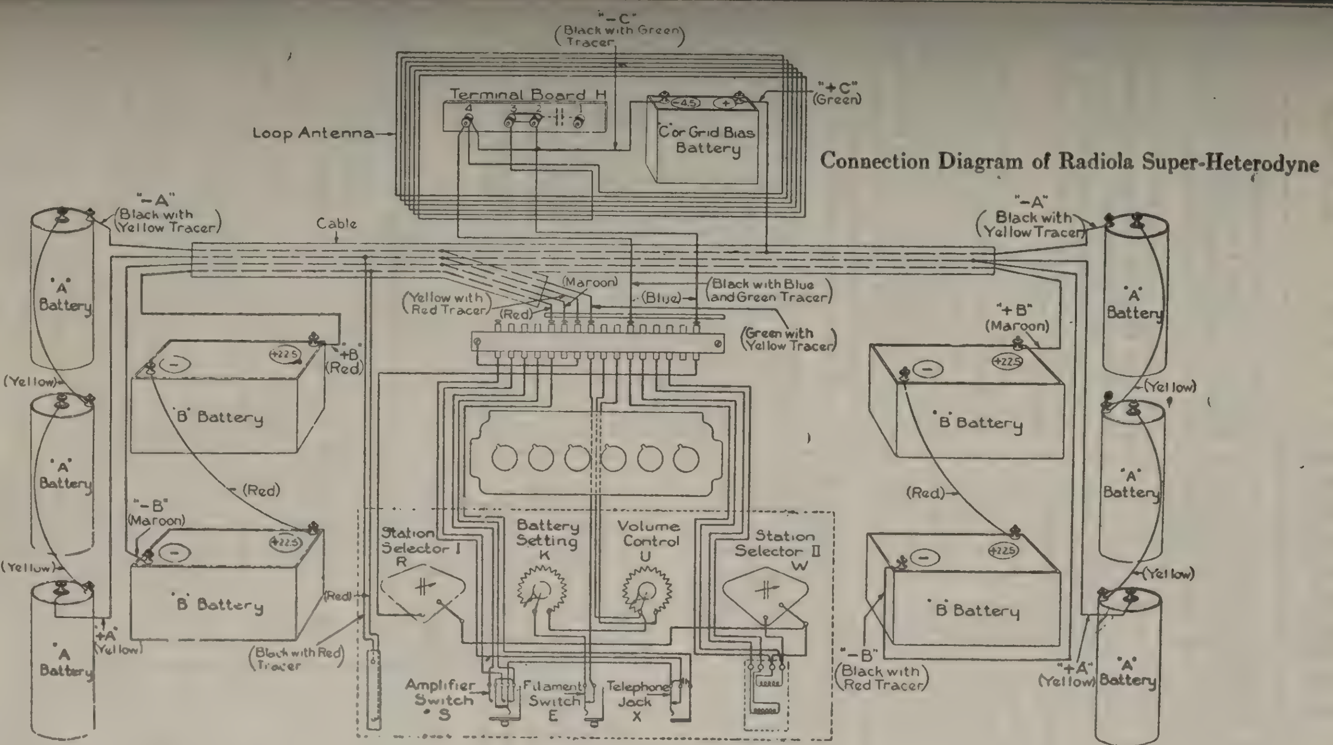
Model Radiola VII-B



Model Radiola IX

R. C. A. VICTOR CO., INC.

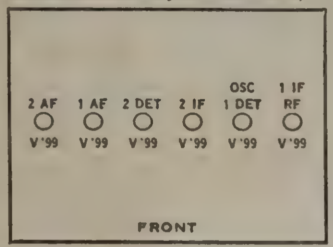
MODEL Radiola Super VIII



Connection Diagram of Radiola Super-Heterodyne

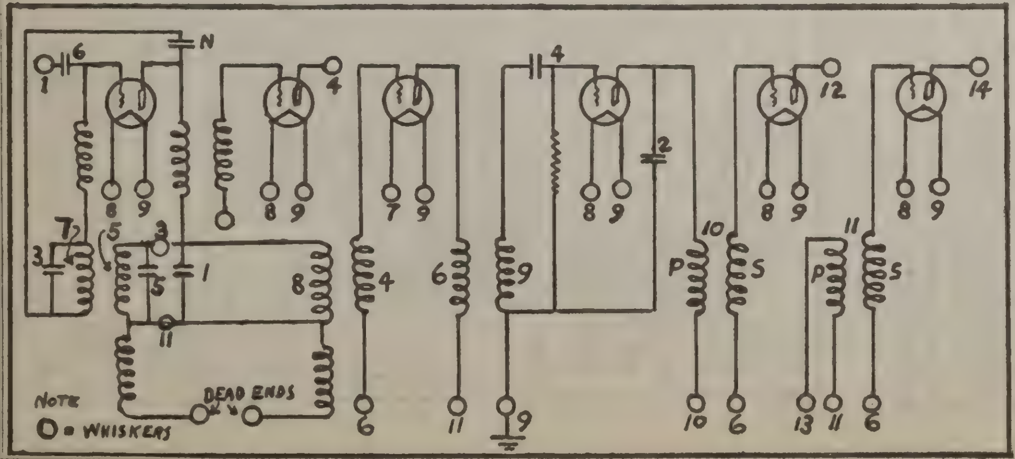
"−C" (Black with Green Tracer)
Terminal Board H
Loop Antenna
"+C" (Green)
"C" or Grid Bias Battery
−4.5
"−A" (Black with Yellow Tracer)
Cable
'A' Battery
(Yellow)
(Maroon)
(Black with Blue and Green Tracer)
(Blue)
(Yellow with Red Tracer)
(Red)
(Green with Yellow Tracer)
"+B" (Red)
"+B" (Maroon)
'B' Battery
+22.5
(Red)
"−B" (Maroon)
"−B" (Black with Red Tracer)
"+A" (Yellow)
(Black with Red Tracer)
Station Selector I R
Battery Setting K
Volume Control U
Station Selector II W
Amplifier Switch S
Filament Switch E
Telephone Jack X

Model Radiola Super-VIII (1925)



2 AF
1 AF
2 DET
2 IF
OSC 1 DET
1 IF RF
V'99
V'99
V'99
V'99
V'99
V'99
FRONT

Continuity Test Circuit Of
Standard Six Tube Catacomb.
Radiolas 24, Super-Heterodyne, Super-VIII.



1
6
N
4
12
14
2
3
7
5
8
9
11
10
P
S
13
NOTE
O = WHISKERS
DEAD ENDS

Term No.	
From 6 to 9	Maximum 4.5 volts. Minimum 4 volts
9 to 10	Maximum 4.5 volts. Minimum 3 volts with all tubes lighted.
10 to 11	Maximum 45 volts. Minimum 34 volts.
11 to 12	Maximum 45 volts. Minimum 34 volts.
8 to 10	Maximum 3 volts when the volume control rheostat is at 100, and the battery setting rheostat is properly adjusted.

The numbers refer to terminals on the catacomb terminal board starting at the right when looking at the front of the panel.

MODEL R-5 AC
Parts List
Notes

R. C. A. VICTOR CO., INC.

RCA Victor Radiolette R-5

The RCA Victor Radiolette R-5 is a two tuned circuit R.F. type radio receiver. Compact construction together with good sensitivity, selectivity and high output are features of this receiver.

The receiver uses four Radiotrons, two UY-224, one UX-280, and one RCA-247 Power Output Pentode. Referring to Figure 1 and tracing a signal through the various stages we find the following action taking place.

The antenna and ground are connected to each side of a 20,000 Ohm potentiometer. The moving contact of the potentiometer is connected to the primary of the first R.F. transformer through a .00013 MFD. condenser, the other side of the transformer being connected to ground. The action of the potentiometer, reducing the voltage applied to the grid of the first R.F. tube, constitutes that of a volume control. The secondary of the R.F. transformer is connected to the grid circuit of the R.F. Radiotron UY-224, which is tuned by one unit of the gang condenser. The plate circuit of this tube works into the primary coil of the 2nd R.F. transformer.

The detector is of the regenerative, grid bias type and its output is coupled by means of resistance coupling to the output Radiotron RCA-247. The regenerative feature of the detector is unusual in that it uses two regeneration coils. One of these resonates at a low frequency and improves the sensitivity at that end, while the other has but few turns and brings up the sensitivity at the high frequency end.

The output stage uses the RCA-247 Output Pentode which gives a high undistorted output—2.5 watts—together with a high gain in the stage

The grid bias for this tube is obtained by using a portion of the drop across the reproducer field. Due to the fact that the plate current of the RCA-247 represents the greatest portion of the total plate current, using the drop across the field acts as a semi-self biasing arrangement.

Plate and grid supply to all tubes is supplied through the use of Radiotron UX-280. The filter is of the "brute force" type. The reproducer unit field coil functions as the reactor. One electrolytic 10 MFD. capacitor and one paper 2 MFD. capacitor act as filter capacitors.

LINE-UP CAPACITOR ADJUSTMENTS

Two adjustable capacitors are provided for aligning the two tuned circuits at the high frequency end of the scale. The following procedure may be used for making any readjustments that may be necessary.

A. Procure an Oscillator giving a modulated signal at exactly 1400 K.C. Also procure a special socket wrench such as RCA Victor Stock No. 3007.

B. An output indicator is necessary. This may be a current squared thermo-galvanometer connected to the secondary of the output transformer in place of the cone coil or other types of output indicators.

C. Turn the station selector until the knob reads exactly 0. Then remove the chassis from the cabinet being careful not to disturb the setting of the dial. The gang condenser rotor plates should be fully meshed with the stator plates. If not, then the dial drum must be adjusted until such a condition exists. Replace the chassis in the cabinet.

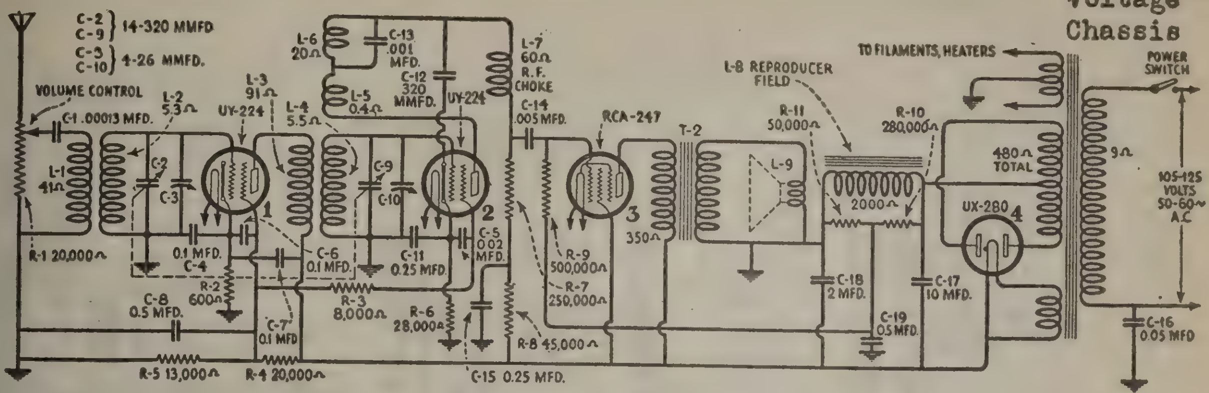
D. Place the oscillator in operation at exactly 1400 K.C. and couple its output to the antenna lead. Set the dial scale at 85 and place the Radiolette in operation. Place a soft pad on the bench and turn the instrument on its side. Now with the special wrench, adjust each line-up capacitor until maximum output is obtained in the output meter. Be careful to adjust the volume control or oscillator output so that an excessive reading is not obtained. Go over each adjustment a second time to compensate for any interlocking of adjustments.

REPLACEMENT PARTS

Part No.	DESCRIPTION	List Price
2549	Resistor- 250,000 Ohms— Carbon type—Package of 5.	$3.00
2747	Cap .Control grid contactor cap—Package of 5.....	.50
2954	Capacitor- By-pass capacitor pack containing three 0.1 Mfd. capacitors....	.75
2955	Transformer First R.F. transformer complete with mounting washer and nut........	1.50
2956	Transformer Second R.F. transformer complete with mounting washer and nut........	2.00
2957	Capacitor 10 Mfd. electrolytic type—Complete with terminal, insulating washer, mounting nut and lock washer........	3.00
2958	Switch Operating switch complete with mounting washers and nut........	.60
2959	Volume control 20,000 Ohm Volume control complete with mounting washers and nut........	1.50
2960	Dial—Dial scale complete with set screws—Package of 2	.50
2961	Coil Detector plate R.F. choke coil........	.50
2962	Capacitor 0.005 Mfd. audio coupling capacitor.....	.75
2963	Resistor 8000 Ohms - Carbon type - Package of 5..	2.50
2964	Resistor 13000 Ohms- Carbon type - Package of 5.	2.50
2965	Resistor 600 Ohms—Carbon type Package of 5...	2.50
2966	Resistor 28,000 Ohms - Carbon type Package of 5.	2.50
2967	Resistor 45,000 Ohms - Carbon type Package of 5.	2.50
2969	Resistor 50,000 Ohms - Carbon type Package of 5.	2.50
2970	Resistor 500,000 Ohms- Carbon type Package of 5.	2.50
2971	Resistor 280,000 Ohms Carbon type Package of 5.	2.50
2972	Shield Radiotron shield complete with mounting screw, washer and nut........	.50
2975	Rivet Eyelet rivet for mounting cone Package of 100........	.50
2976	Knob Volume control or operating switch knob Package of 5........	1.50
2977	Knob Station selector knob—Package of 5........	2.50
2978	Screw - assembly Loudspeaker mounting screw assembly comprising four screws, four washers, four lock washers, eight nuts and four eyelets	.60
2981	Capacitor 320 Mmfd. detector plate R.F by-pass capacitor........	.50
3006	Capacitor .001 Mfd.– Used across low frequency tickler coil........	$0.50
3007	Wrench - Special wrench for R.F. line-up condenser adjustments........	1.00
5817.	Resistor--20,000 Ohms—Carbon type........	.90
7054	Cord - Power cord complete with male connector plug	1.00
7229	Socket –Five prong Radiotron socket complete with insulating shield – 3 used – Package of 2........	.50
7230	Socket Four prong Radiotron socket complete with insulating shield 1 used—Package of 2........	.50
7231	Capacitor Filter and by-pass capacitor pack—Comprising one 0.05 mfd., two 0.5 mfd., two 0.25 mfd. and one 2.0 mfd. condensers........	2.50
7232	Capacitor—2 gang variable tuning capacitor........	5.00
7234	Transformer –Output transformer —With fibre terminal board........	1.50
7236	Cone Reproducer cone complete with voice coil and paper ring........	1.50
8669	Transformer—Power transformer—105–125 volt, 50-60 cycle —Complete with mounting washers and nuts........	6.00
8670	Transformer – Power transformer 105–125 volt, 25–40 cycle—Complete with mounting washers and nuts........	9.00
8671	Transformer—Power transformer 220 volts, 50–60 cycles Complete with mounting washers and nuts.	8.00
10434	Resistor—Mid-tapped filament resistor—Used on early models only........	.50
	SPECIAL PARTS SUPPLIED ON ORDER ONLY (Not to be stocked)	
2979	Board – Baffle board complete with grille cloth......	.75
2980	Escutcheon Station selector escutcheon complete with mounting screws........	.75
7233	Board—Resistor mounting board --Less all resistors, capacitors and coils........	1.00
7235	Coil Field coil complete with bracket and cone ring.	2.00
9321	Cabinet Cabinet complete –Less all equipment....	7.25
9339	Chassis Receiver chassis complete - Less reproducer unit, knobs and Radiotrons........	27.50
9340	Reproducer unit Reproducer unit complete......	4.75

MODEL R-5 AC
Schematic
Voltage
Chassis

R. C. A. VICTOR CO., INC.


C-2 C-9 } 14-320 MMFD
C-3 C-10 } 4-26 MMFD.
VOLUME CONTROL
C-1 .00013 MFD.
L-1 41Ω
L-2 5.3Ω
C-2
C-3
L-3 91Ω
UY-224
1
L-4 5.5Ω
L-6 20Ω
C-13 .001 MFD.
L-5 0.4Ω
C-12 320 MMFD.
C-9
C-10
UY-224
2
L-7 60Ω R.F. CHOKE
C-14 .005 MFD.
RCA-247
3
350Ω
T-2
L-8 REPRODUCER FIELD
L-9
R-11 50,000Ω
R-10 280,000Ω
2000Ω
TO FILAMENTS, HEATERS
480Ω TOTAL
UX-280
4
9Ω
POWER SWITCH
105-125 VOLTS 50-60~ A.C.
R-1 20,000Ω
0.1 MFD. C-4
R-2 600Ω
C-8 0.5 MFD.
C-7 0.1 MFD
C-6 0.1 MFD.
R-3 8,000Ω
C-11 0.25 MFD
R-6 28,000Ω
C-5 0.02 MFD.
R-9 500,000Ω
R-7 250,000Ω
R-8 45,000Ω
C-18 2 MFD.
C-19 0.5 MFD.
C-17 10 MFD.
C-16 0.05 MFD
R-5 13,000Ω
R-4 20,000Ω
C-15 0.25 MFD.

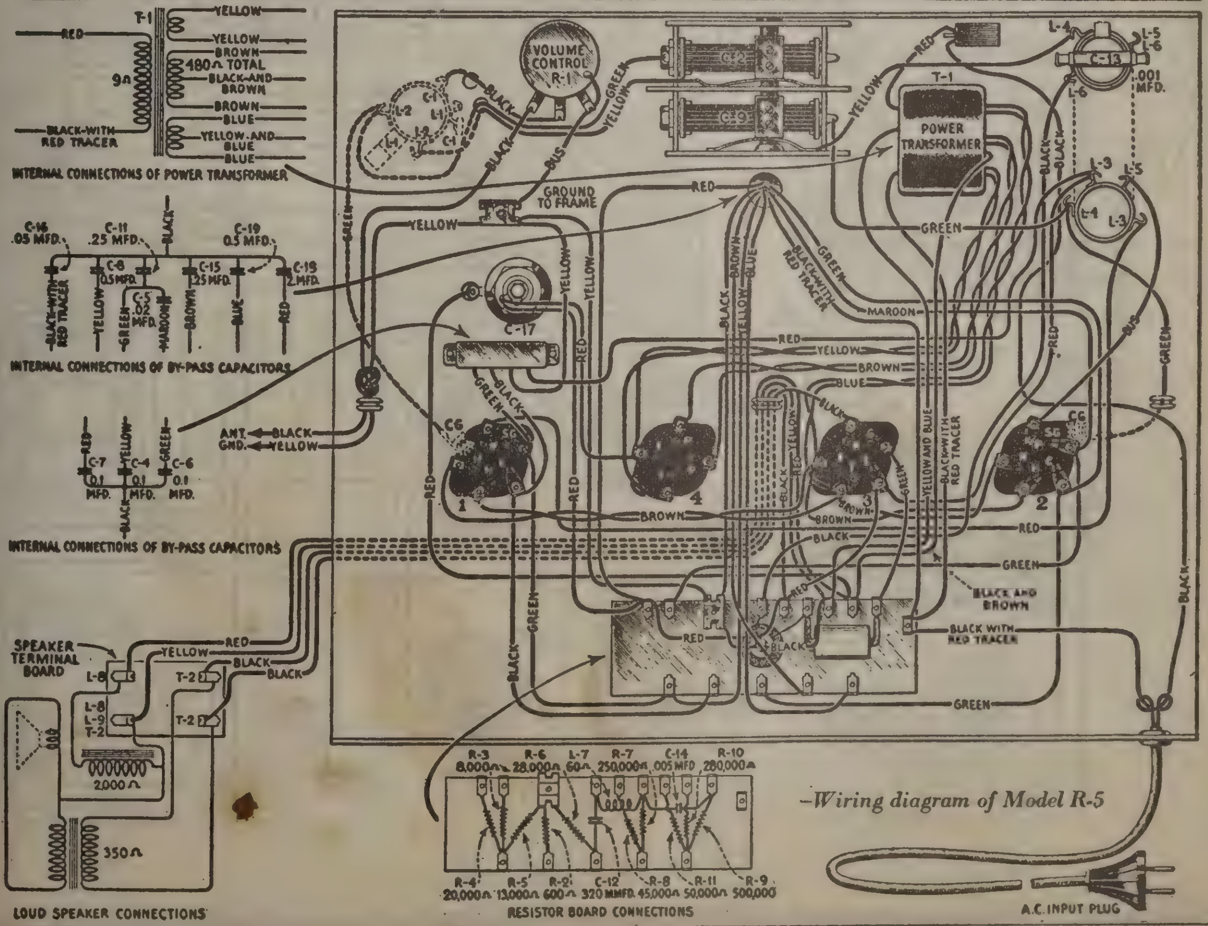
–Schematic Circuit Diagram of Model R-5

SOCKET VOLTAGE READINGS

110-VOLT LINE

These are readings obtained with the usual Set Analyzers and are not true readings of the voltages at which the Radiotrons operate.

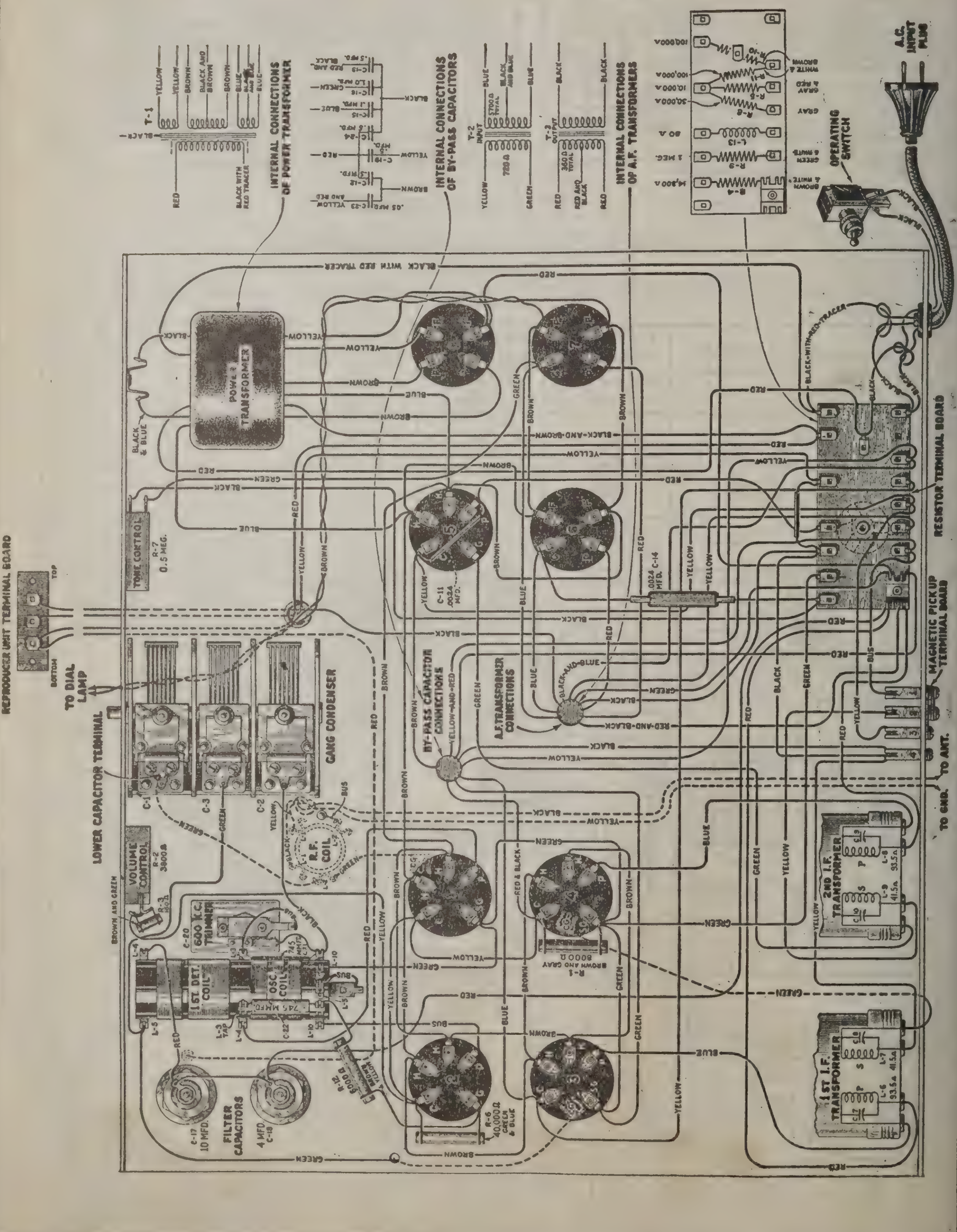
Radiotron No.	Heater to Cathode Volts	Cathode or Filament to Control Grid Volts	Cathode or Filament to Screen Grid Volts	Cathode or Filament to Plate Volts	Plate Current M. A.	Heater Volts
1	3.0	3.0	85	225	4.0	2.2
2	7.0	7.0	65	100	0.25	2.2
3	——	2.0	225	215	30.0	2.2


T-1
RED
YELLOW
YELLOW
BROWN
480Ω TOTAL
9Ω
BLACK-AND-BROWN
BROWN
BLUE
YELLOW-AND-BLUE
BLUE
BLACK-WITH-RED TRACER
INTERNAL CONNECTIONS OF POWER TRANSFORMER
C-16 .05 MFD.
C-11 .25 MFD.
C-19 0.5 MFD.
C-8 0.5 MFD.
C-15 .25 MFD.
C-5 .02 MFD.
C-18 2 MFD.
BLACK-WITH-RED TRACER
YELLOW
GREEN
MAROON
BROWN
BLUE
RED
BLACK
INTERNAL CONNECTIONS OF BY-PASS CAPACITORS
C-7 0.1 MFD.
C-4 0.1 MFD.
C-6 0.1 MFD.
RED
YELLOW
GREEN
BLACK
INTERNAL CONNECTIONS OF BY-PASS CAPACITORS
ANT.
GND.
BLACK
YELLOW
VOLUME CONTROL R-1
C-2
C-9
L-1
L-2
C-1
C-3
L-4
L-5
L-6
C-13
.001 MFD.
T-1
POWER TRANSFORMER
L-3
GROUND TO FRAME
C-17
MAROON
BLACK AND BROWN
BLACK WITH RED TRACER
YELLOW AND BLUE
1
2
3
4
SPEAKER TERMINAL BOARD
L-8
L-9
T-2
2,000Ω
350Ω
LOUD SPEAKER CONNECTIONS
R-3 8,000Ω
R-6 28,000Ω
L-7 60Ω
R-7 250,000Ω
C-14 .005 MFD
R-10 280,000Ω
R-4 20,000Ω
R-5 13,000Ω
R-2 600Ω
C-12 320 MMFD.
R-8 45,000Ω
R-11 50,000Ω
R-9 500,000
RESISTOR BOARD CONNECTIONS
A.C. INPUT PLUG

–Wiring diagram of Model R-5

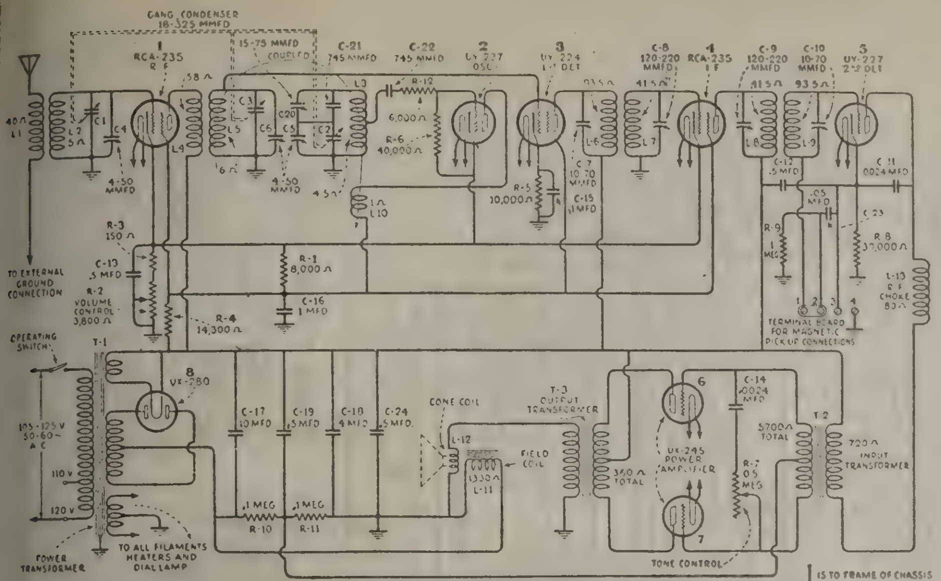
MODEL R-7,R-9 AC
Superette
Chassis

R. C. A. VICTOR CO., INC.

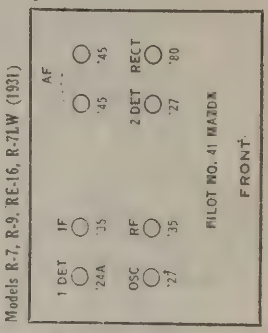

INTERNAL CONNECTIONS OF POWER TRANSFORMER
T-1
INTERNAL CONNECTIONS OF BY-PASS CAPACITORS
INTERNAL CONNECTIONS OF A.F. TRANSFORMERS
T-2 INPUT
T-2 OUTPUT
OPERATING SWITCH
A.C. INPUT PLUG
POWER TRANSFORMER
RESISTOR TERMINAL BOARD
MAGNETIC PICK UP TERMINAL BOARD
TO ANT.
TO GND.
REPRODUCER UNIT TERMINAL BOARD
TO DIAL LAMP
TONE CONTROL R-7 0.5 MEG.
GANG CONDENSER
LOWER CAPACITOR TERMINAL
VOLUME CONTROL R-2 3800Ω
R.F. COIL
1ST DET. COIL
OSC. COIL
600 K.C. TRIMMER
C-20
BY-PASS CAPACITOR CONNECTIONS
A.F. TRANSFORMER CONNECTIONS
C-11 .0024 MFD.
C-14 .0024 MFD.
R-1 8000Ω BROWN AND GRAY
R-6 40,000Ω GREEN & BLUE
R-12 6000Ω
FILTER CAPACITORS
C-17 10 MFD.
C-18 4 MFD
2ND I.F. TRANSFORMER
1ST I.F. TRANSFORMER
BLACK WITH RED TRACER

MODEL R-7,R-9 AC
Superette
Schematic

R. C. A. VICTOR CO., INC.


GANG CONDENSER 18-325 MMFD
15-75 MMFD COUPLED
1 RCA-235 RF
C-21 745 MMFD
C-22 745 MMFD
2 UY-227 OSC.
3 UY-224 1st DET
C-8 120-220 MMFD
4 RCA-235 IF
C-9 120-220 MMFD
C-10 10-70 MMFD
5 UY-227 2nd DET
40 Ω L1
L2 5 Ω
C1
C4
4-50 MMFD
.58 Ω
L4
L5
6 Ω
C3
C6
C5
C20
C2
L3
4-50 MMFD
4.5 Ω
R-12
6,000 Ω
R-6 40,000 Ω
1 Ω L10
R-5 10,000 Ω
C-7 10-70 MMFD
C-15 .1 MFD
93.5 Ω
41.5 Ω
L-6
L-7
L-8
L-9
C-12 .5 MFD
C-11 .0024 MFD
.05 MFD
C-23
R-9 1 MEG
R-8 30,000 Ω
L-13 RF CHOKE 80 Ω
1 2 3 4
TERMINAL BOARD FOR MAGNETIC PICK-UP CONNECTIONS
R-3 150 Ω
C-13 .5 MFD
R-2 VOLUME CONTROL 3,800 Ω
R-1 8,000 Ω
C-16 1 MFD
R-4 14,300 Ω
TO EXTERNAL GROUND CONNECTION
OPERATING SWITCH
T-1
8 UX-280
105-125 V 50-60~ AC
110 V
120 V
POWER TRANSFORMER
TO ALL FILAMENTS HEATERS AND DIAL LAMP
C-17 10 MFD
C-19 .5 MFD
C-18 4 MFD
C-24 .5 MFD.
.1 MEG R-10
.1 MEG R-11
CONE COIL
L-12
FIELD COIL
1330 Ω L-11
T-3 OUTPUT TRANSFORMER
360 Ω TOTAL
6
7
UX-245 POWER AMPLIFIER
C-14 .0024 MFD
R-7 .05 MEG
TONE CONTROL
T-2
5700 Ω TOTAL
720 Ω INPUT TRANSFORMER
IS TO FRAME OF CHASSIS

RADIOLA SUPERETTE


Models R-7, R-9, RE-16, R-7LW (1931)
AF
'45
'45
RECT
'80
2 DET
'27
PILOT NO. 41 MAZDA
FRONT
IF
'35
RF
'35
1 DET
'24A
OSC
'27

IF PEAK 175 KC

SERVICE NOTES ***

The can at the extreme center rear of the top of the chassis is AF transformer assembly. Directly in front of it is the RF bypass capacitor pack. The can at the left front facing the chassis is the 10 mfd electrolytic condenser. Directly to the rear of this can is the 4 mfd electrolytic condenser. To the right of this can, towards the center of the chassis is the RF transformer.

The 600 KC trimming condenser is accessible by means of a screw adjustment located on top of the chassis, to the right of the electrolytic condenser cans, between the cans and the RF transformer.

The 1400 KC line-up condensers are accessible through three holes in the bottom of the cabinet. With the cabinet tilted away from the operator and the rear of the chassis to the right of the operator, the extreme left hand hole is for the RF condensers, the middle hole for the detector condenser and the extreme right hand hole is for the oscillator condenser.

The IF transformer tuning condensers are accessible from the rear of the chassis. The two holes near the magnetic pickup terminal board are for the 2nd IF transformer. With the cabinet on its side, the upper hole is for the Primary circuit and the lower hole is for the Secondary circuit. The lower pair of holes, near the edge of the chassis are for the 1st IF transformer. The upper hole is for the Secondary circuit adjustment and the lower hole is for the Primary circuit adjustment.

The tone control can is opened by pressing with a pin or sharp instrument through the hole in the side of the can.

For 110 volt operation interchange the black and red lead with the folded over and tapped end, with the black with red-tracer lead connected to one of the terminals. When the change has been made tape up the black-red lead.

Volume Control Maximum

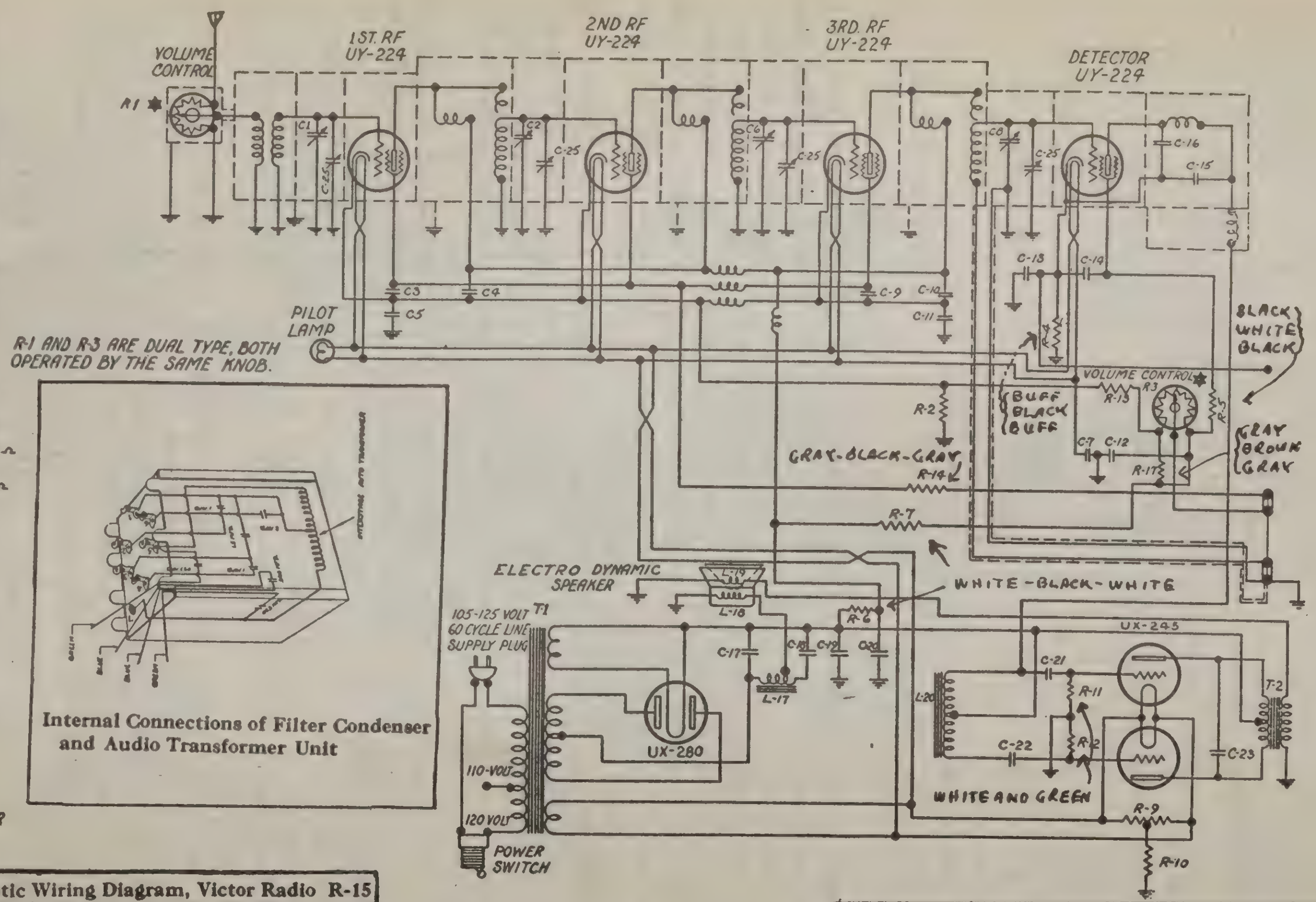
Tube	Cathode-Heater	Cathode-Grid	Cathode-Screen	Cathode-Plate	Plate Current	Fil.
RF	2.5	2.5	65	225	4.0 ma	2.4
Osc.	2.5	0.		55	5.0	2.4
1Det	5.0	5.0	60	215	0.5	2.4
IF	2.5	2.5	65	225	4.0	2.4
2Det	60.	*10.		200	0.5	2.4
AF		*20.		215	20.	2.4
AF		*20.		215	20.	2.4

* Not true reading because of resistance in circuit.

R. C. A. VICTOR CO., INC.

MODEL Victor R-15
Schematic

C-1	TUNING CONDENSER
C-2	TUNING CONDENSER
C-3	0.1 MFD. CONDENSER
C-4	0.1 MFD. CONDENSER
C-5	0.1 MFD. CONDENSER
C-6	TUNING CONDENSER
C-7	0.1 MFD. CONDENSER
C-8	TUNING CONDENSER
C-9	0.1 MFD. CONDENSER
C-10	0.1 MFD. CONDENSER
C-11	0.1 MFD. CONDENSER
C-12	0.1 MFD. CONDENSER
C-13	.75 MFD. CONDENSER
C-14	.25 MFD. CONDENSER
C-15	320 MMF. CONDENSER
C-16	320 MMF. CONDENSER
C-17	0.1 MFD. CONDENSER
C-18	2.0 MFD. CONDENSER
C-19	1.5 MFD. CONDENSER
C-20	1.0 MFD. CONDENSER
C-21	.025 MFD. CONDENSER
C-22	.025 MFD. CONDENSER
C-23	.005 MFD. CONDENSER
C-25	5 TO 15 MMF. ADJ. COND.
R-1	VAR. RESISTOR 50,000 Ω
R-2	120 Ω RESISTOR
R-3	VAR. RESISTOR 50,000 Ω
R-4	17,000 Ω RESISTOR
R-5	200,000 Ω RESISTOR
R-6	3,200 Ω RESISTOR
R-7	3,200 Ω RESISTOR
R-9	55 Ω RESISTOR
R-10	715 Ω RESISTOR
R-11	930,000 RESISTOR
R-12	930,000 RESISTOR
R-13	830 Ω RESISTOR
R-14	16,000 Ω RESISTOR
R-17	12,000 Ω RESISTOR
T-1	POWER TRANSFORMER
T-2	OUTPUT TRANSFORMER
L-17	FILTER REACTOR
L-18	SPEAKER FIELD
L-19	SPEAKER VOICE COIL
L-20	INTERSTAGE TRANSFORMER

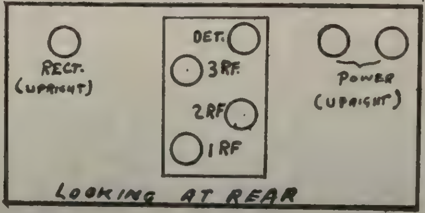

VOLUME CONTROL
R1 ★
1ST. RF UY-224
2ND RF UY-224
3RD. RF UY-224
DETECTOR UY-224
C1
C2
C6
C8
C-25
C-16
C-15
C3
C4
C5
C-9
C-10
C-11
C-13
C-14
PILOT LAMP
BLACK WHITE BLACK
BUFF BLACK BUFF
VOLUME CONTROL ★
R-13
R3
R-5
R-4
GRAY BROWN GRAY
C7
C-12
R-17
R-2
GRAY-BLACK-GRAY
R-14
R-7
ELECTRO DYNAMIC SPEAKER
L-19
L-18
WHITE-BLACK-WHITE
R-6
105-125 VOLT 60 CYCLE LINE SUPPLY PLUG
T1
C-17
C-18
C-19
C-20
L-17
UX-280
UX-245
C-21
R-11
R-12
L-20
C-22
C-23
T-2
WHITE AND GREEN
110-VOLT
120 VOLT
POWER SWITCH
R-9
R-10

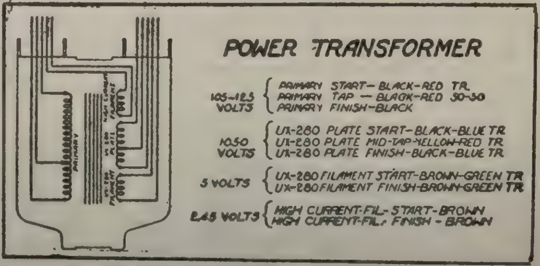
R-1 AND R-3 ARE DUAL TYPE, BOTH OPERATED BY THE SAME KNOB.

Internal Connections of Filter Condenser and Audio Transformer Unit

Schematic Wiring Diagram, Victor Radio R-15

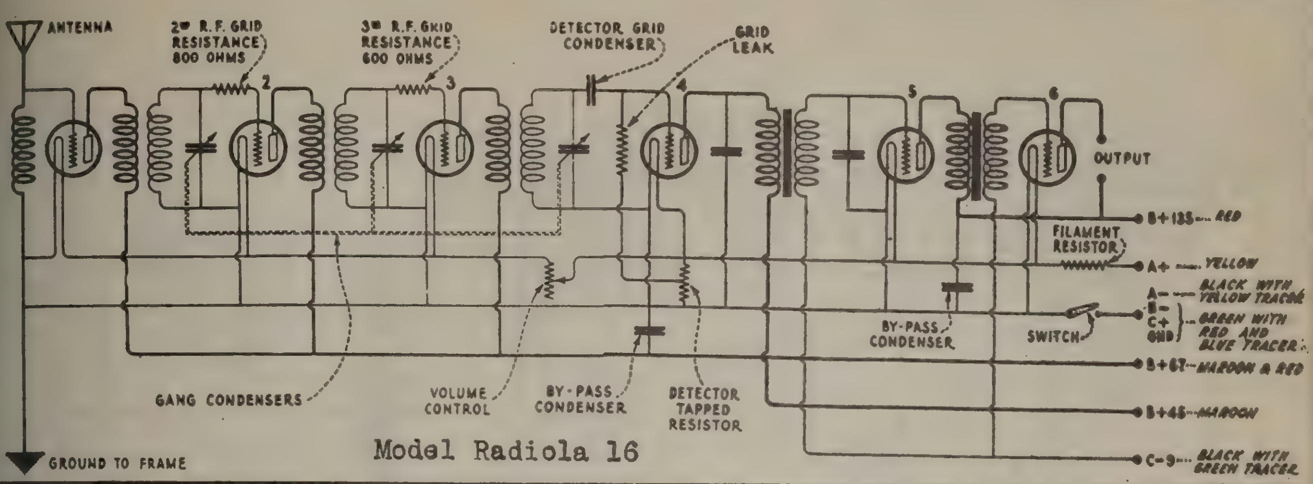
Tube	Fil.V.	Plt.V.	Grd.V.	S Grd.V.	Plt.Crnt.
1RF	2.1	153	2.7	78.	2.9 ma
2RF	2.1	154	2.7	77.	3.4
3RF	2.1	152	2.8	75.	3.1
Det	2.1	215	4.6	34.	0.4
PPAF	2.05	190	4.5		25.
Rect	4.1	Plate current each Plt.36.			

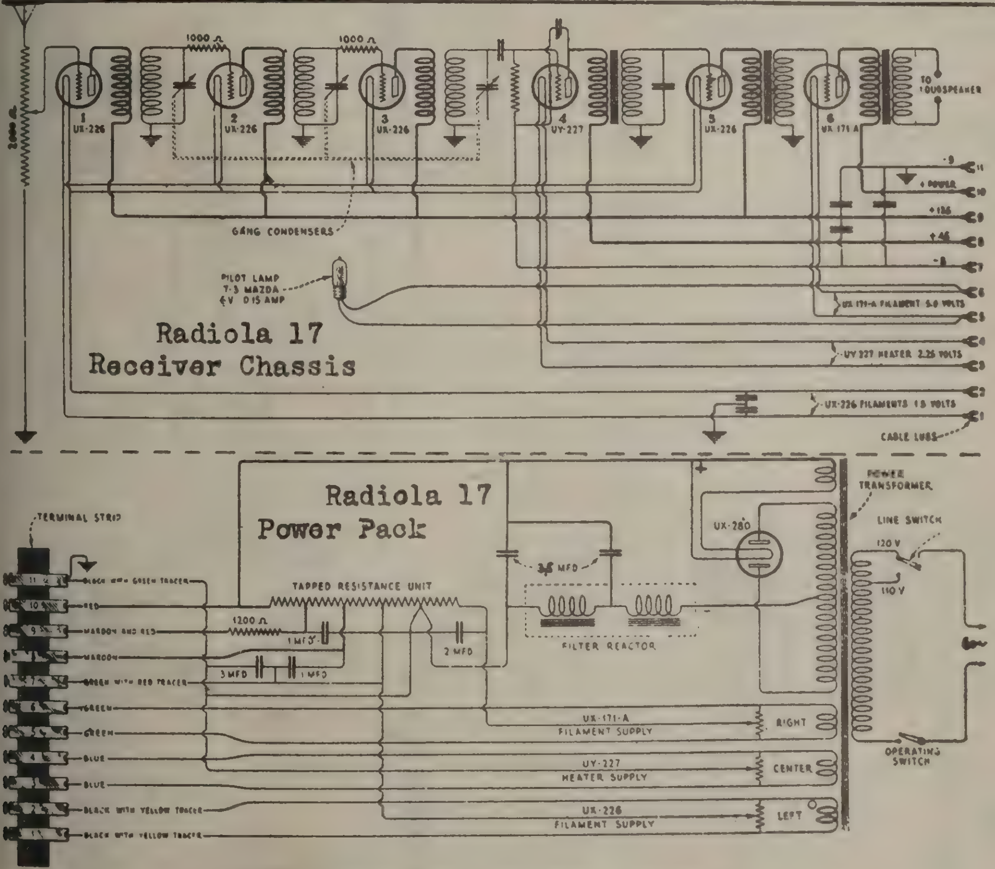

RECT. (UPRIGHT)
DET.
3 RF.
2 RF
1 RF
POWER (UPRIGHT)
LOOKING AT REAR

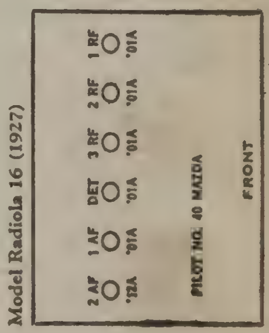

POWER TRANSFORMER
105-125 VOLTS
PRIMARY START—BLACK-RED TR.
PRIMARY TAP — BLACK-RED 90-30
PRIMARY FINISH—BLACK
1050 VOLTS
UX-280 PLATE START—BLACK-BLUE TR
UX-280 PLATE MID-TAP-YELLOW-RED TR
UX-280 PLATE FINISH-BLACK-BLUE TR
5 VOLTS
UX-280 FILAMENT START-BROWN-GREEN TR
UX-280 FILAMENT FINISH-BROWN-GREEN TR
2.45 VOLTS
HIGH CURRENT-FIL-START-BROWN
HIGH CURRENT-FIL. FINISH - BROWN

R. C. A. VICTOR CO., INC.

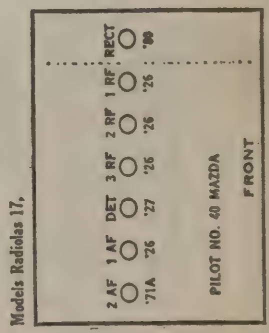
MODEL Radiola 16
MODEL Radiola 17


ANTENNA
2ND R.F. GRID RESISTANCE 800 OHMS
3RD R.F. GRID RESISTANCE 600 OHMS
DETECTOR GRID CONDENSER
GRID LEAK
2
3
4
5
6
OUTPUT
B+135 — RED
FILAMENT RESISTOR
A+ — YELLOW
A− — BLACK WITH YELLOW TRACER
B− C+ GND — GREEN WITH RED AND BLUE TRACER
BY-PASS CONDENSER
SWITCH
B+67 — MAROON & RED
B+45 — MAROON
C−9 — BLACK WITH GREEN TRACER
GANG CONDENSERS
VOLUME CONTROL
BY-PASS CONDENSER
DETECTOR TAPPED RESISTOR
GROUND TO FRAME
Model Radiola 16


1000 Ω
1000 Ω
2000 Ω
1
UX-226
2
UX-226
3
UX-226
4
UY-227
5
UX-226
6
UX-171 A
TO LOUDSPEAKER
−9
11
+ POWER
10
+135
9
+45
8
−8
7
6
UX-171-A FILAMENT 5.0 VOLTS
5
4
UY 227 HEATER 2.25 VOLTS
3
2
UX-226 FILAMENTS 1.5 VOLTS
1
CABLE LUGS
GANG CONDENSERS
PILOT LAMP T-3 MAZDA 6V 0.15 AMP
Radiola 17
Receiver Chassis
Radiola 17
Power Pack
TERMINAL STRIP
11
BLACK WITH GREEN TRACER
10
RED
9
MAROON AND RED
MAROON
GREEN WITH RED TRACER
6
GREEN
5
GREEN
4
BLUE
BLUE
2
BLACK WITH YELLOW TRACER
1
BLACK WITH YELLOW TRACER
TAPPED RESISTANCE UNIT
1200 Ω
1 MFD
2 MFD
3 MFD
1 MFD
3.5 MFD
FILTER REACTOR
UX-280
POWER TRANSFORMER
LINE SWITCH
120 V
110 V
UX-171-A FILAMENT SUPPLY
RIGHT
UY-227 HEATER SUPPLY
CENTER
UX-226 FILAMENT SUPPLY
LEFT
OPERATING SWITCH

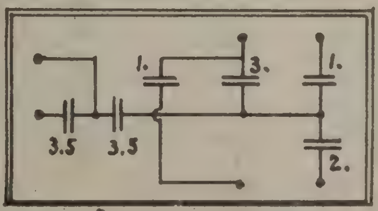

1 RF '01A
2 RF '01A
3 RF '01A
DET '01A
1 AF '01A
2 AF '12A
PILOT NO. 40 MAZDA
FRONT

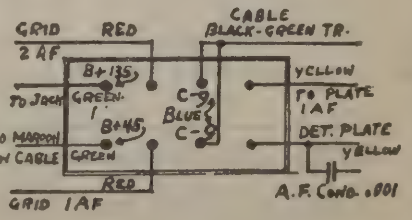
Model Radiola 16 (1927)


RECT '80
1 RF '26
2 RF '26
3 RF '26
DET '27
1 AF '26
2 AF '71A
PILOT NO. 40 MAZDA
FRONT

Models Radiolas 17.

Internal Connections of filter condenser Radiola 17 Pack




GRID
RED
CABLE BLACK-GREEN TR.
2 AF
B+135
YELLOW
TO JACK
GREEN
C−9
TO PLATE 1AF
BLUE
B+45
C−
TO MAROON ON CABLE
GREEN
DET. PLATE
YELLOW
RED
GRID 1AF
A.F. Cond. .001

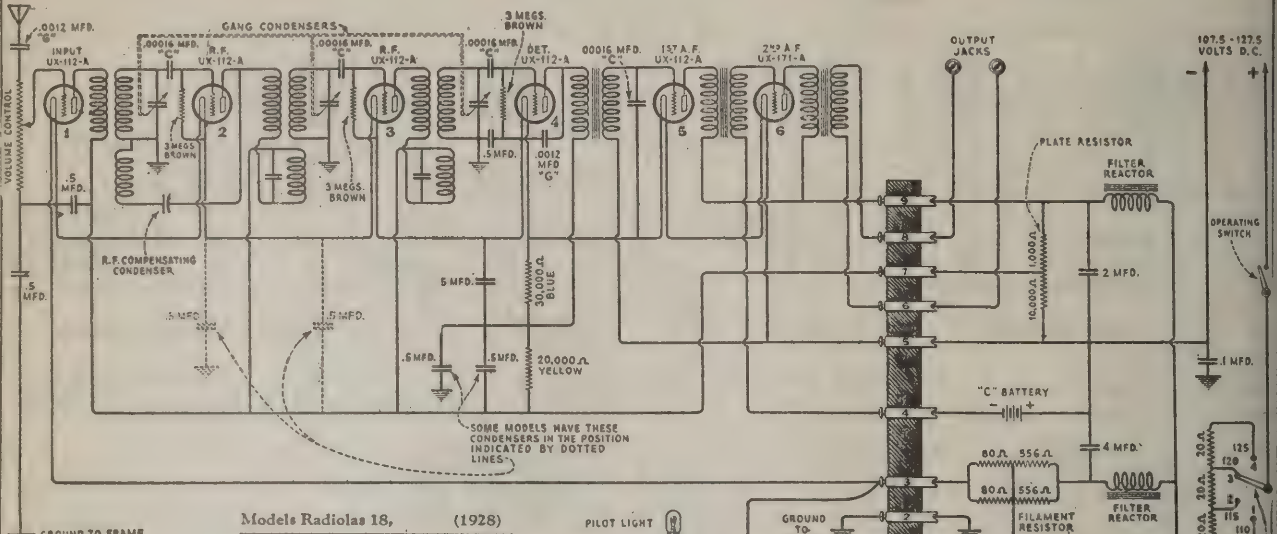
Connections to A.F.Transf
RADIOLA 16

RADIOLA—Models 17
Line Voltage 112—120 Volt Tap—Volume Control Full

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST AF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE M.A GRID TEST	PLATE MA CHANGE
1	226	1st. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
2	226	2nd. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
3	226	3rd. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
4	227	Detector	2.4	125	2.2	22	0	-	3.0	3.1	.1
5	226	1st. A.F.	1.4	125	1.3	120	8	-	4.0	7.8	3.8
6	171A	2nd. A.F.	4.9	200	4.7	132	30	-	16.0	18.0	2.0
7	280	Rectifier	-	-	4.8	-	-	-	20.0	-	-

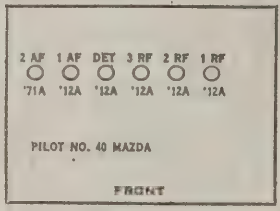
MODEL Radiola 18 DC
MODEL Radiola 18 AC

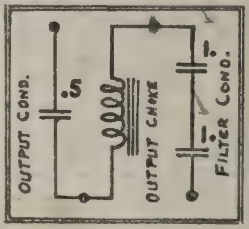
R. C. A. VICTOR CO., INC.


.0012 MFD.
"G"
INPUT
UX-112-A
VOLUME CONTROL
GANG CONDENSERS
.00016 MFD.
"C"
R.F.
UX-112-A
.00016 MFD.
"C"
R.F.
UX-112-A
3 MEGS.
BROWN
.00016 MFD.
"C"
DET.
UX-112-A
.00016 MFD.
"C"
1ST A.F.
UX-112-A
2ND A.F.
UX-171-A
1
2
3
4
5
6
3 MEGS
BROWN
3 MEGS.
BROWN
.5 MFD.
.0012
MFD
"G"
.5
MFD.
R.F. COMPENSATING
CONDENSER
.5
MFD.
.5 MFD.
.5 MFD.
5 MFD.
30,000 Ω
BLUE
.5 MFD.
.5 MFD.
20,000 Ω
YELLOW
SOME MODELS HAVE THESE CONDENSERS IN THE POSITION INDICATED BY DOTTED LINES
GROUND TO FRAME
PILOT LIGHT
OUTPUT
JACKS
107.5 - 127.5
VOLTS D.C.
-
+
PLATE RESISTOR
FILTER
REACTOR
OPERATING
SWITCH
1,000 Ω
10,000 Ω
2 MFD.
.1 MFD.
"C" BATTERY
- +
4 MFD.
80 Ω
556 Ω
80 Ω
556 Ω
FILAMENT
RESISTOR
FILTER
REACTOR
20 Ω
20 Ω
20 Ω
125
120
115
110
GROUND
TO
FRAME
GROUND TO FRAME
TERMINAL STRIP
LINE VOLTAGE
ADJUSTMENT SWITCH
9
8
7
6
5
4
3
2
1

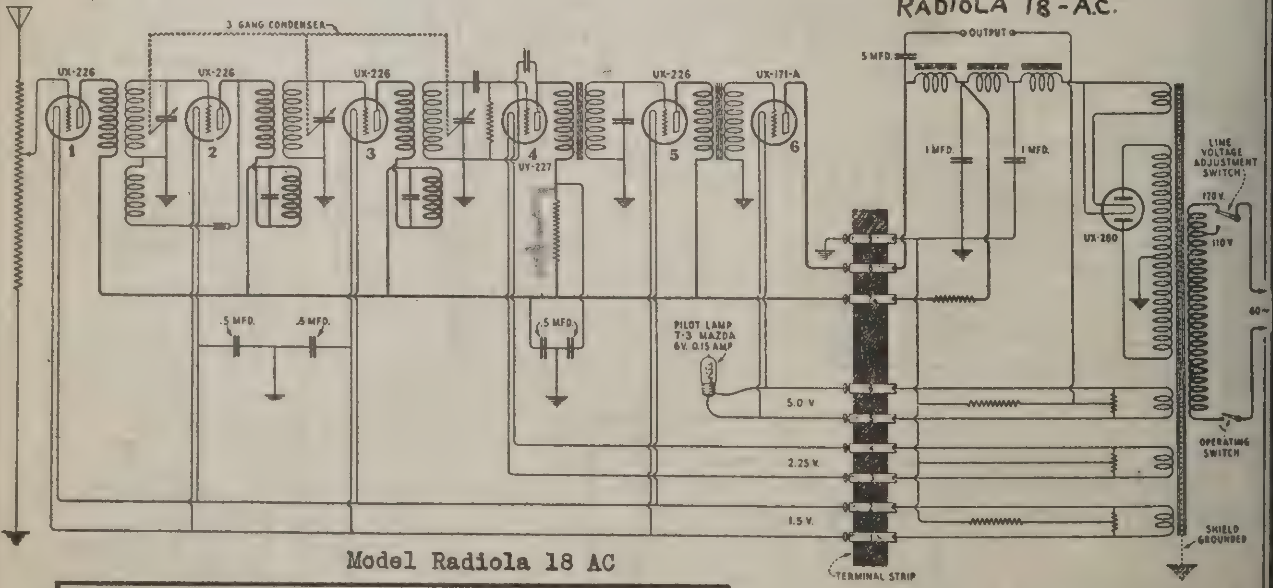
Model Radiola 18 DC

Models Radiolas 18, (1928)


2 AF
1 AF
DET
3 RF
2 RF
1 RF
'71A
'12A
'12A
'12A
'12A
'12A
PILOT NO. 40 MAZDA
FRONT


OUTPUT COND.
.5
OUTPUT CHOKE
1.
1.
FILTER COND.

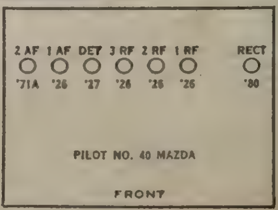
RADIOLA 18-A.C.


3 GANG CONDENSER
UX-226
UX-226
UX-226
UX-226
UX-171-A
UY-227
1
2
3
4
5
6
.5 MFD.
.5 MFD.
.5 MFD.
PILOT LAMP
T-3 MAZDA
6V. 0.15 AMP
5.0 V
2.25 V.
1.5 V.
5 MFD.
OUTPUT
1 MFD.
1 MFD.
UX-280
LINE
VOLTAGE
ADJUSTMENT
SWITCH
120 V.
110 V
60~
OPERATING
SWITCH
SHIELD
GROUNDED
TERMINAL STRIP

Model Radiola 18 AC

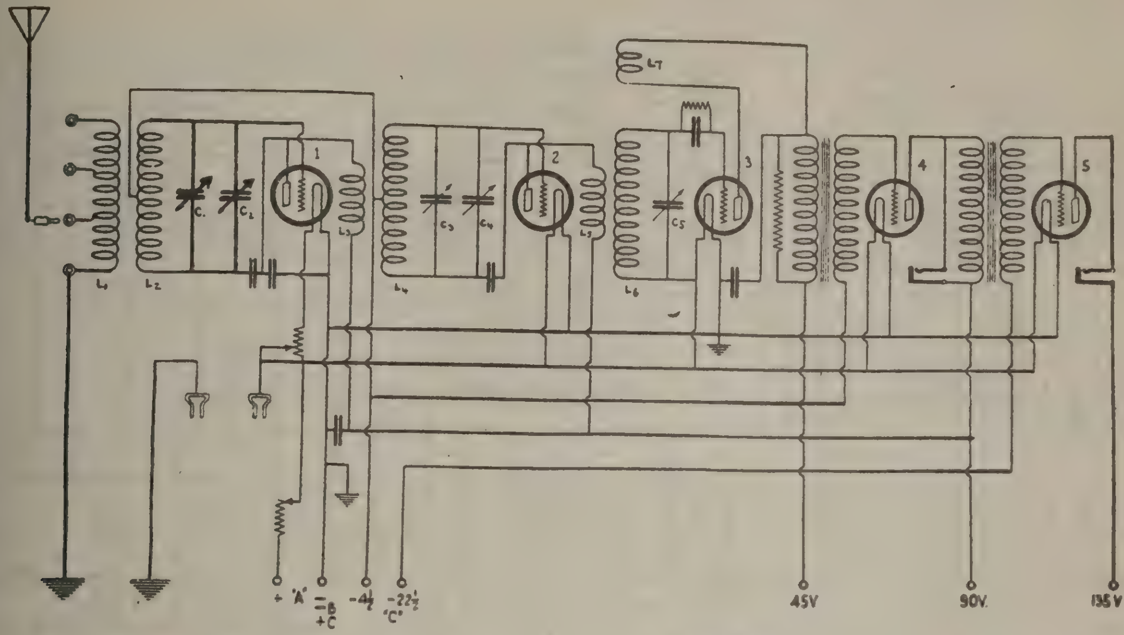
Model 18 D.C.				
Tube No.	Fil. to Grid Volts	Fil. to Plate Volts	Plate Ma.	Fil. Volts
1	5	45	4.5	4.7
2	4	50	6.	4.8
3	4	55	5.5	5.
4	4	21	1.	5.1
5	10	90	3.5	5.2
6	22.5	90	10.	5.3

Models Victors R18,

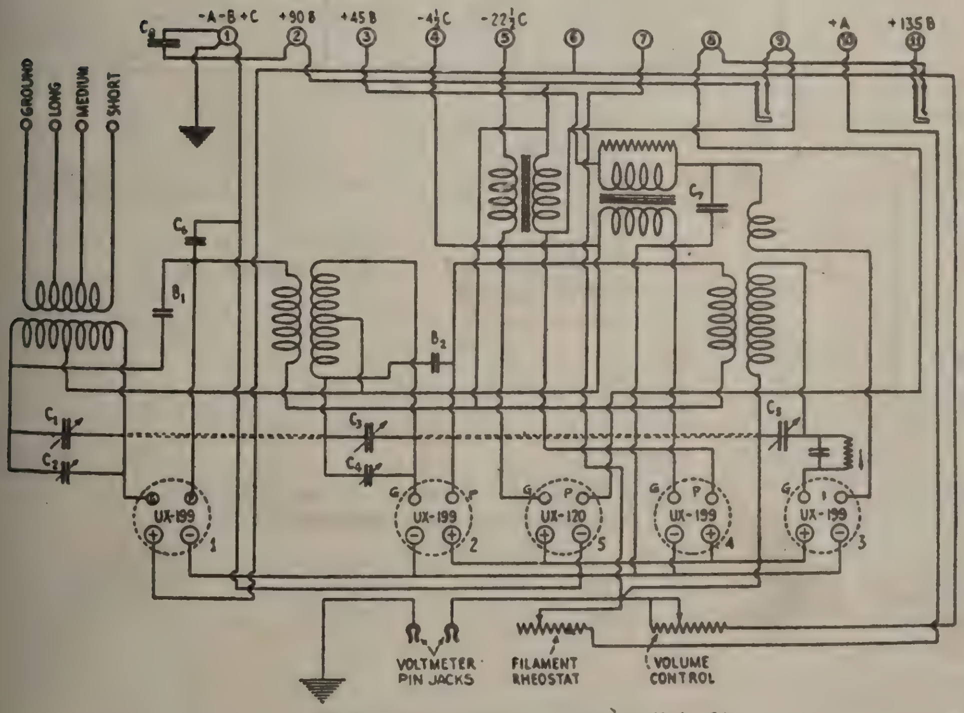

2 AF
1 AF
DET
3 RF
2 RF
1 RF
RECT
'71A
'26
'27
'26
'26
'26
'80
PILOT NO. 40 MAZDA
FRONT

MODEL Radiola 20

R. C. A. VICTOR CO., INC.

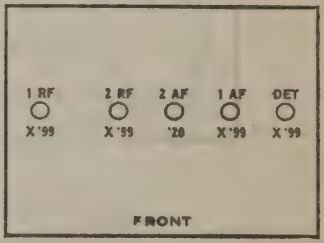

L1
L2
C
C1
1
L3
C3
C4
2
L4
L5
L7
C5
3
L6
4
5
+ 'A'
-B
+C
-4½
-22½
'C'
45V
90V.
135V

Radiola 20.


C9
-A-B+C
+90B
+45B
-4½C
-22½C
①
②
③
④
⑤
⑥
⑦
⑧
⑨
+A
⑩
+135B
⑪
GROUND
LONG
MEDIUM
SHORT
C6
B1
B2
C7
C1
C2
C3
C4
C8
UX-199
1
G
P
UX-199
2
UX-120
5
UX-199
4
UX-199
3
VOLTMETER
PIN JACKS
FILAMENT
RHEOSTAT
VOLUME
CONTROL

Continuity Diagram of the Radiola 20

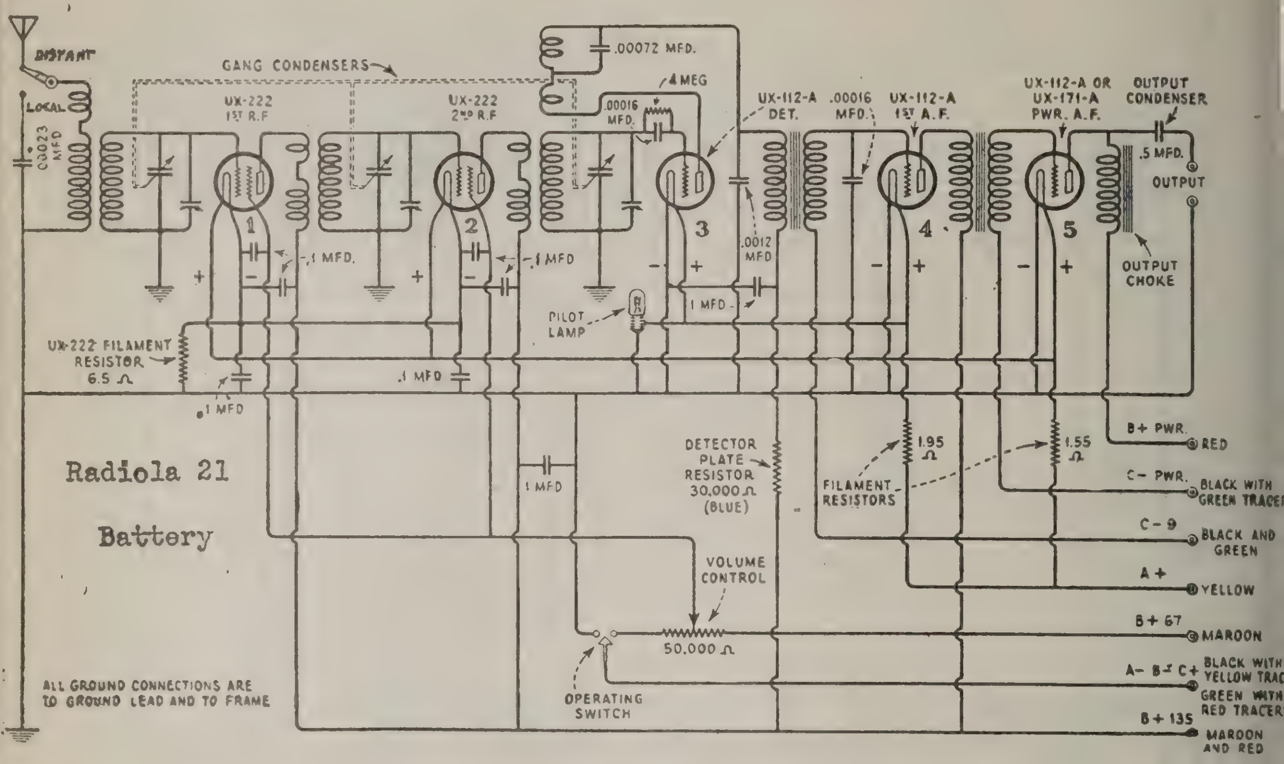
Model Radiola 20 (1925)


1 RF
X'99
2 RF
X'99
2 AF
'20
1 AF
X'99
DET
X'99
FRONT

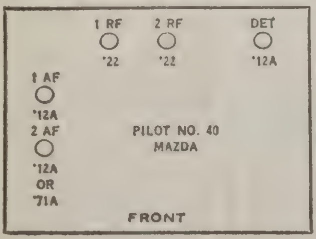
B plus 135	Red
B plus 90	Maroon and Red
B plus 45	Maroon
A- B- C plus	Green and Yellow-Red Tracer
-4.5	Black and Green
-22.5	Black with Green Tracer
A plus	Yellow

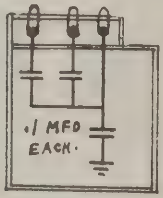
R. C. A. VICTOR CO., INC.

MODEL **Radiola 21,2**

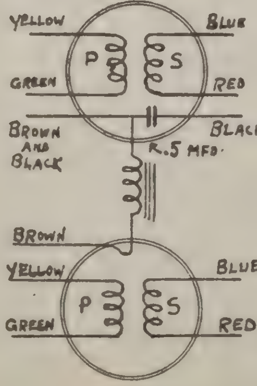

DISTANT
LOCAL
.00023 MFD
GANG CONDENSERS
UX-222 1ST R.F
UX-222 2ND R.F
.00072 MFD.
4 MEG
.00016 MFD.
UX-112-A DET.
.00016 MFD.
UX-112-A 1ST A.F.
UX-112-A OR UX-171-A PWR. A.F.
OUTPUT CONDENSER
.5 MFD.
OUTPUT
1
2
3
4
5
.1 MFD.
.1 MFD
.0012 MFD
1 MFD
PILOT LAMP
OUTPUT CHOKE
UX-222 FILAMENT RESISTOR 6.5 Ω
.1 MFD
.1 MFD
1 MFD
DETECTOR PLATE RESISTOR 30,000 Ω (BLUE)
1.95 Ω
1.55 Ω
FILAMENT RESISTORS
B+ PWR. RED
C- PWR. BLACK WITH GREEN TRACER
C-9 BLACK AND GREEN
A+ YELLOW
B+67 MAROON
A- B- C+ BLACK WITH YELLOW TRACER
GREEN WITH RED TRACER
B+135 MAROON AND RED
VOLUME CONTROL
50,000 Ω
OPERATING SWITCH
Radiola 21
Battery
ALL GROUND CONNECTIONS ARE TO GROUND LEAD AND TO FRAME

Models Radiolas 21, 22 (1929)


1 RF
'22
2 RF
'22
DET
'12A
1 AF
'12A
2 AF
'12A OR '71A
PILOT NO. 40 MAZDA
FRONT



RF Bypass Unit


YELLOW
BLUE
P
S
GREEN
RED
BROWN AND BLACK
BLACK
R.5 MFD.
BROWN
YELLOW
BLUE
P
S
GREEN
RED

Internal connections of A-F coupling unit.

RADIOLA—Models 21 and 22
Volume Control at Minimum

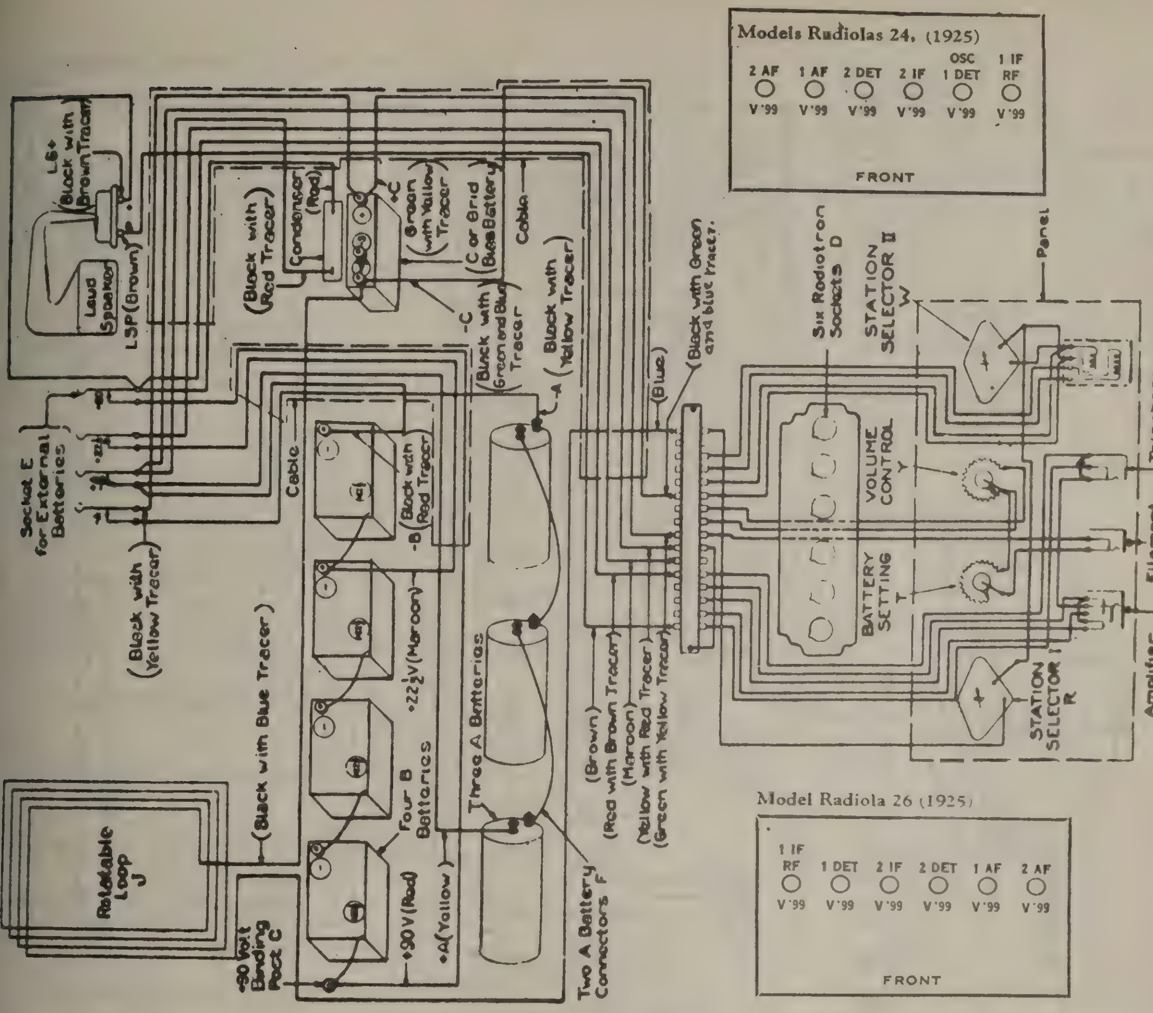
① TUBE NO IN ORDER TESTED	② TYPE OF TUBE	③ POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GD +	⑦ NORMAL GRID—SCREEN GD +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L. H. '80 PLATE	⑩ PLATE R. H. '80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	222	1 R.F.	3.2	135	1.6	0	-	-	0		
2	222	2 R.F.	3.2	135	1.6	0	-	-	0		
3	112A	Det.	5.0	45	-	-	-	-	3.5		
4	112A	1 A.F.	5.0	125	-	9	-	-	6.5		
5	171A	PWR	5.0	130	-	27	-	-	15		
6											
7											

Volume Control at Maximum

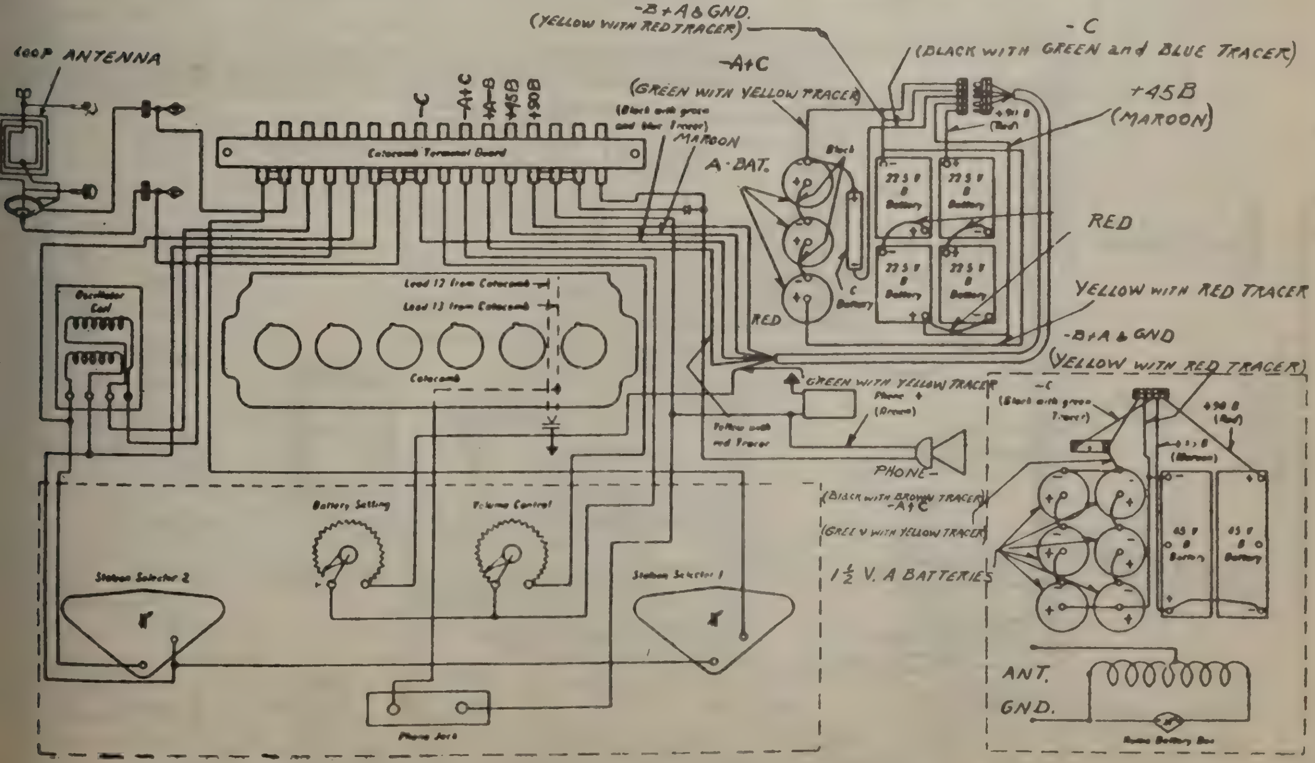
① TUBE NO. IN ORDER TESTED	② TYPE OF TUBE	③ POSITION OF TUBE IN SET	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GD +	⑦ NORMAL GRID—SCREEN GD +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L. H. 80 PLATE	⑩ PLATE R. H. 80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	222	1 R.F.	3.2	135	1.6	67	-	-	5.0		
2	222	2 R.F.	3.2	135	1.6	67	-	-	5.0		
3	112A	Det.	5.0	45	-	-	-	-	3.5		
4	112A	1 A.F.	5.0	125	-	9	-	-	6.5		
5	171A	PWR	5.0	130	-	27	-	-	15		
6											
7											

R. C. A. VICTOR CO., INC.

MODEL Radiola 24
MODEL Radiola 26


Models Radiolas 24, (1925)
2 AF
1 AF
2 DET
2 IF
OSC 1 DET
1 IF RF
V'99
FRONT
L6+
Black with Brown Tracer
Loud Speaker
L5P (Brown)
Black with Red Tracer
Condenser (Red)
+C
Green with Yellow Tracer
C or Grid Bias Battery
Cable
-C
Black with Green and Blue Tracer
Black with Yellow Tracer
-A
(Blue)
Black with Green and blue tracer
Six Radiotron Sockets D
STATION SELECTOR II W
Panel
Telephone Jack X
VOLUME CONTROL Y
Filament Switch Z
BATTERY SETTING T
Amplifier Switch S
STATION SELECTOR I R
Socket E for External Batteries
Black with Yellow Tracer
Cable
Black with Red Tracer
-B
+22½V (Maroon)
Black with Blue Tracer
Four B Batteries
Three A Batteries
(Brown)
(Red with Brown Tracer)
(Maroon)
(Yellow with Red Tracer)
(Green with Yellow Tracer)
Rotatable Loop J
+90V (Red)
+A (Yellow)
Two A Battery Connectors F
-90 Volt Binding Post C
Model Radiola 26 (1925)
1 IF RF
1 DET
2 IF
2 DET
1 AF
2 AF
V'99
FRONT

Model Radiola 24 Connection Diagram.


LOOP ANTENNA
-C
-A+C
+A-B
+45B
+90B
Catacomb Terminal Board
-B+A & GND.
(YELLOW WITH RED TRACER)
-A+C
(GREEN WITH YELLOW TRACER)
(Black with green and blue tracer)
MAROON
A-BAT.
Black
-C
(BLACK WITH GREEN and BLUE TRACER)
+45B
(MAROON)
+90 B (Red)
22.5 V B Battery
C Battery
RED
RED
YELLOW WITH RED TRACER
-B+A & GND
(YELLOW WITH RED TRACER)
Oscillator Coil
Lead 12 from Catacomb
Lead 13 from Catacomb
Catacomb
GREEN WITH YELLOW TRACER
Phone + (Brown)
Yellow with red Tracer
PHONE-
Battery Setting
Volume Control
Station Selector 2
Station Selector 1
Phone Jack
(BLACK WITH BROWN TRACER)
-A+C
(GREEN WITH YELLOW TRACER)
1½ V. A BATTERIES
-C
(Black with green Tracer)
+90 B (Red)
+45 B (Maroon)
45 V B Battery
ANT.
GND.
Radio Battery Box

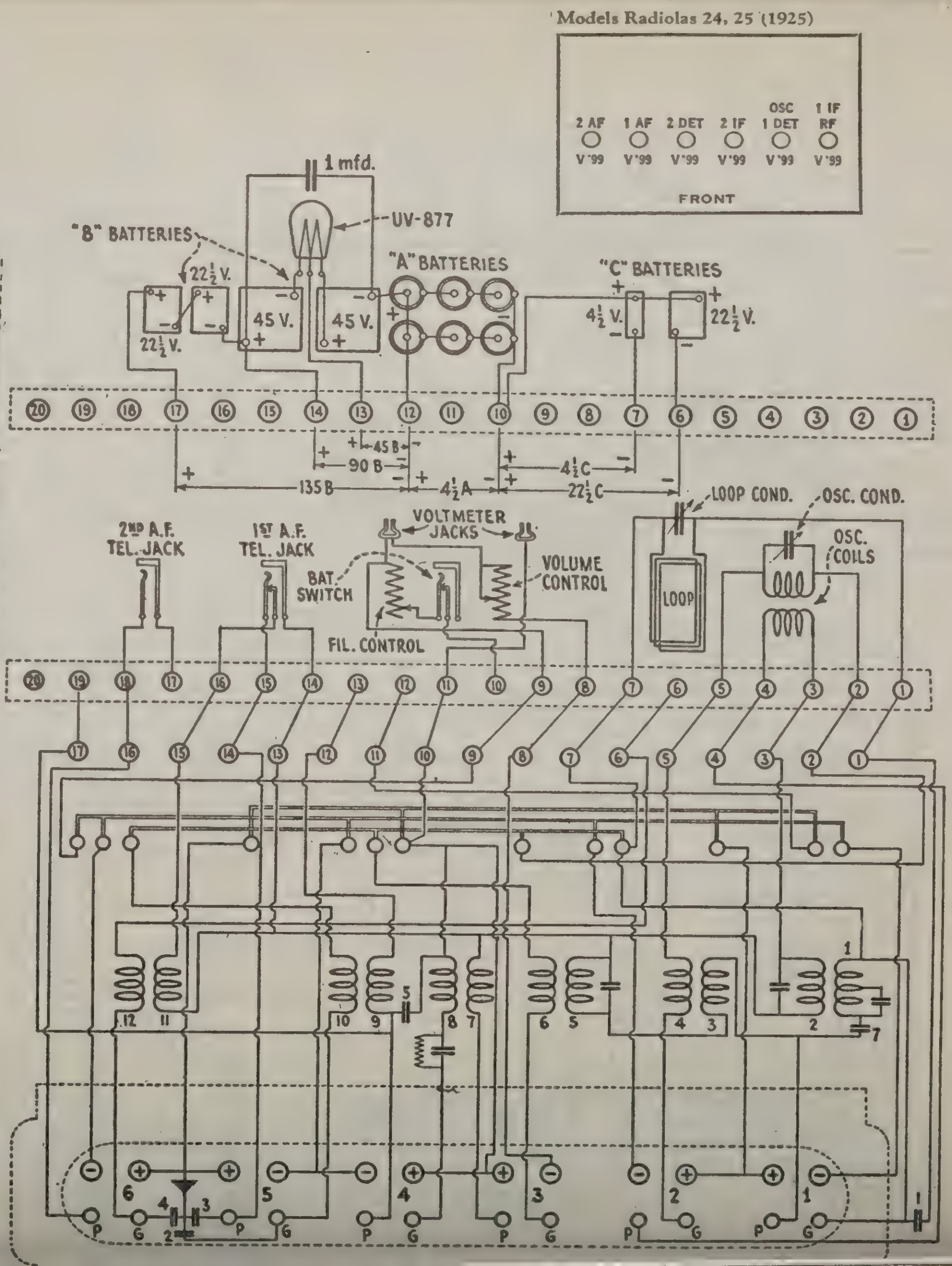
Model Radiola 26 Connection diagram

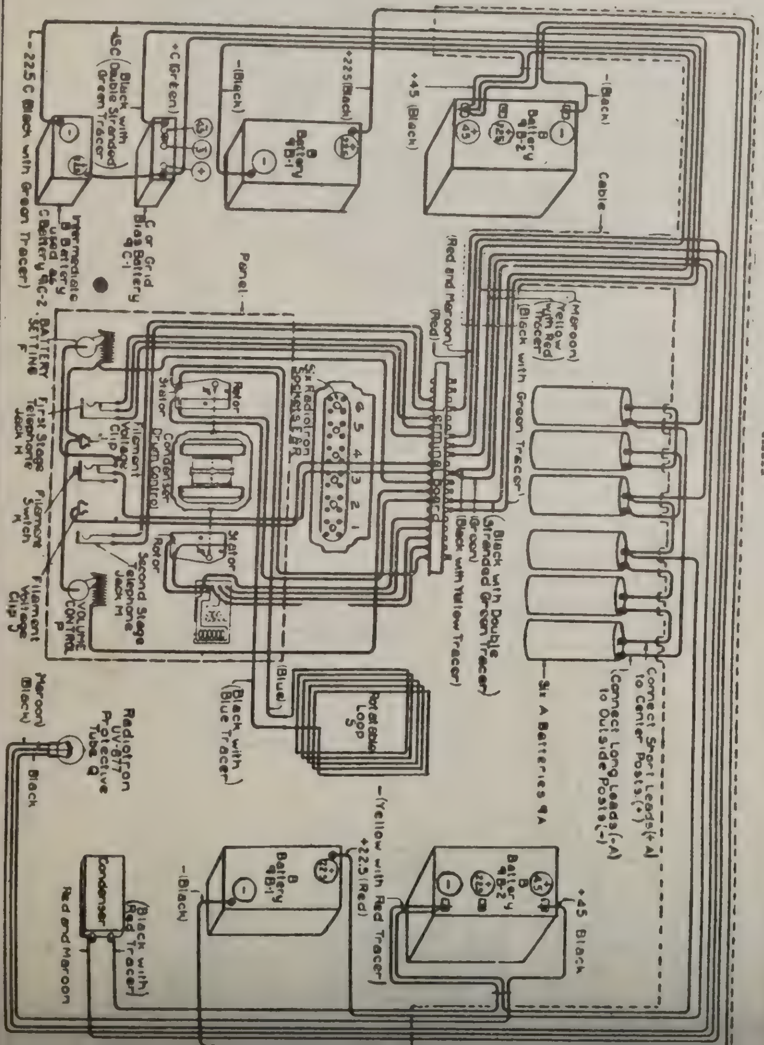
MODEL Radiola 25

R. C. A. VICTOR CO., INC.

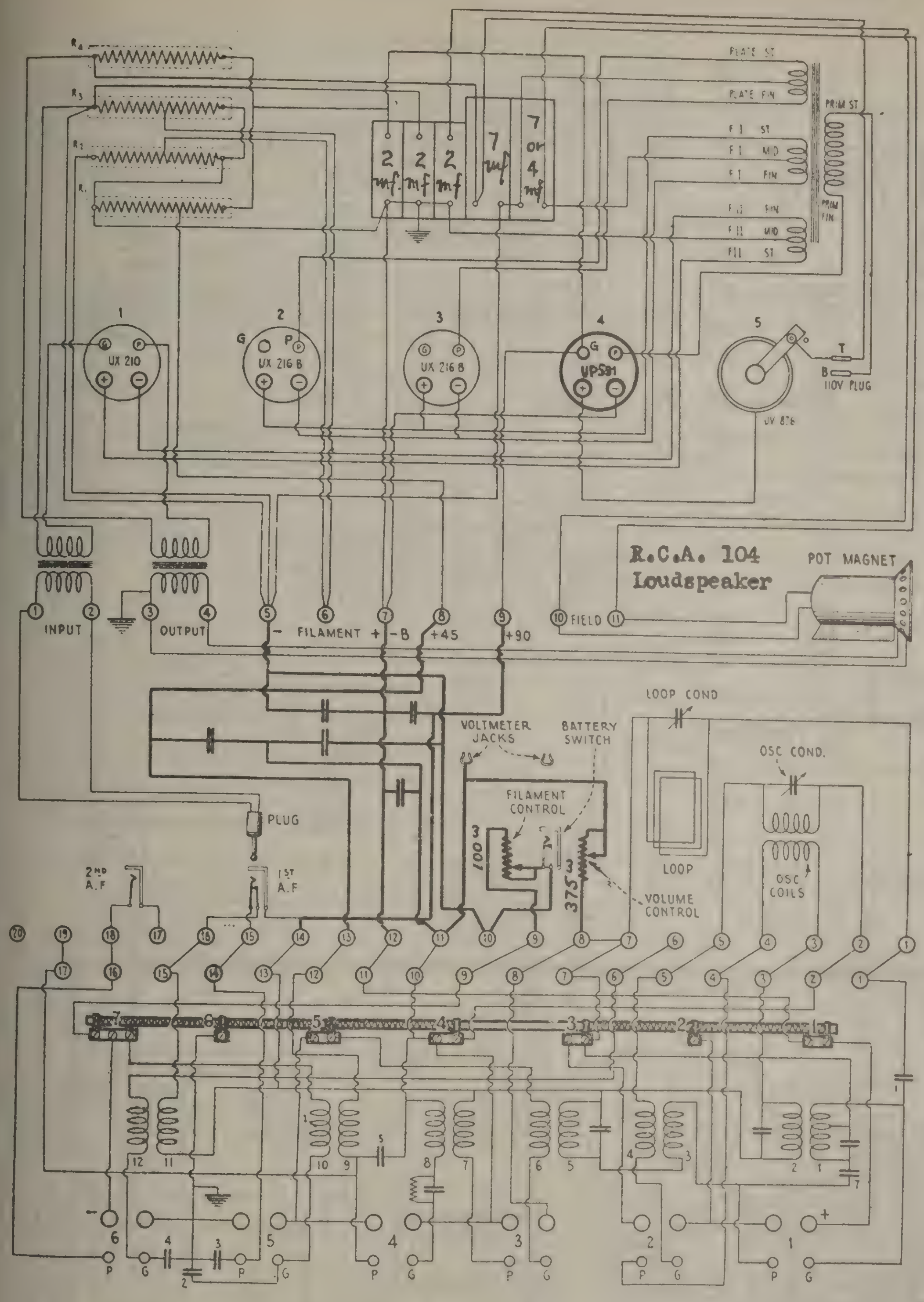
VOLTAGE READINGS TAKEN AT CATACOMB TERMINAL STRIP

VOLTS	+ TERMINAL	− TERMINAL
135B	17	12
90B	14	12
45B	13	12
22½C	20	6
4½C	20	7
4½A	12	10


Models Radiolas 24, 25 (1925)
2 AF
1 AF
2 DET
2 IF
OSC 1 DET
1 IF RF
V'99
FRONT
1 mfd.
UV-877
"B" BATTERIES
22½ V.
45 V.
"A" BATTERIES
"C" BATTERIES
4½ V.
22½ V.
45 B
90 B
135 B
4½ A
4½ C
22½ C
LOOP COND.
OSC. COND.
OSC. COILS
LOOP
VOLTMETER JACKS
VOLUME CONTROL
BAT. SWITCH
FIL. CONTROL
2ND A.F. TEL. JACK
1ST A.F. TEL. JACK
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
P
G


-(Black)
B Battery 9B-2
+45 (Black)
+22.5 (Black)
B Battery 9B-1
-(Black)
+C (Green)
C or Grid Bias Battery 9C-1
-4.5C (Black with Double Stranded Green Tracer)
Intermediate B Battery used as C Battery 9C-2
- 22.5 C (Black with Green Tracer)
Cable
Panel
(Red and Maroon)
(Red)
(Maroon)
Yellow with Red Tracer
(Black with Green Tracer)
(Black with Double Stranded Green Tracer)
(Green)
(Black with Yellow Tracer)
Terminal Board
Six Radiotron Sockets E & R
6 5 4 3 2 1
Rotor
Stator
Condenser Drum Control
Battery Setting F
First Stage Telephone Jack H
Filament Voltage Clip
Filament Switch K
Filament Voltage Clip J
Second Stage Telephone Jack M
Volume Control P
(Blue)
(Black with Blue Tracer)
Rotatable Loop S
Connect Short Leads (+A) to Center Posts (+)
Connect Long Leads (-A) to Outside Posts (-)
Six A Batteries 9A
+45 Black
B Battery 9B-2
-(Yellow with Red Tracer)
+22.5 (Red)
B Battery 9B-1
-(Black)
Radiotron UV-877 Protective Tube Q
Maroon
(Black)
Black
(Black with Red Tracer)
Condenser
Red and Maroon

MODEL Radiola 25
With 104 Power Pack


R4
R3
R2
R1
PLATE ST
PLATE FIN
PRIM ST
F I ST
F I MID
F I FIN
F II FIN
F II MID
F II ST
PRIM FIN
2 mf.
2 mf
2 mf
7 mf
7 or 4 mf
1
UX 210
2
UX 216 B
3
UX 216 B
4
UP-971
5
UV 876
G
P
T
B
110V PLUG
R.C.A. 104
Loudspeaker
POT MAGNET
INPUT
OUTPUT
FILAMENT
-B
+45
+90
FIELD
LOOP COND
VOLTMETER JACKS
BATTERY SWITCH
FILAMENT CONTROL
100
375
VOLUME CONTROL
OSC COND.
LOOP
OSC COILS
PLUG
2ND A.F
1ST A.F

VOLTAGE READINGS OF RADIOLA 25

Between terminals	
10 and 12	31 volts with tubes lighted
12 " 13	21.5 " normal
13 " 14	41 volts normal

RADIOLA 25 A.C. RESISTANCES

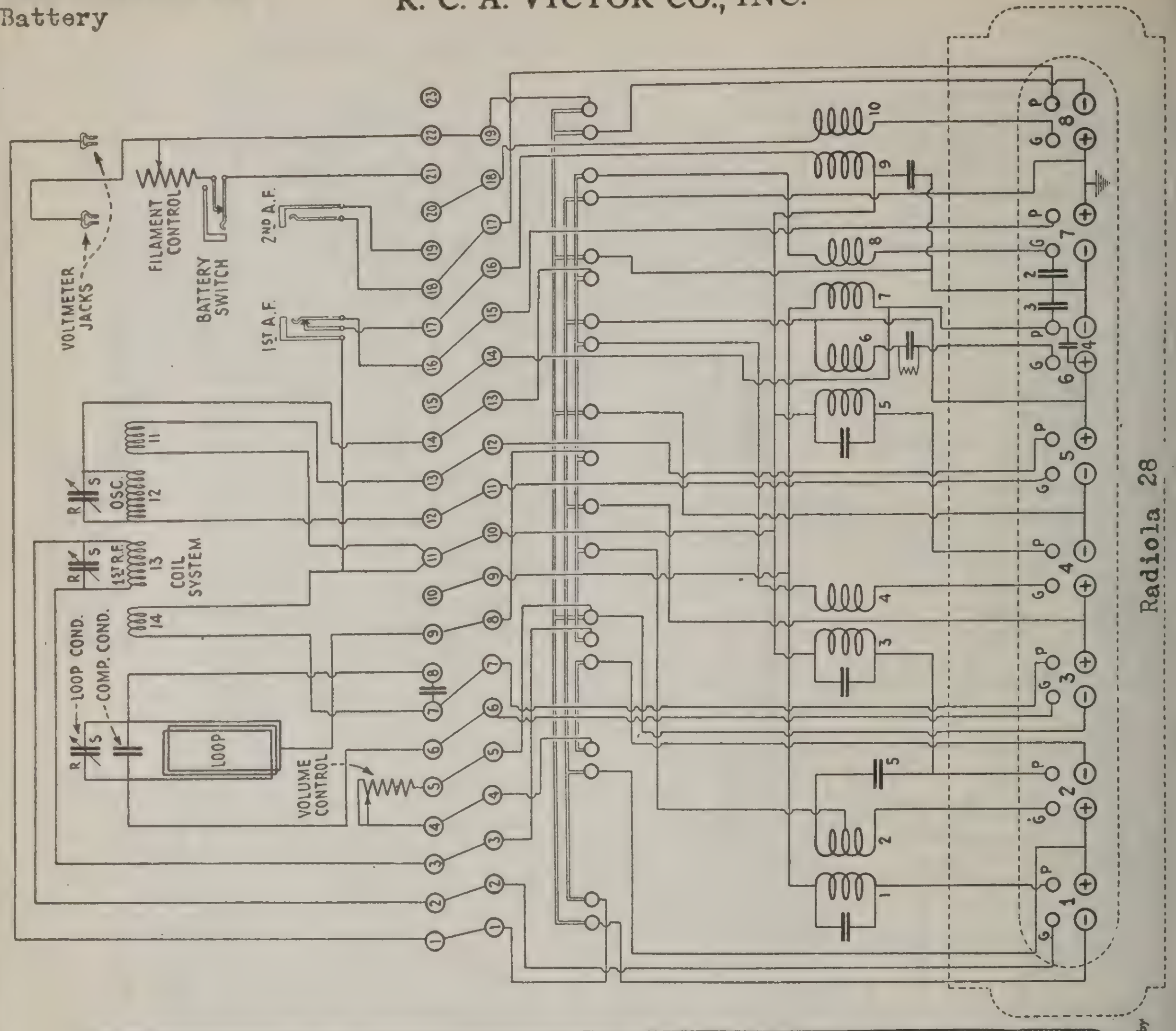
Terminals	Lower limit	Normal	Upper limit
1 and 2	218.5 V.	230 V.	241.5 V.
2 and 3	192 "	201 "	208 "
3 and 4	open	open	open
4 and 5	151.9 "	155 "	158.1 "
5 and 6	143 "	150 "	153 "
6 and 7	44.75 "	50 "	55.25 "

RADIOLA 25
A.C. OPERATED
With
Model 104 Loudspeaker
and Model UP-971 A.C.
Package.

(A.C.Package Changes
Shown In Heavy Lines.)

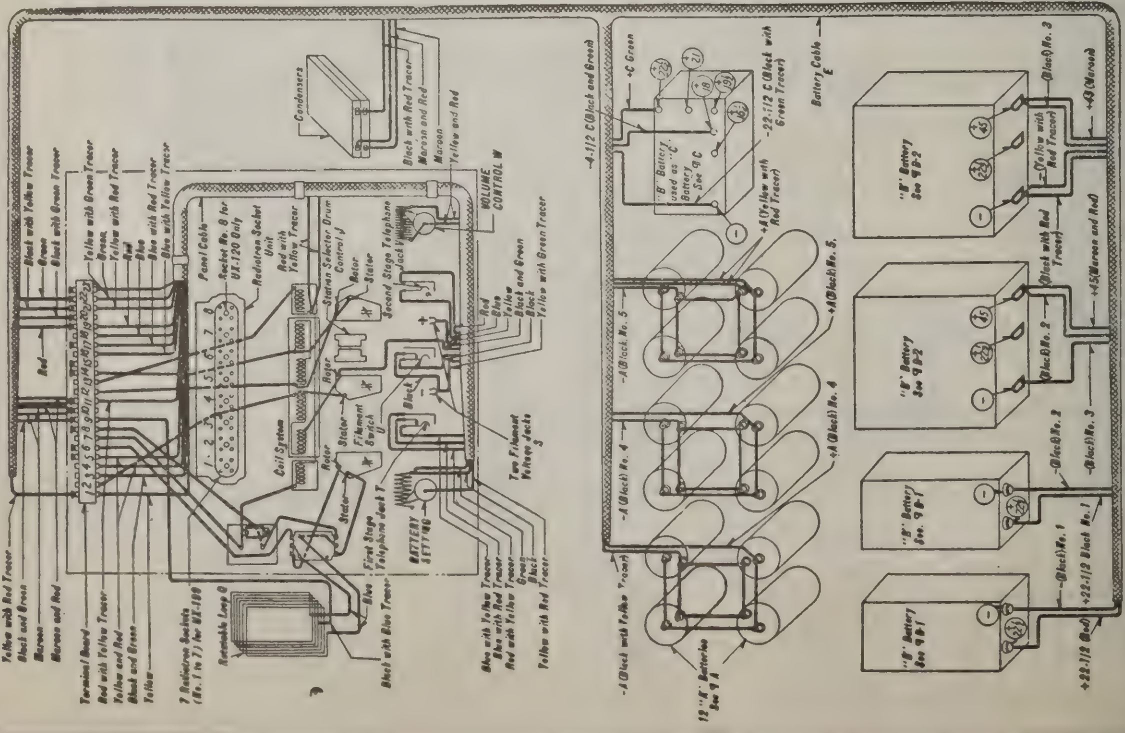
MODEL Radiola 28
Battery

R. C. A. VICTOR CO., INC.


VOLTMETER JACKS
FILAMENT CONTROL
BATTERY SWITCH
2ND A.F.
1ST A.F.
OSC.
12
11
R
S
1ST R.F.
13
COIL SYSTEM
14
LOOP COND.
COMP. COND.
LOOP
VOLUME CONTROL
1
2
3
4
5
6
7
8
9
10
P
G
+
−

Radiola 28

IF PEAK 40 KC.

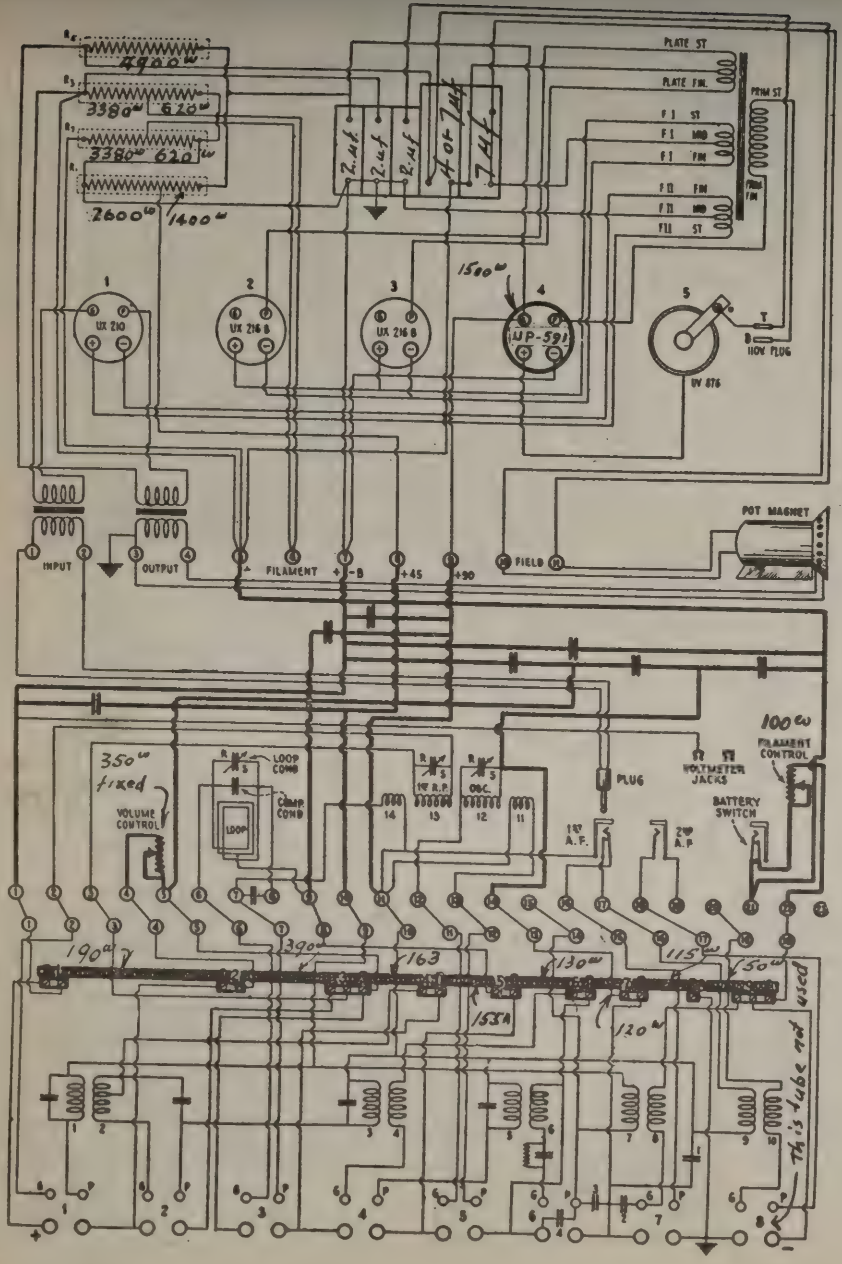

Yellow with Red Tracer
Black and Green
Maroon
Maroon and Red
Terminal Board
Red with Yellow Tracer
Yellow and Red
Black and Green
Yellow
7 Radiotron Sockets (No. 1 to 7) for UX-199
Removable Loop Q
Black with Yellow Tracer
Green
Black with Green Tracer
Yellow with Green Tracer
Red with Yellow Tracer
Red
Blue
Blue with Red Tracer
Blue with Yellow Tracer
Panel Cable
Socket No. 8 for UX-120 Only
Radiotron Socket Unit
Coil System
Rotor
Stator
Filament Switch
First Stage Telephone Jack
Second Stage Telephone Jack
Station Selector Drum Control
Condensers
Black with Red Tracer
Maroon and Red
Maroon
Yellow and Red
VOLUME CONTROL W
Battery Setting
Two Filament Voltage Jacks
Black with Blue Tracer
Blue
12 "A" Batteries
-A (Black with Yellow Tracer)
-A (Black) No. 4
-A (Black) No. 5
+A (Black) No. 4
+A (Black) No. 5
-4 1/2 C (Black and Green)
+C Green
-22 1/2 C (Black with Green Tracer)
"B" Battery used as "C" Battery
+A (Yellow with Red Tracer)
Battery Cable E
"B" Battery
(Black) No. 1
(Black) No. 2
(Black) No. 3
+22 1/2 (Red)
+22 1/2 Black No. 1
+45 (Maroon and Red)
+45 (Maroon)
Black with Red Tracer
Yellow with Red Tracer

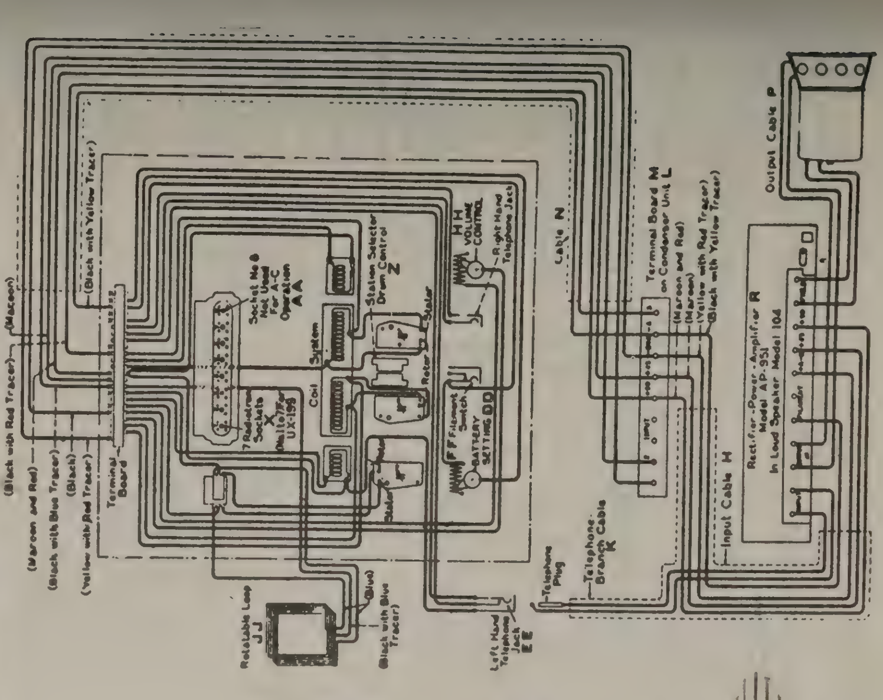
WIRING DIAGRAM FOR RADIOLA 28

In this wiring diagram, two or more leads of a like color contained in the same cable may be distinguished by the numeral following the color designation at each end of a given lead.

R. C. A. VICTOR CO., INC.

MODEL Radiola 28 AC
With 104 Power Supply


4900ω
3380ω 620ω
3380ω 620ω
2600ω 1400ω
2 uf
2 uf
2 uf
4 or 7 uf
7 uf
PLATE ST
PLATE FIN.
F I ST
F I MID
F I FIN
F II FIN
F II MID
F II ST
PRIM ST
PRIM FIN
1
UX 210
2
UX 216 B
3
UX 216 B
4
UP-591
1500ω
5
UV 876
110V PLUG
POT MAGNET
INPUT
OUTPUT
FILAMENT
-B
+45
+90
FIELD
100ω
FILAMENT CONTROL
VOLTMETER JACKS
BATTERY SWITCH
PLUG
1ST A.F.
2ND A.F.
350ω fixed
VOLUME CONTROL
LOOP COND
COMP COND
LOOP
1ST R.F.
OSC.
14
13
12
11
190ω
390ω
163
153A
130ω
120ω
115ω
150ω
This tube not used

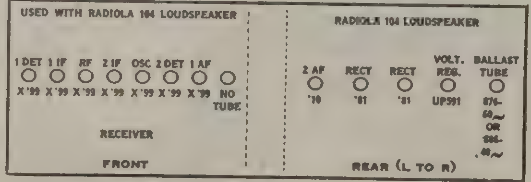

(Black with Red Tracer)
(Maroon and Red)
(Black with Blue Tracer)
(Black)
(Yellow with Red Tracer)
(Maroon)
(Black with Yellow Tracer)
Terminal Board
Socket No 8 Not Used For A-C Operation AA
7 Radiotron Sockets X (Radiotron UX-199)
Coil System
Station Selector Drum Control Z
Stator
Rotor
HH VOLUME CONTROL
Right Hand Telephone Jack
FF Filament Switch
BATTERY SETTING DD
Rotatable Loop JJ
(Blue)
(Black with Blue Tracer)
Left Hand Telephone Jack EE
Telephone Plug
Telephone Branch Cable K
Cable N
Input Cable H
Terminal Board M on Condenser Unit L
(Maroon and Red)
(Maroon)
(Yellow with Red Tracer)
(Black with Yellow Tracer)
Rectifier-Power-Amplifier R Model AP-951 In Loud Speaker Model 104
Output Cable P

Schematic Wiring Diagram of Radiola 28 (A.C Operated)

RADIOLA 28 - A.C. OPERATED

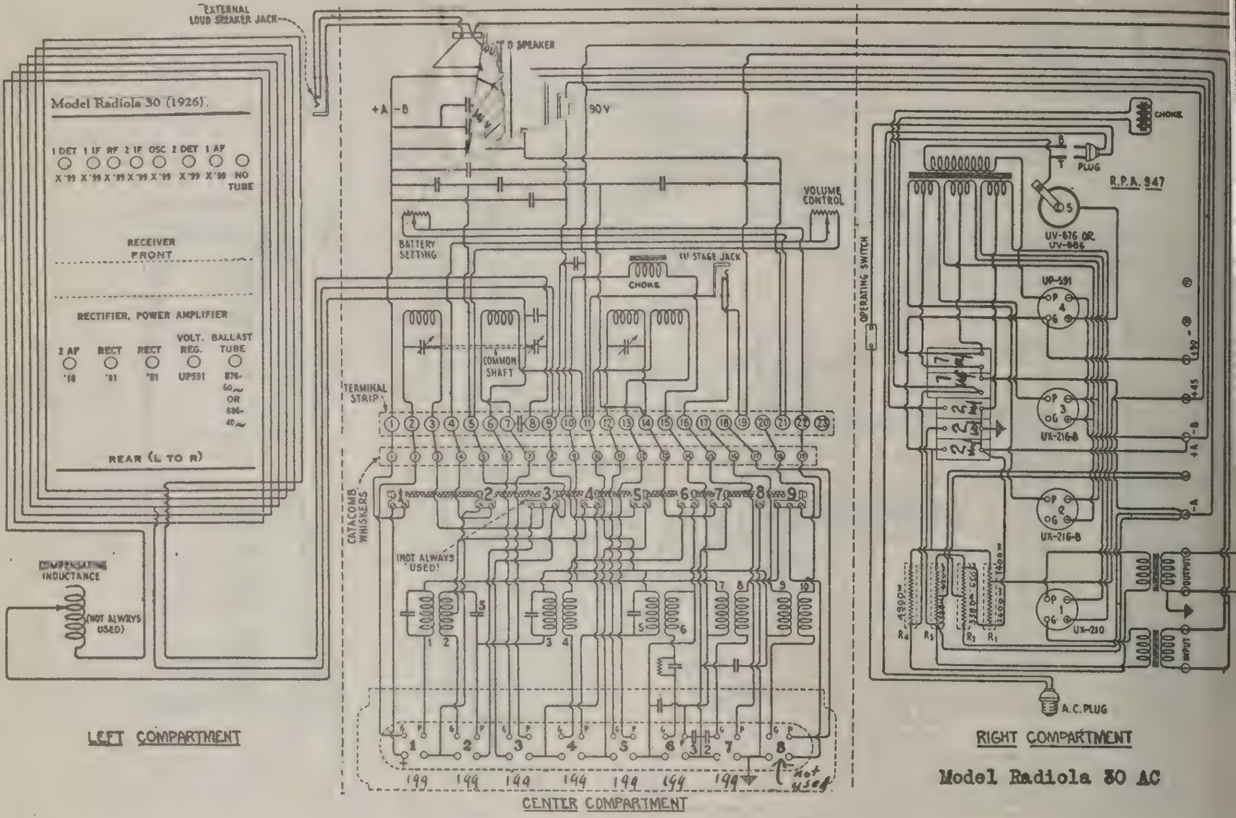
RADIOLA 28 - A.C. OPERATED With Model 104 Loudspeaker
And Model UP-972 A.C. Package.
(A.C.Package Changes Shown In Heavy Lines.)

Model Radiola 28 AC (1926)


USED WITH RADIOLA 104 LOUDSPEAKER
1 DET
1 IF
RF
2 IF
OSC
2 DET
1 AF
X'99
X'99
X'99
X'99
X'99
X'99
X'99
NO TUBE
RECEIVER
FRONT
RADIOLA 104 LOUDSPEAKER
2 AF
RECT
RECT
VOLT. REG.
BALLAST TUBE
'10
'81
'81
UP591
876-60~ OR 886-40~
REAR (L TO R)

MODEL Radiola 30 AC
With 104 Power Pack

R. C. A. VICTOR CO., INC.


EXTERNAL LOUD SPEAKER JACK
Model Radiola 30 (1926).
1 DET 1 IF RF 2 IF OSC 2 DET 1 AF
X'99 X'99 X'99 X'99 X'99 X'99 X'99 NO TUBE
RECEIVER FRONT
RECTIFIER, POWER AMPLIFIER
2 AF RECT RECT VOLT. REG. BALLAST TUBE
'10 '81 '81 UP591 876-60~ OR 886-40~
REAR (L TO R)
COMPENSATING INDUCTANCE
(NOT ALWAYS USED)
LEFT COMPARTMENT
SPEAKER
+A -B
90V
BATTERY SETTING
VOLUME CONTROL
CHOKE
1st STAGE JACK
COMMON SHAFT
TERMINAL STRIP
CATACOMB WHISKERS
(NOT ALWAYS USED)
OPERATING SWITCH
199
Not used
CENTER COMPARTMENT
CHOKE
PLUG
R.P.A. 947
UV-876 OR UV-886
UP-591
UX-216-B
UX-216-B
UX-210
INPUT
OUTPUT
A.C. PLUG
RIGHT COMPARTMENT

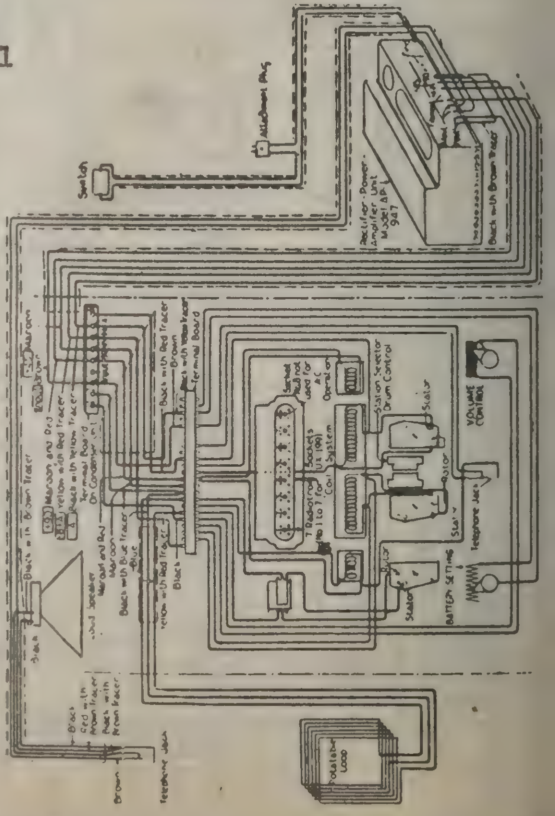
Model Radiola 30 AC

RESISTANCES AT RESISTANCE STRIP
with 375 ohm volume control

Terminals	Low	Normal	High
1 and 2	185	190	195
2 and 3	350	400	450
3 and 4	158	163	168
4 and 5	150	155	160
5 and 6	125	130	135
6 and 7	116	120	124
7 and 8	111	115	119
8 and 9	45	50	55

RESISTANCES AT RESISTANCE STRIP
with 250 Volume Control

Terminals	Low	Normal	High
1 and 2	260	271	282
2 and 3	open	open	open
3 and 4	230	236.5	243
4 and 5	191	197	203
5 and 6	176	183.5	191
6 and 7	146	154.5	163
7 and 8	137	145.5	154
8 and 9	45	50.	55

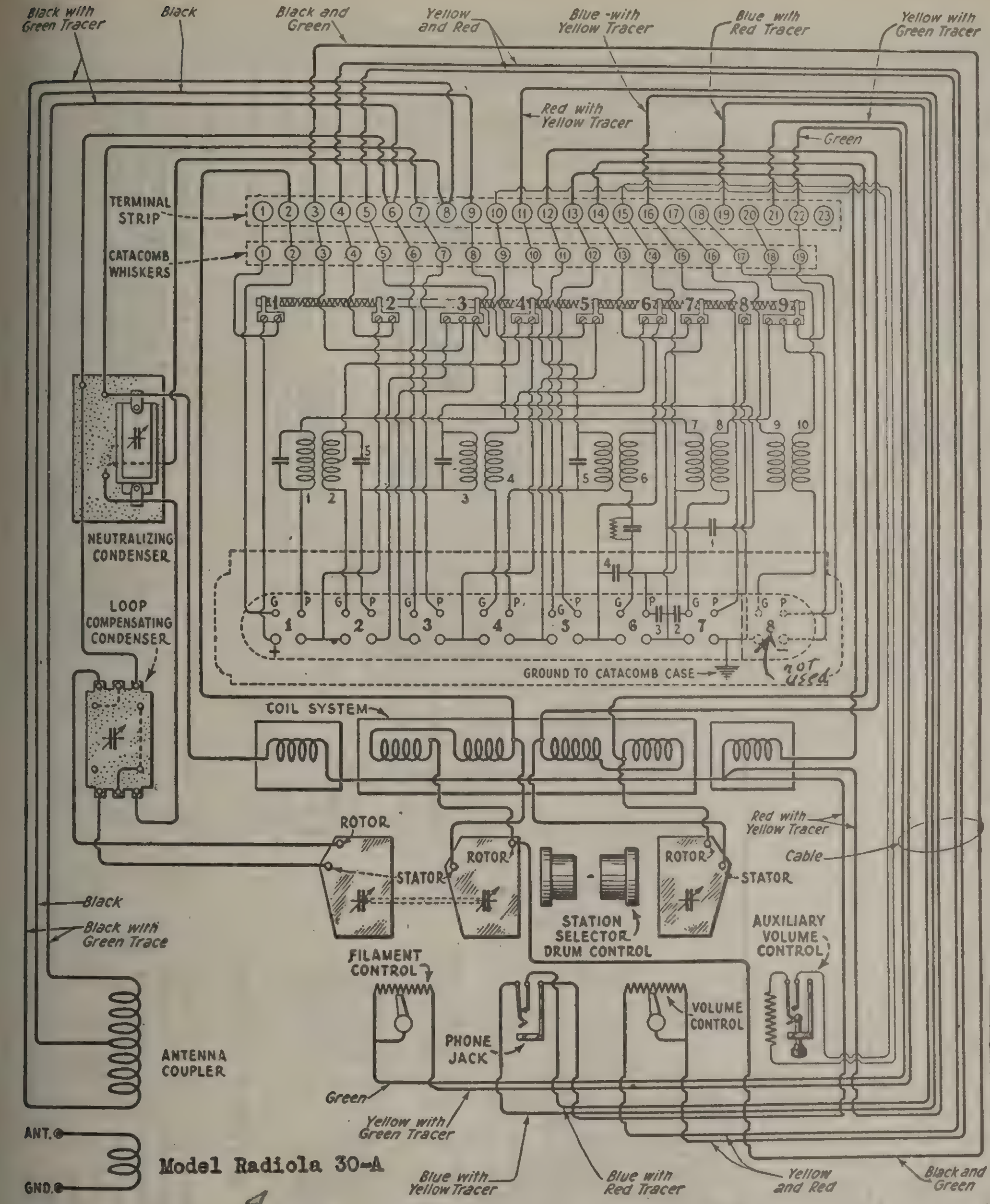

Rectifier-Power Amplifier Unit Model AP 947
Black with Brown Tracer
Switch
Terminal Board
Loud Speaker
Station Selector Drum Control
Volume Control
Stator
Rotor
Battery Setting
Telephone Jack
Portable Loop

R. C. A. VICTOR CO., INC.

MODEL Radiola 30-A
MODEL Radiola 30-A AC
Power Pack

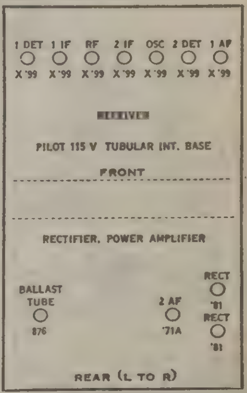
RESISTANCES AT RESISTANCE TERMINALS

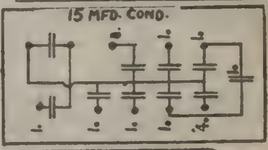
Terminals	Low	Normal	High
1 and 2	260	271	282
2 and 3	open	open	open
3 and 4	230	236.5	243
4 and 5	191	197	203
5 and 6	176	183.5	191
6 and 7	146	154.5	163
7 and 8	137	145.5	154
8 and 9	45	50	55

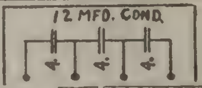

Black with Green Tracer
Black
Black and Green
Yellow and Red
Blue with Yellow Tracer
Blue with Red Tracer
Yellow with Green Tracer
Red with Yellow Tracer
Green
TERMINAL STRIP
CATACOMB WHISKERS
NEUTRALIZING CONDENSER
LOOP COMPENSATING CONDENSER
GROUND TO CATACOMB CASE
not used
COIL SYSTEM
ROTOR
STATOR
ROTOR
ROTOR
STATOR
STATION SELECTOR DRUM CONTROL
Red with Yellow Tracer
Cable
AUXILIARY VOLUME CONTROL
FILAMENT CONTROL
PHONE JACK
VOLUME CONTROL
Black
Black with Green Trace
ANTENNA COUPLER
Green
Yellow with Green Tracer
Blue with Yellow Tracer
Blue with Red Tracer
Yellow and Red
Black and Green
ANT.
GND.

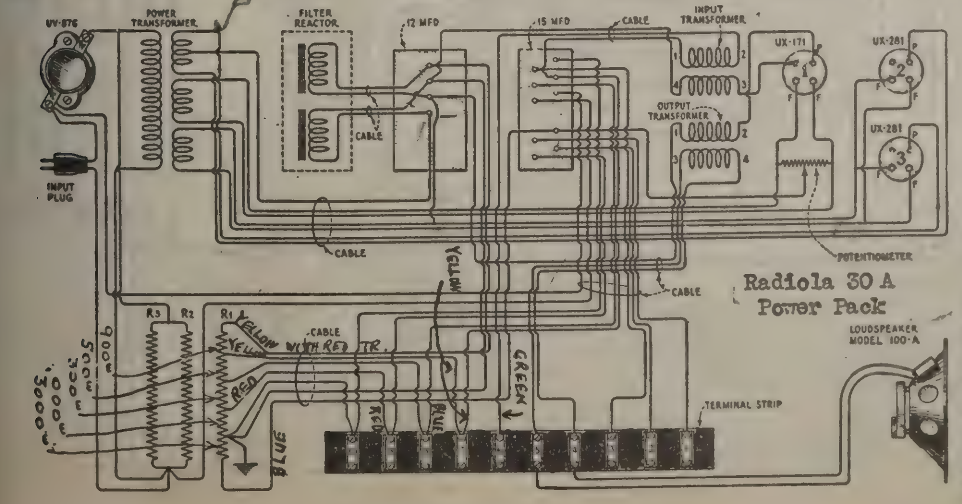
Model Radiola 30-A

Model Radiola 30A (1927)


1 DET
1 IF
RF
2 IF
OSC
2 DET
1 AF
X'99
X'99
X'99
X'99
X'99
X'99
X'99
PILOT 115 V TUBULAR INT. BASE
FRONT
RECTIFIER, POWER AMPLIFIER
BALLAST TUBE
876
2 AF
'71A
RECT
'81
RECT
'81
REAR (L TO R)


15 MFD. COND.
1.
1.
1.
1.
4.


12 MFD. COND.
4.
4.
4.


UV-876
POWER TRANSFORMER
FILTER REACTOR
12 MFD
15 MFD
CABLE
INPUT TRANSFORMER
UX-171
UX-281
UX-281
OUTPUT TRANSFORMER
INPUT PLUG
CABLE
CABLE
YELLOW
CABLE
POTENTIOMETER
R3
R2
R1
900Ω
500Ω
2000Ω
3000Ω
YELLOW
YELLOW WITH RED TR.
CABLE
RED
RED
BLUE
GREEN
BLUE
TERMINAL STRIP
LOUDSPEAKER MODEL 100-A

Radiola 30 A Power Pack

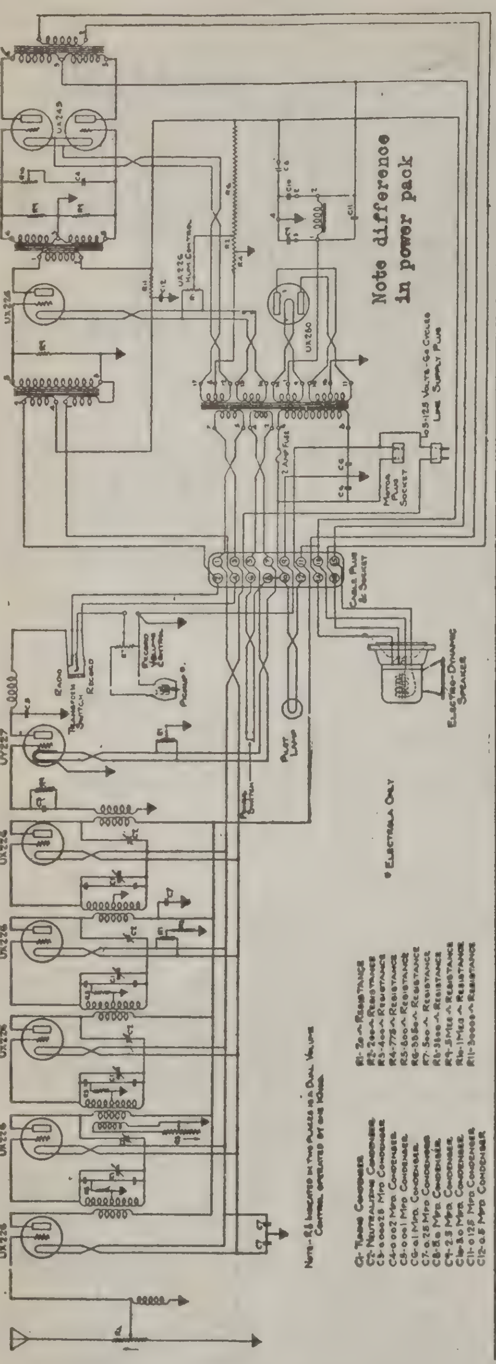
RADIOLA—Model 30A

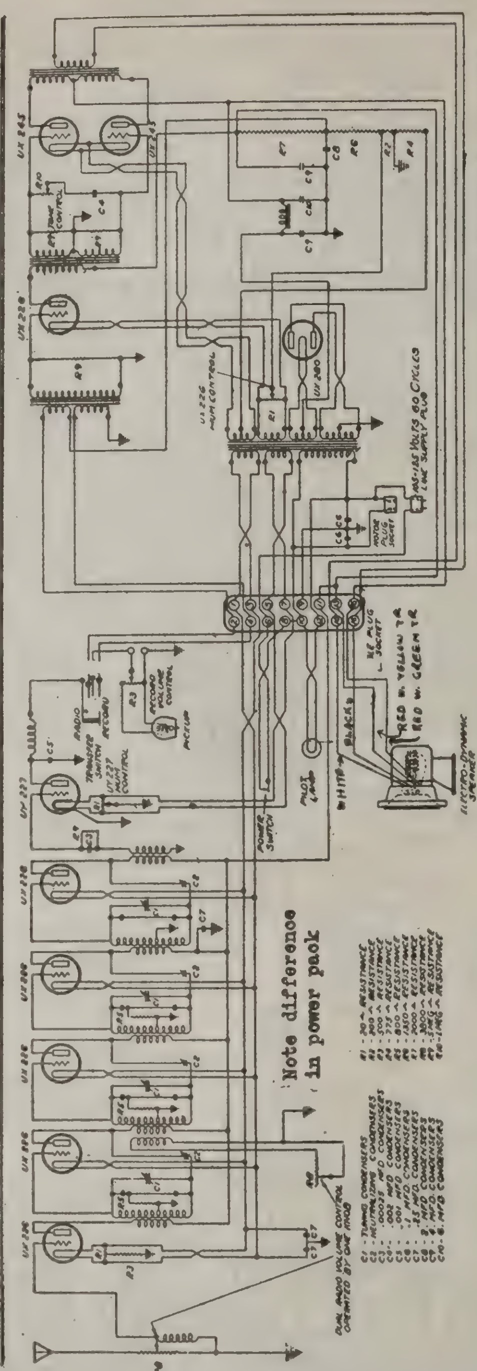
Note: For "A" volt tests adjust controls on panel so that reading on first tube tested is that shown. This gives an average condition of operation and a margin of safety in all tests.

Tube No. in Order	Type of Tube	Position of Tube	Tube Out: A Volts	Tube Out: B Volts	Readings Plug in Socket of Set, Tube in Tester: A Volts	B Volts	C Volts	Cathode Volts	Normal Plate MA	Plate MA Grid Test	Plate MA Change
1	199	1st. DET.	6.5	47	3.2	26	7		-	-	-
2	199	1st. I.F.	6.7	73	2.9	72	7		2	3	1
3	199	Tuned F.P.		76	3.8	74	7		2	3	1
4	199	2nd. I.F.		80	2.9	84	7		2	3	1
5	199	Oscillator		80	3.0	79	7		2.6	4.2	1.6
6	199	2nd. DET.		38	2.9	38	2		1.4	0	0
7	199	1st. A.F.		B.6	2.9	84	7		2.4	3.6	1.2
8	171	Power Amp.		-	5.5	210	43		16	24	8
9	281	Rectifier		-	7	-	-		45	-	-
10	281	Rectifier		-	7	-	-		45	-	-

**MODEL Victor R-32,
RE-45 and R-52**

R. C. A. VICTOR CO., INC.


UX245
UX245
UX226
UX280
UX226
UX227
UX226
UX226
UX226
UX226
UX226 Hum Control
Note difference in power pack
105-125 Volts-50 Cycles Line Supply Plug
Motor Plug Socket
2 Amp Fuse
Cable Plug & Socket
Electro-Dynamic Speaker
Transfer Switch
Radio
Record
Record Volume Control
Pickup
Pilot Lamp
Power Switch
* Electrola Only
Note - R8 indicated in two places is a Dual Volume Control operated by one knob
C1- Tuning Condenser
C2- Neutralizing Condenser
C3-0.00025 Mfd Condenser
C4-0.002 Mfd Condenser
C5-0.001 Mfd Condenser
C6-.01 Mfd Condenser
C7-0.25 Mfd Condenser
C8-8.0 Mfd Condenser
C9-2.5 Mfd Condenser
C10-8.0 Mfd Condenser
C11-0.125 Mfd Condenser
C12-0.5 Mfd Condenser
R1-20Ω Resistance
R2-200Ω Resistance
R3-400Ω Resistance
R4-775Ω Resistance
R5-800Ω Resistance
R6-3850Ω Resistance
R7-500Ω Resistance
R8-3800Ω Resistance
R9-.5Meg Resistance
R10-1Meg Resistance
R11-30000Ω Resistance

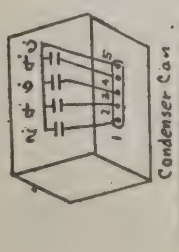

UX245
UX245
UY227 Hum Control
UX226
UX226 Hum Control
UX280
105-125 Volts 60 Cycles Line Supply Plug
Motor Plug Socket
RE Plug & Socket
Red w. Yellow Tr
Red w. Green Tr
Black
White
Electro-Dynamic Speaker
Pilot Lamp
Power Switch
Transfer Switch
Radio
Record
UY227
Record Volume Control
Pickup
UX226
UX226
UX226
UX226
UX226
Note difference in power pack
Dual Radio Volume Control Operated by One Knob
C1 - Tuning Condensers
C2 - Neutralizing Condensers
C3 - .00025 Mfd Condensers
C4 - .002 Mfd Condensers
C5 - .001 Mfd Condensers
C6 - .1 Mfd Condensers
C7 - .25 Mfd Condensers
C8 - 2. Mfd Condensers
C9 - 4. Mfd Condensers
C10 - 8. Mfd Condensers
R1 - 20Ω Resistance
R2 - 200Ω Resistance
R3 - 500Ω Resistance
R4 - 775Ω Resistance
R5 - 800Ω Resistance
R6 - 1350Ω Resistance
R7 - 2000Ω Resistance
R8 - 3000Ω Resistance
R9 - .5 Meg Resistance
R10 - 1 Meg Resistance

CABLE TERMINAL VOLTAGES

Between	1 and 3	1.7 volts AC.
	5 and 7	2.35volts AC.
	2 and 9	39. volts DC.
	9 and 11	105. volts DC.
	13 and 15	185. volts DC.

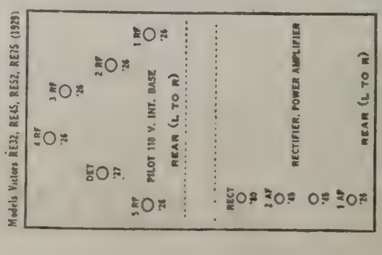
MULTI-PLUG TERMINALS

#1. Brown-white tracer for 226 filament. #2. Blue for transfer switch.
#3. Brown-white tracer for 226 filament. #4. White for transfer switch.
#5. Brown-blue tracer for 227 filament. #6. Black-red tracer for power switch.
#7. Brown-blue tracer for 227 filament. #8. Black-red tracer for power switch.
#9. Braided copper shield to ground. #10. Brown-red tracer for pilot light.
#11. Red-yellow tracer -B of 226. #12. Brown-red tracer for pilot light.
#13. Red-yellow tracer for field. #14. White for voice coil. #15. Red-green tracer for speaker field. #16. Black for voice coil.


Condenser Can
1
2
3
4
5

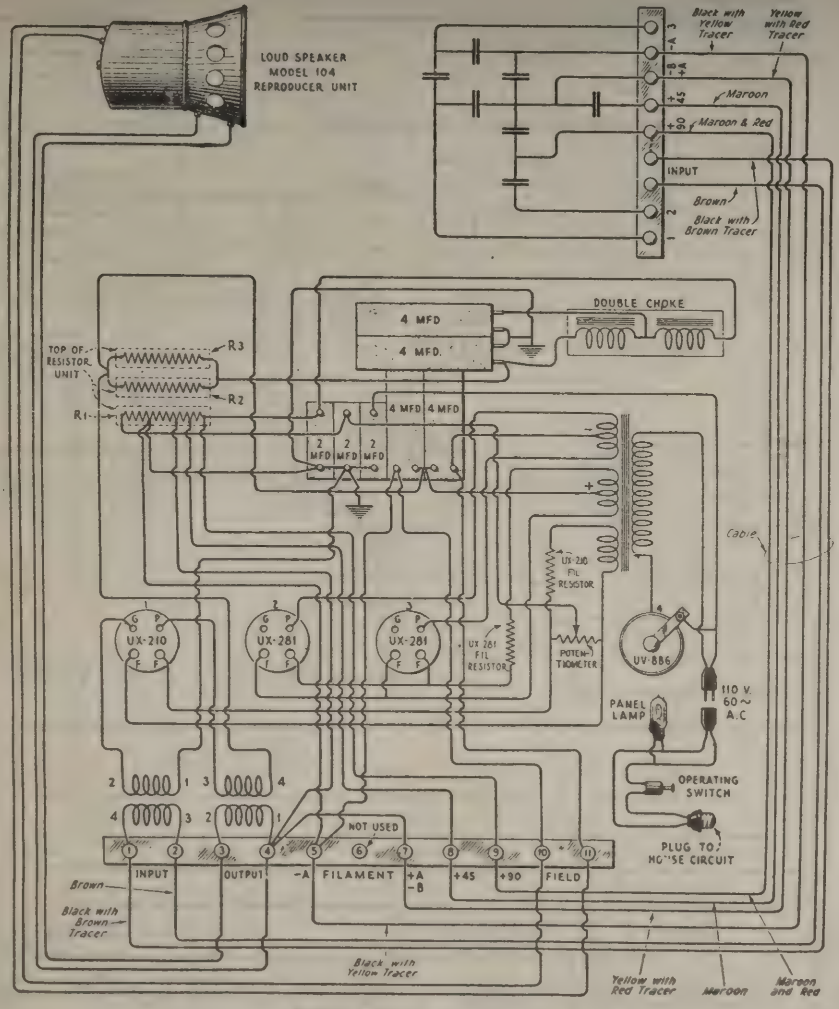
VICTOR—Model R-32
Line Voltage 115—Volume Control Position Max
*Antenna Coupling Stage

Tube No. in Order	Type of Tube	Position of Tube (Det. RF etc.)	Readings, Plug in Socket of Set: Tube Out: A Volts	Tube Out: B Volts	Tube in Tester: A Volts	Tube in Tester: B Volts	C Volts Control Grid	Cathode Heater Volts	Normal Plate MA	Plate MA Grid Test	Plate Change MA	Screen Grid Volts
1	226	1st RF	1.5	112	1.4	112	8	-	2.8	6.6	3.8	-
2	226	*	1.5	112	1.4	112	8	-	2.8	6.6	3.8	-
3	226	2nd RF	1.5	112	1.4	112	8	-	2.8	6.6	3.8	-
4	226	3rd RF	1.5	112	1.4	112	8	-	2.8	6.6	3.8	-
5	226	4th RF	1.5	112	1.4	112	8	-	2.8	6.6	3.8	-
6	227	Det.	2.45	52	2.3	44	2	-	1.2	1.2	-	-
7	226	1st A	1.5	112	1.4	100	6	-	3.4	6.2	2.8	-
8	245	2nd A	2.4	260	2.3	240	45	-	28	32	6	-
9	245	2nd A	2.4	260	2.3	240	45	-	28	32	6	-
10	280	Rect.	5	-	4.4	-	-	-	72	-		-

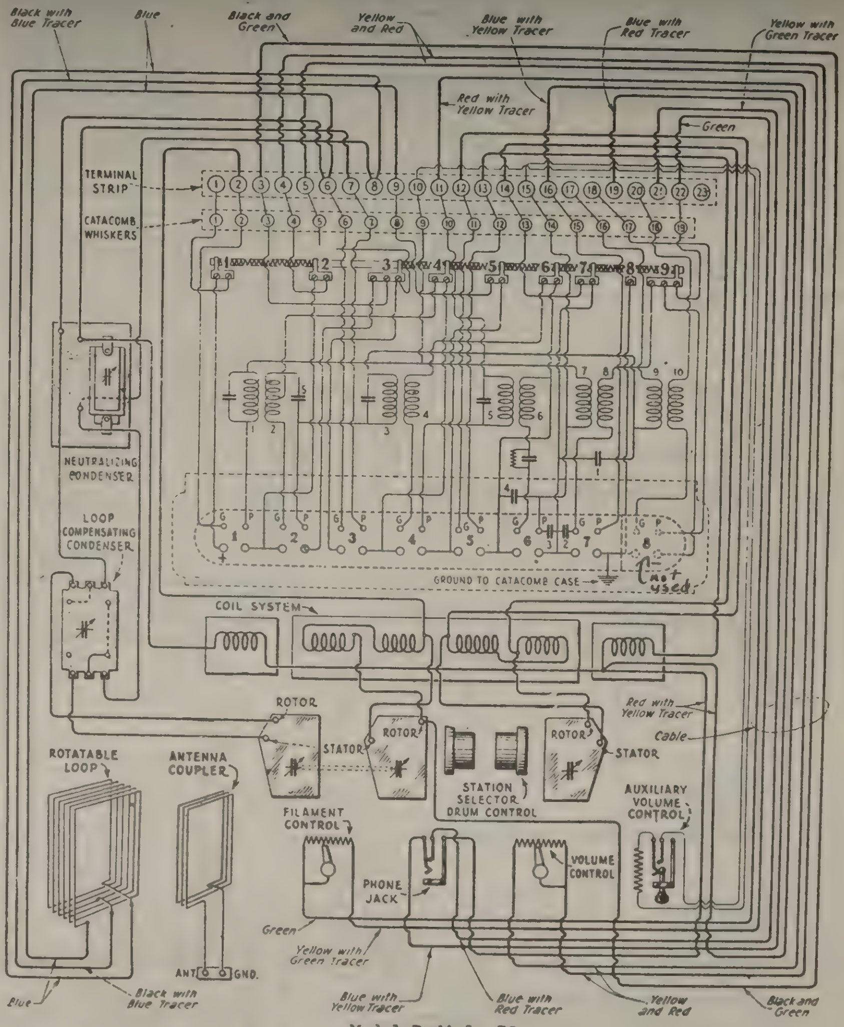

Models Victors RE32, RE45, RE52, RE75 (1929)
5 RF '26
DET '27
4 RF '26
3 RF '26
2 RF '26
1 RF '26
PILOT 110 V. INT. BASE
REAR (L TO R)
RECT '80
2 AF '45
'45
1 AF '26
RECTIFIER, POWER AMPLIFIER
REAR (L TO R)

R. C. A. VICTOR CO., INC.

MODEL Radiola 32 AC


LOUD SPEAKER MODEL 104 REPRODUCER UNIT
-A 3
-B +A
+45
+90
INPUT
2
1
Black with Yellow Tracer
Yellow with Red Tracer
Maroon
Maroon & Red
Brown
Black with Brown Tracer
DOUBLE CHOKE
4 MFD
4 MFD.
4 MFD
4 MFD
2 MFD
2 MFD
2 MFD
TOP OF RESISTOR UNIT
R3
R2
R1
UX-210 FIL RESISTOR
UX 281 FIL RESISTOR
POTENTIOMETER
UV-886
110 V. 60~ A.C
PANEL LAMP
OPERATING SWITCH
PLUG TO HOUSE CIRCUIT
Cable
UX-210
UX-281
UX-281
G P F F
NOT USED
INPUT
OUTPUT
-A
FILAMENT
+A -B
+45
+90
FIELD
Brown
Black with Brown Tracer
Black with Yellow Tracer
Yellow with Red Tracer
Maroon
Maroon and Red

Model Radiola 32 AC
Power Pack

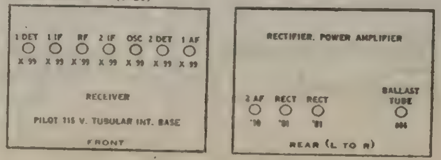

Black with Blue Tracer
Blue
Black and Green
Yellow and Red
Blue with Yellow Tracer
Blue with Red Tracer
Yellow with Green Tracer
Red with Yellow Tracer
Green
TERMINAL STRIP
CATACOMB WHISKERS
NEUTRALIZING CONDENSER
LOOP COMPENSATING CONDENSER
GROUND TO CATACOMB CASE
Not used
COIL SYSTEM
ROTOR
STATOR
STATION SELECTOR DRUM CONTROL
AUXILIARY VOLUME CONTROL
Cable
Red with Yellow Tracer
ROTATABLE LOOP
ANTENNA COUPLER
FILAMENT CONTROL
PHONE JACK
VOLUME CONTROL
ANT
GND.
Green
Yellow with Green Tracer
Blue
Black with Blue Tracer
Blue with Yellow Tracer
Blue with Red Tracer
Yellow and Red
Black and Green

Model Radiola 32

DC Resistance of Resistor Strip

Between Terminals	
1 and 2	271 ohms
2 and 3	open
3 and 4	236.5
4 and 5	197
5 and 6	183.5
6 and 7	154.5
7 and 8	145.5
8 and 9	50

Model Radiola 32 (1927)

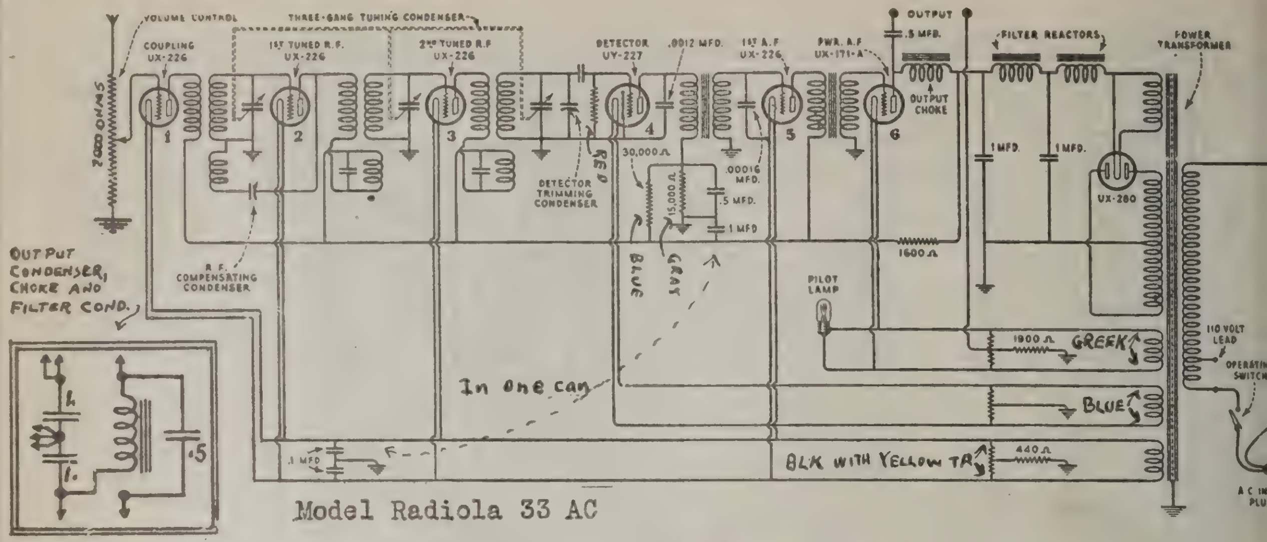

1 DET
1 IF
RF
2 IF
OSC
2 DET
1 AF
X 99
X 99
X 99
X 99
X 99
X 99
X 99
RECEIVER
PILOT 115 V. TUBULAR INT. BASE
FRONT
RECTIFIER. POWER AMPLIFIER
2 AF
RECT
RECT
BALLAST TUBE
'10
'81
'81
886
REAR (L TO R)

RADIOLA—Model 32

Readings are approximately the same as on model 30A except a 210 power tube is used in last A.F. stage and 2—281 rectifier tubes are used. These three tubes operate on a filament voltage of 7. The plate voltage of the 210 tube is 425 volts, normal milliamperes 22, grid test 42, indicating a change of 20 M.A. The output of rectifier tubes is approximately 60 M.A. each.

MODEL Radiola 33 AC
MODEL Radiola 33 DC

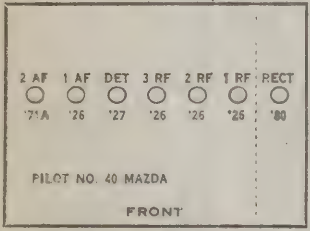
R. C. A. VICTOR CO., INC.


VOLUME CONTROL
THREE-GANG TUNING CONDENSER
COUPLING UX-226
1ST TUNED R.F. UX-226
2ND TUNED R.F UX-226
DETECTOR UY-227
.0012 MFD.
1ST A.F UX-226
PWR. A.F UX-171-A
OUTPUT
.5 MFD.
OUTPUT CHOKE
FILTER REACTORS
POWER TRANSFORMER
2000 OHMS
1
2
3
4
5
6
RED
30,000 Ω
15,000 Ω
.00016 MFD.
.5 MFD.
1 MFD
DETECTOR TRIMMING CONDENSER
R.F. COMPENSATING CONDENSER
1 MFD.
1 MFD.
UX-280
1600 Ω
BLUE
GRAY
PILOT LAMP
1900 Ω
GREEN
BLUE
110 VOLT LEAD
OPERATING SWITCH
In one can
.1 MFD
F
440 Ω
BLK WITH YELLOW TR
A C IN PLU
OUT PUT CONDENSER, CHOKE AND FILTER COND.
1.
1.
.5

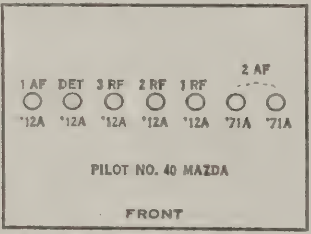
Model Radiola 33 AC

Output condenser, choke and filter condenser.

Models Radiolas 33, (1927)

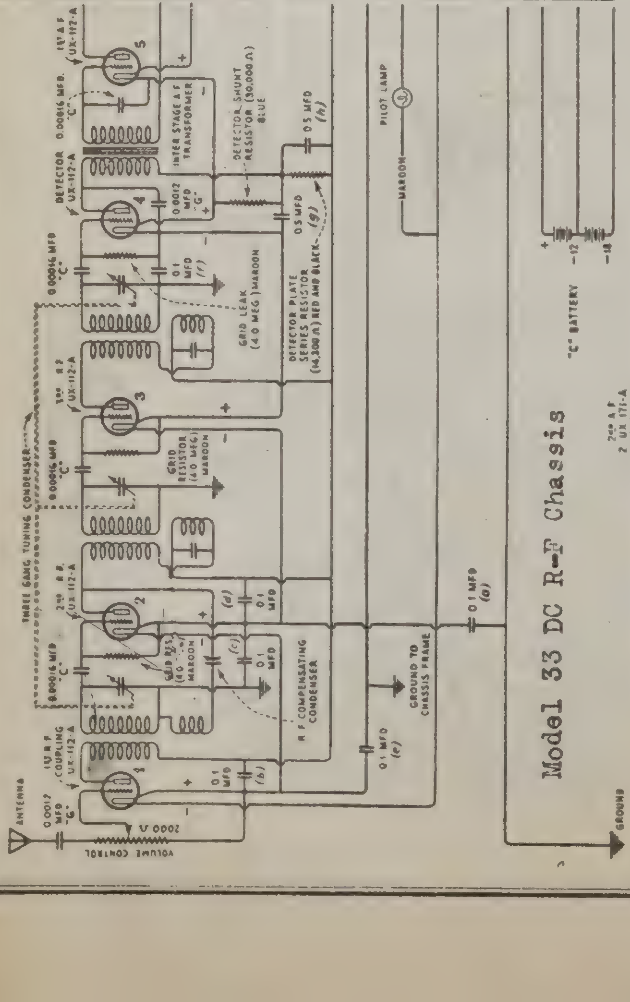

2 AF
1 AF
DET
3 RF
2 RF
1 RF
RECT
'71A
'26
'27
'26
'26
'26
'80
PILOT NO. 40 MAZDA
FRONT

Model Radiola 33 DC (1929)

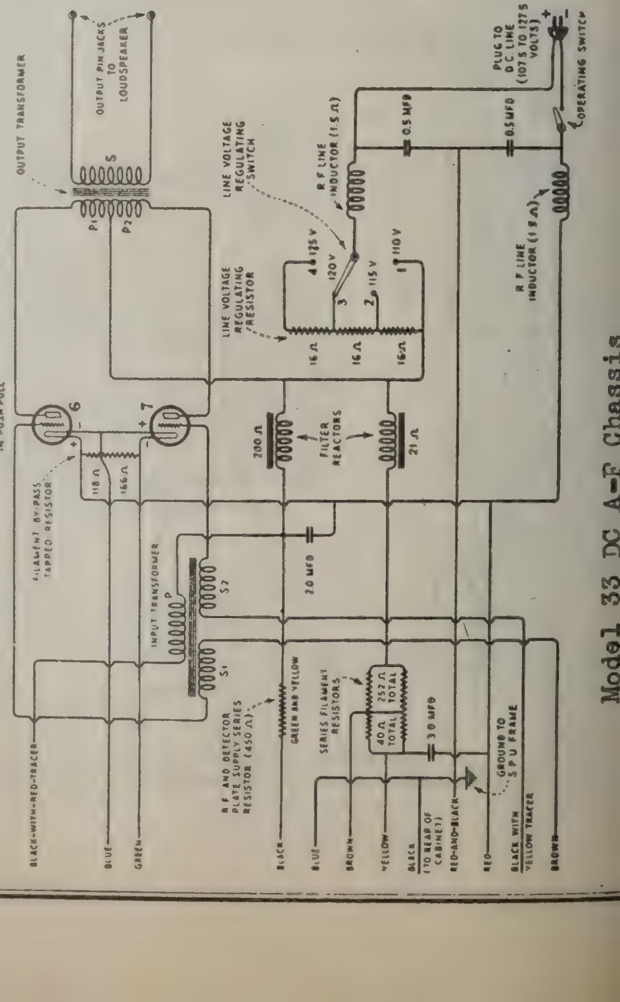

1 AF
DET
3 RF
2 RF
1 RF
2 AF
'12A
'12A
'12A
'12A
'12A
'71A
'71A
PILOT NO. 40 MAZDA
FRONT

RADIOLA—Model -33 A.C.
Line Voltage 112—120 Volt Tap—Volume Contr
Full

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLA M.A CHAN
1	226	1st. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
2	226	2nd. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
3	226	3rd. R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
4	227	Detector	2.4	125	2.2	22	0	-	3.0	3.1	.1
5	226	1st. A.F.	1.4	125	1.3	120	8	-	4.0	7.8	3.8
6	171A	2nd. A.F.	4.9	200	4.7	132	30	-	16.0	18.0	2.0
7	280	Rectifier	-	-	4.8	-	-	-	20.0	-	-


1ST A.F UX-112-A
5
0.00016 MFD. "C"
INTER STAGE A.F TRANSFORMER
DETECTOR SHUNT RESISTOR (30,000 Ω) BLUE
0.5 MFD (h)
DETECTOR UX-112-A
4
0.0012 MFD "G"
0.5 MFD (g)
0.00016 MFD "C"
0.1 MFD (f)
GRID LEAK (4.0 MEG) MAROON
DETECTOR PLATE SERIES RESISTOR (14,300 Ω) RED AND BLACK
3RD R.F UX-112-A
3
GRID RESISTOR (4.0 MEG) MAROON
0.00016 MFD "C"
THREE GANG TUNING CONDENSER
2ND R.F. UX-112-A
2
0.1 MFD (d)
0.1 MFD (c)
0.00016 MFD "C"
R F COMPENSATING CONDENSER
1ST R.F. COUPLING UX-112-A
1
0.1 MFD (b)
0.1 MFD (e)
0.1 MFD (a)
GROUND TO CHASSIS FRAME
ANTENNA
0.0017 MFD "G"
2000 Ω
VOLUME CONTROL
GROUND
PILOT LAMP
MAROON
"C" BATTERY
-12
-18

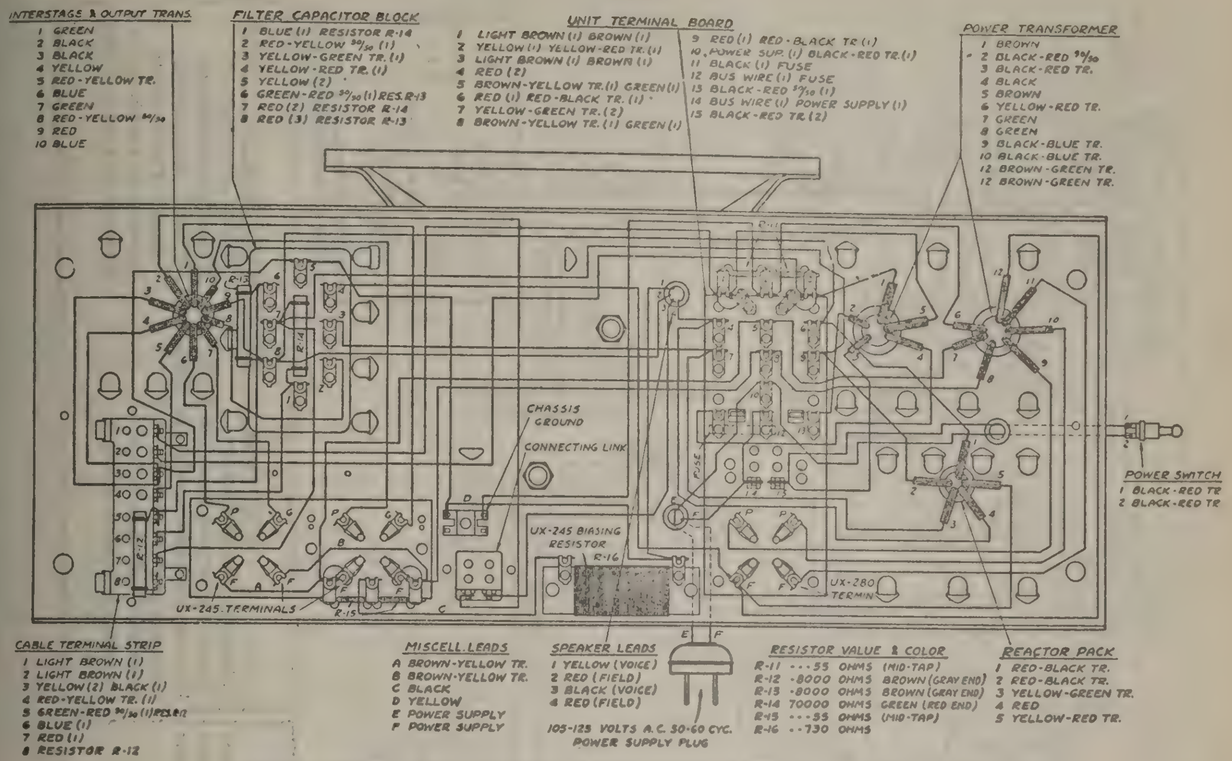
Model 33 DC R-F Chassis


OUTPUT PIN JACKS TO LOUDSPEAKER
OUTPUT TRANSFORMER
S
P1
P2
PLUG TO D.C. LINE (107.5 TO 127.5 VOLTS)
OPERATING SWITCH
0.5 MFD
0.5 MFD
LINE VOLTAGE REGULATING SWITCH
R F LINE INDUCTOR (1.5 Ω)
125 V
120 V
115 V
110 V
LINE VOLTAGE REGULATING RESISTOR
16 Ω
16 Ω
16 Ω
R F LINE INDUCTOR (1.5 Ω)
2ND A.F. 2 UX 171-A IN PUSH PULL
6
7
FILAMENT BY-PASS TAPPED RESISTOR
18 Ω
16 Ω
200 Ω
FILTER REACTORS
21 Ω
INPUT TRANSFORMER
P
S2
S1
20 MFD
R.F. AND DETECTOR PLATE SUPPLY SERIES RESISTOR (450 Ω)
GREEN AND YELLOW
SERIES FILAMENT RESISTORS
40 Ω TOTAL
252 Ω TOTAL
30 MFD
GROUND TO S P U FRAME
BLACK-WITH-RED-TRACER
BLUE
GREEN
BLACK
BLUE
BROWN
YELLOW
BLACK (TO REAR OF CABINET)
RED-AND-BLACK
RED
BLACK WITH YELLOW TRACER
BROWN

Model 33 DC A-F Chassis

R. C. A. VICTOR CO., INC.

MODEL Victor R-35,R-39,
RE-57
A-F Chassis, Voltage


INTERSTAGE & OUTPUT TRANS.
1 GREEN
2 BLACK
3 BLACK
4 YELLOW
5 RED-YELLOW TR.
6 BLUE
7 GREEN
8 RED-YELLOW 30/30
9 RED
10 BLUE
FILTER CAPACITOR BLOCK
1 BLUE (1) RESISTOR R-14
2 RED-YELLOW 30/30 (1)
3 YELLOW-GREEN TR. (1)
4 YELLOW-RED TR. (1)
5 YELLOW (2)
6 GREEN-RED 30/30 (1) RES. R-13
7 RED (2) RESISTOR R-14
8 RED (3) RESISTOR R-13
UNIT TERMINAL BOARD
1 LIGHT BROWN (1) BROWN (1)
2 YELLOW (1) YELLOW-RED TR. (1)
3 LIGHT BROWN (1) BROWN (1)
4 RED (2)
5 BROWN-YELLOW TR. (1) GREEN (1)
6 RED (1) RED-BLACK TR. (1)
7 YELLOW-GREEN TR. (2)
8 BROWN-YELLOW TR. (1) GREEN (1)
9 RED (1) RED-BLACK TR (1)
10 POWER SUP. (1) BLACK-RED TR. (1)
11 BLACK (1) FUSE
12 BUS WIRE (1) FUSE
13 BLACK-RED 30/30 (1)
14 BUS WIRE (1) POWER SUPPLY (1)
15 BLACK-RED TR (2)
POWER TRANSFORMER
1 BROWN
2 BLACK-RED 30/30
3 BLACK-RED TR.
4 BLACK
5 BROWN
6 YELLOW-RED TR.
7 GREEN
8 GREEN
9 BLACK-BLUE TR.
10 BLACK-BLUE TR.
12 BROWN-GREEN TR.
12 BROWN-GREEN TR.
R-11
R-13
R-14
R-12
10
20
30
40
50
60
70
80
CHASSIS GROUND
CONNECTING LINK
FUSE
POWER SWITCH
1 BLACK-RED TR
2 BLACK-RED TR
UX-245 BIASING RESISTOR
R-16
UX-280 TERMIN
UX-245 TERMINALS
R-15
P G P G
F F F F
A B C D E F
CABLE TERMINAL STRIP
1 LIGHT BROWN (1)
2 LIGHT BROWN (1)
3 YELLOW (2) BLACK (1)
4 RED-YELLOW TR. (1)
5 GREEN-RED 30/30 (1) RES. R-12
6 BLUE (1)
7 RED (1)
8 RESISTOR R-12
MISCELL. LEADS
A BROWN-YELLOW TR.
B BROWN-YELLOW TR.
C BLACK
D YELLOW
E POWER SUPPLY
F POWER SUPPLY
SPEAKER LEADS
1 YELLOW (VOICE)
2 RED (FIELD)
3 BLACK (VOICE)
4 RED (FIELD)
105-125 VOLTS A.C. 50-60 CYC. POWER SUPPLY PLUG
RESISTOR VALUE & COLOR
R-11 ...55 OHMS (MID-TAP)
R-12 .8000 OHMS BROWN (GRAY END)
R-13 .8000 OHMS BROWN (GRAY END)
R-14 70000 OHMS GREEN (RED END)
R-15 ...55 OHMS (MID-TAP)
R-16 ..730 OHMS
REACTOR PACK
1 RED-BLACK TR.
2 RED-BLACK TR.
3 YELLOW-GREEN TR.
4 RED
5 YELLOW-RED TR.

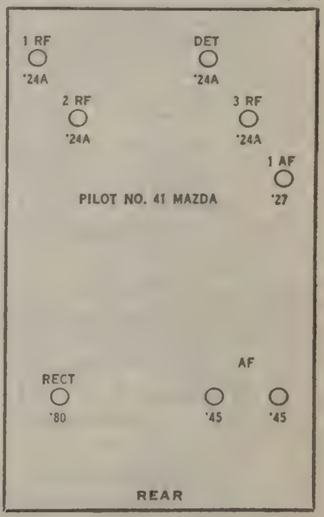
NOTE:—Filter Condenser Bank and Cable Terminal Strip are the only parts having numbers. All other numbers are given for reference only.

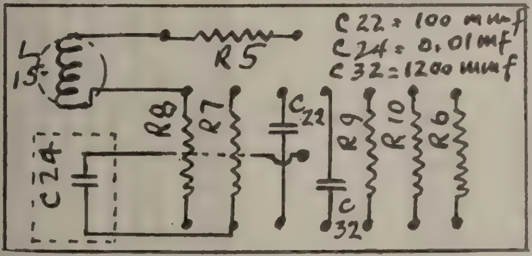
Bottom View of Amplifier-Speaker Unit, showing Wiring between Terminals.

VICTOR—Model "Micro-Synchronous"
Line Voltage 112—Voltage Tap 120—Volume Control Full

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GD +	⑦ NORMAL GRID—SCREEN GD +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L H 80 PLATE	⑩ PLATE R H '80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE	⑬
1	224	1 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5	
2	224	2 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5	
3	224	3 R.F.	2.15	172	2.5	80	-	-	2.5	5	2.5	
4	224	Det.	2.15	75*	-	2.5	8	-	-	-	-	
5	227	1 A.F.	2.15	55	-	0	-	-	1.5	1.8	.3	
6	245	PP-AF	2.25	185	-	36	-	-	19	22	3.0	
7	245	PP-AF	2.25	185	-	36	-	-	19	22	3.0	
8	280	-	4.8	-	-	-	-	36	36	-	-	

Models Victors R34, R35, R39, RE57, RE73 (1930)


1 RF
'24A
DET
'24A
2 RF
'24A
3 RF
'24A
1 AF
'27
PILOT NO. 41 MAZDA
RECT
'80
AF
'45
'45
REAR


C22 = 100 mmf
C24 = 0.01 mf
C32 = 1200 mmf
15
R5
R8
R7
C22
R9
R10
R6
C24
C32

Resistor board on radio chassis.

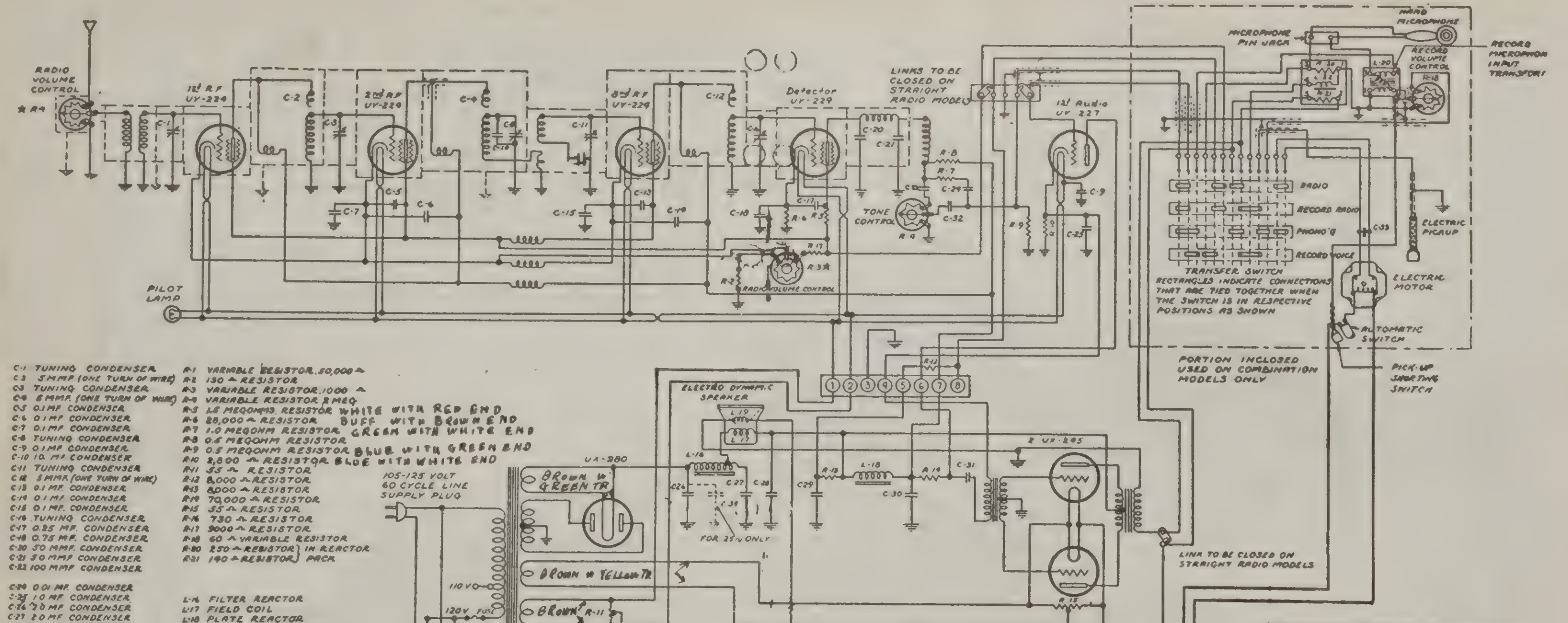
VOLTAGES ACROSS AMPLIFIER TERMINAL STRIP

Between 1 and 2 2.6 volts AC
3 and 7 300. volts DC
3 and 6 275. volts DC
3 and 8 295. volts DC

(The radio chassis is disconnected during these tests)

MODEL Victor R-35, R-39
RE-57
Schematic

R. C. A. VICTOR CO., INC.


RADIO VOLUME CONTROL
★ R-4
1st R.F. UY-224
2nd R.F. UY-224
3rd R.F. UY-224
Detector UY-229
12! Audio UY 227
C-1
C-2
C-3
C-4
C-5
C-6
C-7
C-8
C-10
C-11
C-12
C-13
C-15
C-19
C-20
C-21
C-24
C-29
C-32
C-9
C-25
R-7
R-8
R-9
R-6
R-5
R-17
R-2
R-3★
RADIO VOLUME CONTROL
TONE CONTROL
R-4
PILOT LAMP
LINKS TO BE CLOSED ON STRAIGHT RADIO MODELS
MICROPHONE PIN JACK
HAND MICROPHONE
RECORD VOLUME CONTROL
RECORD MICROPHON INPUT TRANSFOR!
R-20
L-22
R-21
L-20
R-18
RADIO
RECORD RADIO
PHONO'G
RECORD VOICE
TRANSFER SWITCH
RECTANGLES INDICATE CONNECTIONS THAT ARE TIED TOGETHER WHEN THE SWITCH IS IN RESPECTIVE POSITIONS AS SHOWN
ELECTRIC PICKUP
C-33
ELECTRIC MOTOR
AUTOMATIC SWITCH
PORTION INCLOSED USED ON COMBINATION MODELS ONLY
PICK-UP STARTING SWITCH
1 2 3 4 5 6 7 8
R-12
ELECTRO DYNAMIC SPEAKER
L-19
L-17
L-16
C-24
C-27
C-28
C-29
C-30
C-31
L-18
R-13
R-19
C-35
FOR 25 ~ ONLY
2 UX-245
UX-280
BROWN W GREEN TR
BROWN W YELLOW TR
BROWN
R-11
R-15
R-16
LINK TO BE CLOSED ON STRAIGHT RADIO MODELS
105-125 VOLT 60 CYCLE LINE SUPPLY PLUG
110 V
120 V
FUSE
POWER SWITCH

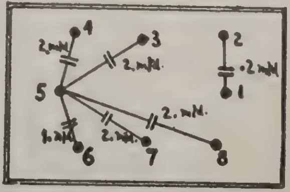
C-1	TUNING CONDENSER
C-2	5 MMF (ONE TURN OF WIRE)
C-3	TUNING CONDENSER
C-4	5 MMF. (ONE TURN OF WIRE)
C-5	0.1 MF CONDENSER
C-6	0.1 MF CONDENSER
C-7	0.1 MF CONDENSER
C-8	TUNING CONDENSER
C-9	0.1 MF CONDENSER
C-10	10. MF CONDENSER
C-11	TUNING CONDENSER
C-12	5 MMF. (ONE TURN OF WIRE)
C-13	0.1 MF. CONDENSER
C-14	0.1 MF CONDENSER
C-15	0.1 MF. CONDENSER
C-16	TUNING CONDENSER
C-17	0.25 MF. CONDENSER
C-18	0.75 MF. CONDENSER
C-20	50 MMF. CONDENSER
C-21	50 MMF CONDENSER
C-22	100 MMF CONDENSER
C-24	0.01 MF. CONDENSER
C-25	1.0 MF CONDENSER
C-26	2.0 MF CONDENSER
C-27	2.0 MF CONDENSER
C-28	2.0 MF CONDENSER
C-29	1.0 MF CONDENSER
C-30	2.0 MF CONDENSER
C-31	0.2 MF CONDENSER
C-32	1200 MMF. CONDENSER
C-33	4.5 MF CONDENSER
C-34	2 MF. CONDENSER

R-1	VARIABLE RESISTOR. 50,000 Ω	
R-2	130 Ω RESISTOR	
R-3	VARIABLE RESISTOR. 1000 Ω	
R-4	VARIABLE RESISTOR 2 MEG	
R-5	1.5 MEGOHMS. RESISTOR	WHITE WITH RED END
R-6	28,000 Ω RESISTOR	BUFF WITH BROWN END
R-7	1.0 MEGOHM RESISTOR	GREEN WITH WHITE END
R-8	0.5 MEGOHM RESISTOR	
R-9	0.5 MEGOHM RESISTOR	BLUE WITH GREEN END
R-10	2,800 Ω RESISTOR	BLUE WITH WHITE END
R-11	55 Ω RESISTOR	
R-12	8,000 Ω RESISTOR	
R-13	8,000 Ω RESISTOR	
R-14	70,000 Ω RESISTOR	
R-15	55 Ω RESISTOR	
R-16	730 Ω RESISTOR	
R-17	9000 Ω RESISTOR	
R-18	60 Ω VARIABLE RESISTOR	
R-20	250 Ω RESISTOR	IN REACTOR PACK
R-21	140 Ω RESISTOR	

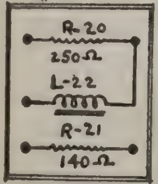
L-16	FILTER REACTOR
L-17	FIELD COIL
L-18	PLATE REACTOR
L-19	VOICE COIL
L-20	INPUT TRANSFORMER
L-22	REACTOR

★ R-1 AND R-3 ARE DUAL TYPE, BOTH OPERATED BY THE SAME KNOB

NOTE—Broken lines along wire indicate grounded shielding.


1
2
3
4
5
6
7
8
2 MF.
.2 MF
2 MF.
2 MF.
2 MF.
1 MF.

FILTER CONDENSER BANK.


R-20
250 Ω
L-22
R-21
140 Ω

MICROPHONE REACTOR.—TERMINALS AND CONNECTIONS.

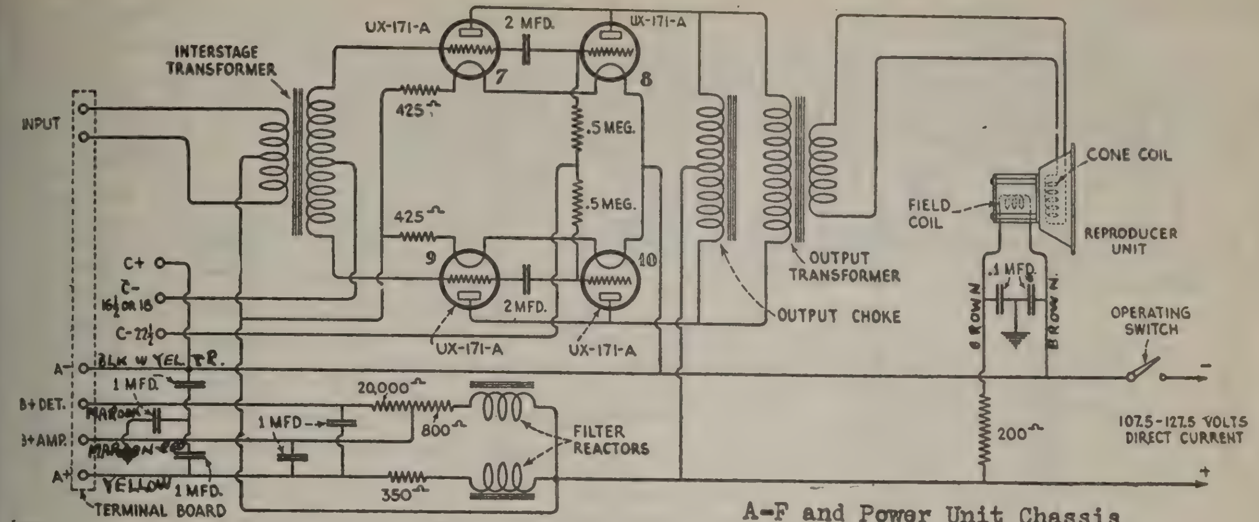
POWER TRANSFORMER COLOR CODE

Primary- Black-red tracer
Primary tap- Black-red. 50/50
Primary- Black
280 filament-Brown-green tracer
280 filament-Brown-green tracer
245 filament-Brown-yellow tracer
245 filament-Brown-yellow tracer
Plate winding-Black-blue tracer
Plate midtap -Yellow-red tracer
Plate winding-Black-blue tracer
224-227 heaters-Brown
224-227 heaters-Brown

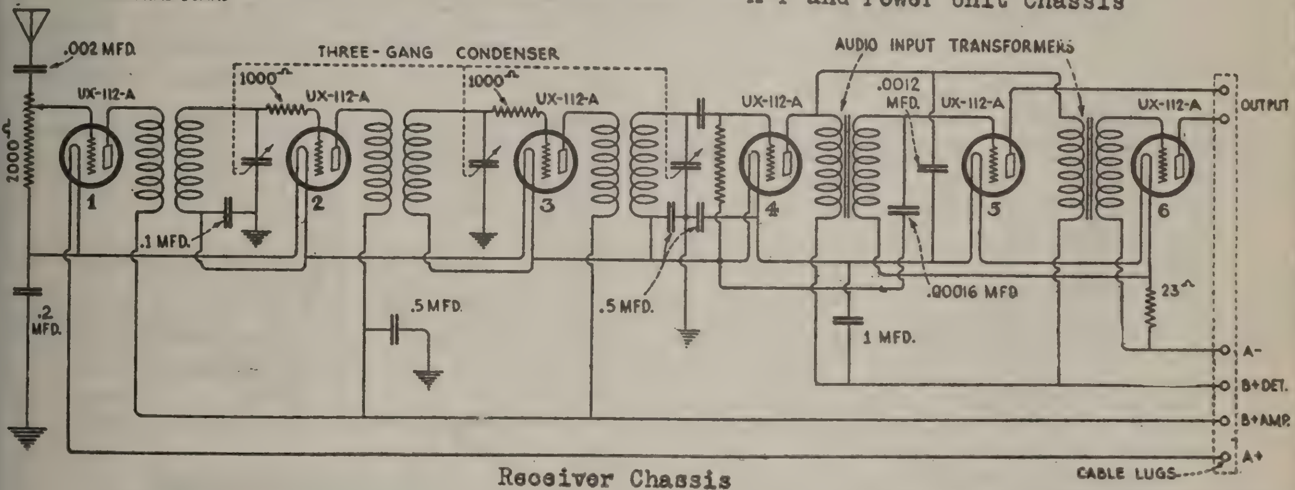
INTERSTAGE AND OUTPUT TRANSFORMER COLOR CODES

Interstage transformer	Output transformer
Primary start-Red-yellow 50/50	Primary start-Blue
Primary finish-Red-yellow tracer	Primary midtap-Red
Secondary start-Green	Primary finish-Blue
Secondary midtap-Yellow	Secondary start-Yellow
Secondary finish-Green	Secondary finish-Black

R. C. A. VICTOR CO., INC. MODEL Radiola 41 DC


UX-171-A
2 MFD.
UX-171-A
INTERSTAGE TRANSFORMER
INPUT
425
.5 MEG.
.5 MEG.
425
7
8
9
10
2 MFD.
UX-171-A
UX-171-A
C+
C- 16½ OR 18
C-22½
BLK W YEL TR.
A-
1 MFD.
B+DET.
MAROON
B+AMP.
MAROON-RED
A+
YELLOW
1 MFD.
TERMINAL BOARD
1 MFD
20,000
800
350
FILTER REACTORS
OUTPUT TRANSFORMER
OUTPUT CHOKE
CONE COIL
FIELD COIL
REPRODUCER UNIT
.1 MFD.
BROWN
BROWN
OPERATING SWITCH
200
107.5-127.5 VOLTS DIRECT CURRENT
-
+

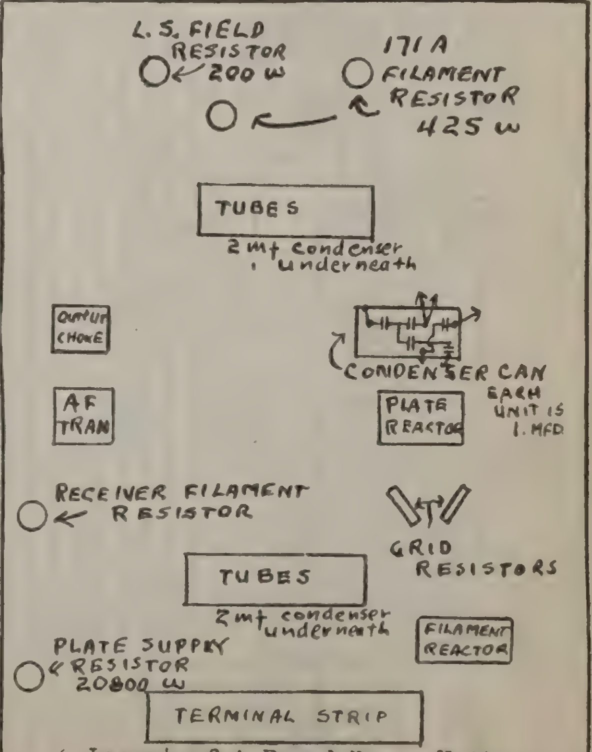
A-F and Power Unit Chassis


.002 MFD.
THREE-GANG CONDENSER
AUDIO INPUT TRANSFORMERS
UX-112-A
1000
UX-112-A
1000
UX-112-A
UX-112-A
.0012 MFD.
UX-112-A
UX-112-A
OUTPUT
2000
1
2
3
4
5
6
.1 MFD.
.5 MFD.
.5 MFD.
.00016 MFD
23
1 MFD.
.2 MFD.
A-
B+DET.
B+AMP.
A+
CABLE LUGS

Receiver Chassis

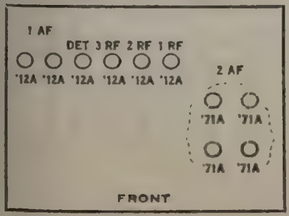
VOLTAGES

Tube	+Fil.-Grid	Fil.-Plt.	Pl.Crnt.	Fil. V
1	4.2	22	1.5 ma	4.3
2	4.1	26	2.0	4.4
3	4.2	31	2.4	4.5
4	4.0	15	1.0	4.6
5	10.	95	6.0	4.8
6	10.	100	7.0	5.0
9	27.	100	6.5	4.8
10	4.	95	6.5	5.0
7	27.	100	7.0	5.0
8	4.	95	6.5	5.0


L.S. FIELD RESISTOR 200 w
171 A FILAMENT RESISTOR 425 w
TUBES
2 mf condenser underneath
OUTPUT CHOKE
CONDENSER CAN
EACH UNIT IS 1. MFD
AF TRAN
PLATE REACTOR
RECEIVER FILAMENT RESISTOR
GRID RESISTORS
TUBES
2 mf condenser underneath
PLATE SUPPLY RESISTOR 20800 w
FILAMENT REACTOR
TERMINAL STRIP

Layout of A-F and Power Unit

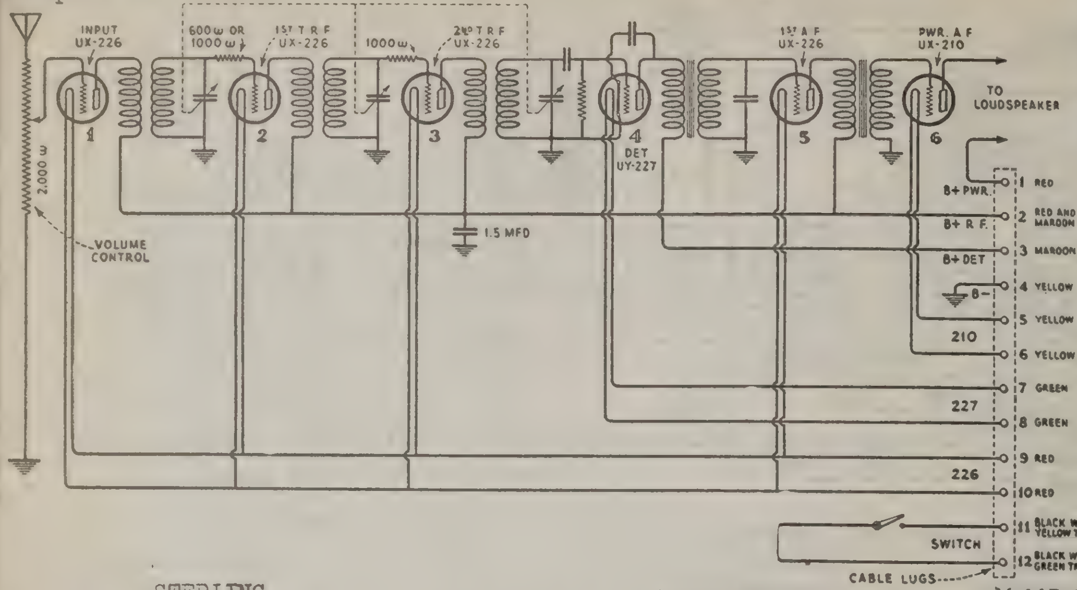
Model Radiola 41 DC (1928)

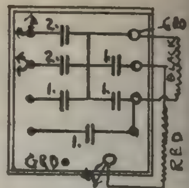

1 AF
DET
3 RF
2 RF
1 RF
'12A
'12A
'12A
'12A
'12A
'12A
2 AF
'71A
'71A
'71A
'71A
FRONT

TERMINAL VOLTAGES
120 Volt DC Line
A- to A+ 35 volts
A+ to B+Det 5 volts
A+ to B+Amp 21 volts

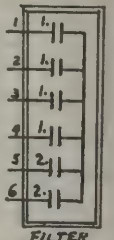
MODEL Radiola 41 AC
R-F Chassis
Sterling SPU
Receptor SPU

R. C. A. VICTOR CO., INC.


INPUT UX-226
600ω OR 1000ω
1ST T R F UX-226
1000ω
2ND T R F UX-226
1ST A F UX-226
PWR. A F UX-210
TO LOUDSPEAKER
1
2
3
4
DET UY-227
5
6
2,000 ω
VOLUME CONTROL
1.5 MFD
B+ PWR.
B+ R F.
B+ DET
B-
210
227
226
SWITCH
CABLE LUGS
1 RED
2 RED AND MAROON
3 MAROON
4 YELLOW
5 YELLOW
6 YELLOW
7 GREEN
8 GREEN
9 RED
10 RED
11 BLACK WITH YELLOW TRACER
12 BLACK WITH GREEN TRACER


2.
2.
1.
1.
1.
1.
GRD
GRD•
BLACK
RED

CONDENSER CAN IN RECEPTOR S.P.U


1
2
3
4
5
6
1.
1.
1.
1.
2.
2.

FILTER AND BYPASS CONDENSER. CAN IN STERLING S.P.U.

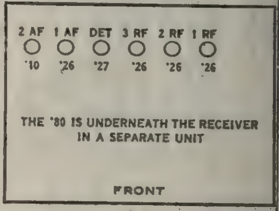
STERLING

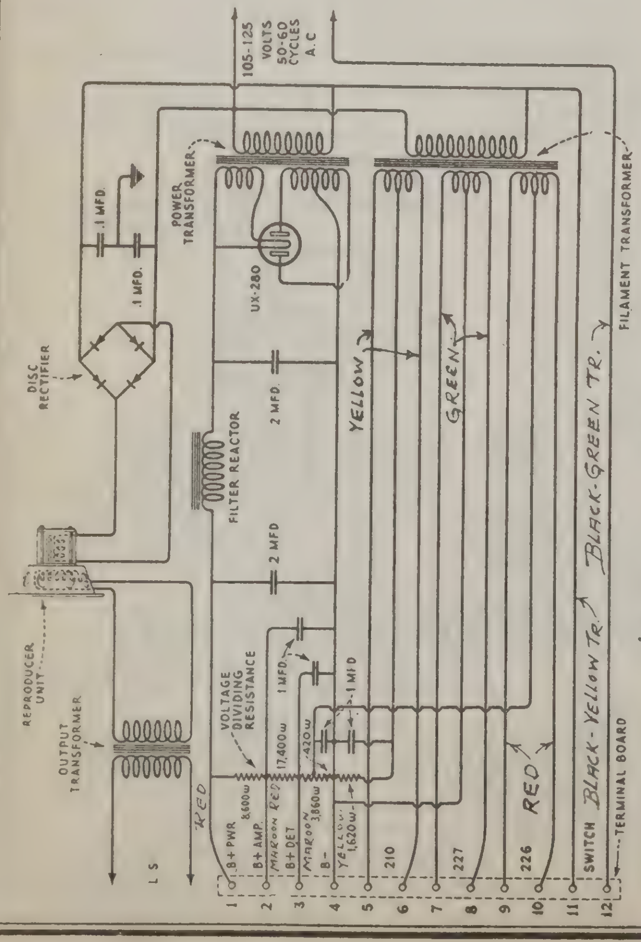
Tube	Grd.V.	Plt.V.	Plt.Crnt.	Fil.V.
1	10	125	3.5 ma	1.5
2	10	125	3.5	1.5
3	10	125	3.5	1.5
4	-	25	2.0	2.5
5	10	125	3.5	1.5
6	20	300	16.	7.5

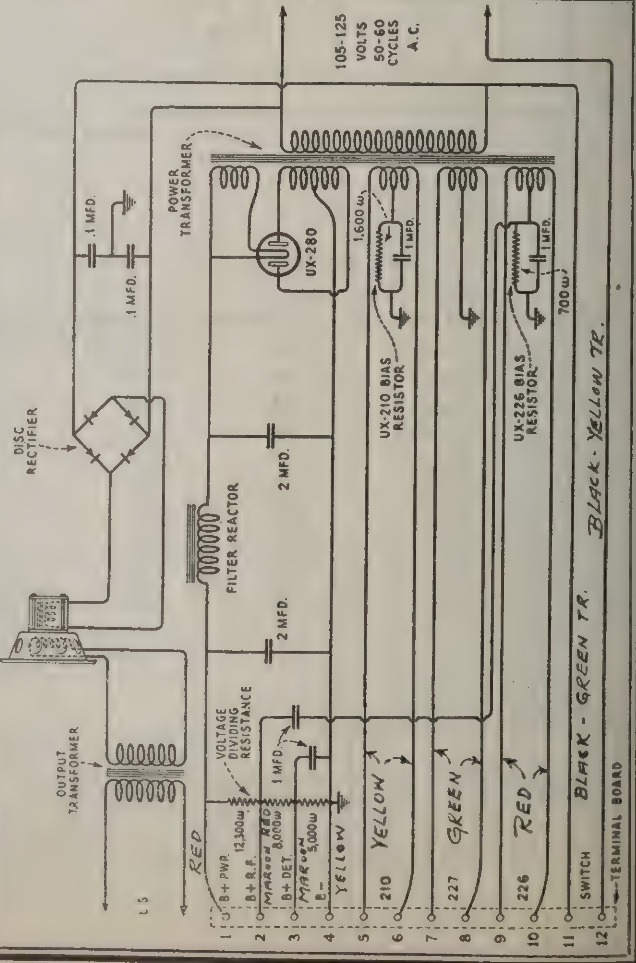
RECEPTOR

Tube	Grd.V.	Plt.V.	Plt.Crnt.	Fil.V.
1	7.	93	2.5 ma	1.5
2	7.	93	2.5	1.5
3	7.	93	2.5	1.5
4	-	33	2.0	2.5
5	7.	93	2.5	1.5
6	22.	310	16.	7.5

Model Radiola 41 (1928)

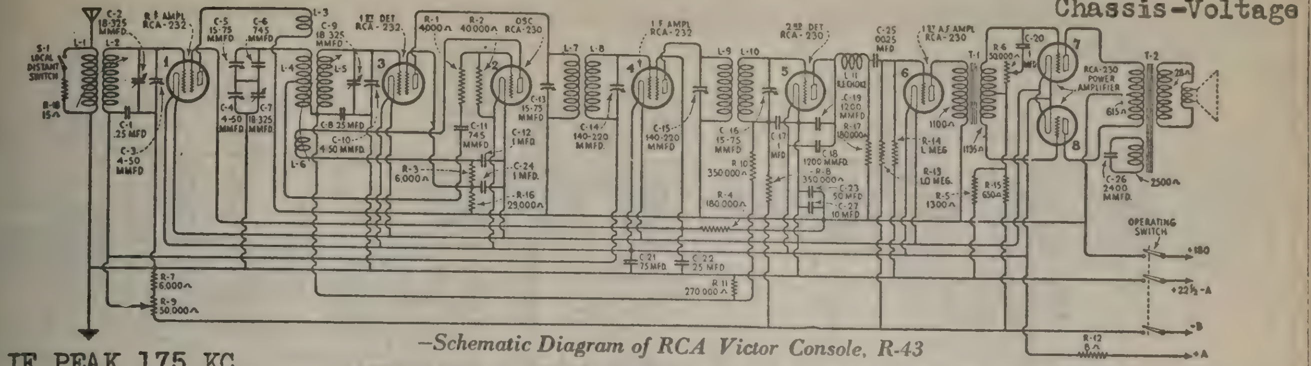

2 AF
1 AF
DET
3 RF
2 RF
1 RF
'10
'26
'27
'26
'26
'26
THE '80 IS UNDERNEATH THE RECEIVER IN A SEPARATE UNIT
FRONT


105-125 VOLTS 50-60 CYCLES A.C
POWER TRANSFORMER
FILAMENT TRANSFORMER
UX-280
.1 MFD.
.1 MFD.
DISC RECTIFIER
2 MFD
FILTER REACTOR
2 MFD
REPRODUCER UNIT
OUTPUT TRANSFORMER
VOLTAGE DIVIDING RESISTANCE
1 MFD.
.1 MFD
8,600ω
17,400ω
.420ω
3,860ω
1,620ω
YELLOW
GREEN
RED
RED
BLACK-GREEN TR.
BLACK-YELLOW TR.
L S
B+ PWR
B+ AMP.
MAROON RED
B+ DET
MAROON
B-
YELLOW
210
227
226
SWITCH
TERMINAL BOARD
1
2
3
4
5
6
7
8
9
10
11
12


105-125 VOLTS 50-60 CYCLES A.C.
POWER TRANSFORMER
UX-280
.1 MFD.
.1 MFD.
1,600ω
1 MFD.
1 MFD.
700ω
UX-210 BIAS RESISTOR
UX-226 BIAS RESISTOR
DISC RECTIFIER
2 MFD.
FILTER REACTOR
2 MFD.
OUTPUT TRANSFORMER
VOLTAGE DIVIDING RESISTANCE
1 MFD.
12,300ω
8,000ω
5,000ω
RED
YELLOW
GREEN
RED
BLACK - GREEN TR.
BLACK - YELLOW TR.
L S
B+ PWR.
B+ R.F.
MAROON RED
B+ DET.
MAROON
B-
YELLOW
210
227
226
SWITCH
TERMINAL BOARD
1
2
3
4
5
6
7
8
9
10
11
12

R. C. A. VICTOR CO., INC.

MODEL R-43
Schematic
Chassis-Voltage

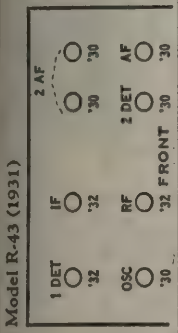

S-1 LOCAL DISTANT SWITCH
L-1
L-2
R-8 15Ω
C-2 18-325 MMFD
C-1 .25 MFD
C-3 4-50 MMFD
R.F. AMPL RCA-232
C-5 15-75 MMFD
C-6 745 MMFD
C-4 4-50 MMFD
C-7 18-325 MMFD
L-3
L-4
C-9 18-325 MMFD
L-5
C-8 .25 MFD
C-10 4-50 MMFD
L-6
1ST DET RCA-232
R-1 4000Ω
R-2 40000Ω
OSC RCA-230
C-13 15-75 MMFD
C-11 745 MMFD
C-12 1 MFD
R-3 6,000Ω
C-24 .1 MFD
R-16 29,000Ω
L-7
L-8
C-14 140-220 MMFD
I.F. AMPL RCA-232
C-15 140-220 MMFD
L-9
L-10
C-16 15-75 MMFD
R-10 350,000Ω
R-4 180,000Ω
2ND DET RCA-230
C-17 1 MFD
L-11 R.F. CHOKE
C-19 1200 MMFD
C-18 1200 MMFD
R-8 350,000Ω
R-17 180,000Ω
C-23 50 MFD
C-22 10 MFD
C-25 .0025 MFD
1ST A.F. AMPL RCA-230
R-14 1 MEG
R-13 1.0 MEG
R-5 1300Ω
R-15 650Ω
T-1
R-6 50,000Ω
C-20
RCA-230 POWER AMPLIFIER
T-2
C-26 2400 MMFD
C-21 .75 MFD
C-22 .25 MFD
R-11 270,000Ω
R-7 6,000Ω
R-9 50,000Ω
R-12 8Ω
OPERATING SWITCH
+180
+22½ -A
-B
+A

—*Schematic Diagram of RCA Victor Console, R-43*

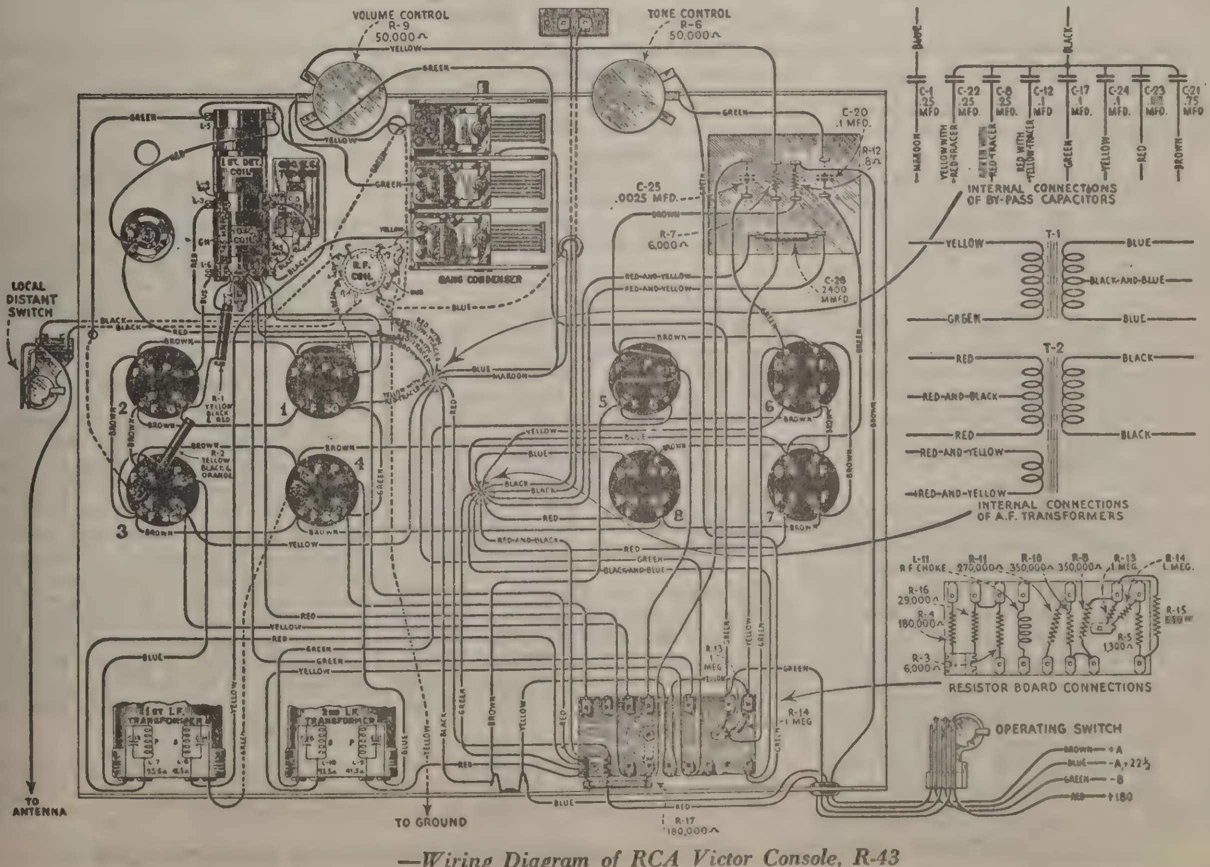
IF PEAK 175 KC.

BATTERIES AT FULL VOLTAGE—NO SIGNAL BEING RECEIVED

These voltages are those obtained with one of the usual set analyzers. The values indicated, therefore, are not necessarily the voltages that actually appear at the Radiotron Sockets when the voltmeter is not connected.


Model R-43 (1931)
1 DET
'32
OSC
'30
IF
'32
RF
'32
FRONT
2 AF
'30
'30
2 DET
'30
AF
'30

Tube No.	Filament to Control Grid Volts	Filament to Screen Grid Volts	Filament to Plate Volts	Plate Current M. A.	Filament Volts
VOLUME CONTROL AT MINIMUM					
1	22	55	155	0	2.0
2	—	—	50	3.0	2.0
3	0.5	65	150	0.5	2.0
4	22	55	155	0	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0		150	0.5	2.0
VOLUME CONTROL AT MAXIMUM					
1	1.5	45	150	2.5	2.0
2	—	—	50	3.0	2.0
3	0.5	60	150	0.5	2.0
4	1.5	45	150	2.5	2.0
5	5.0	—	90	0	2.0
6	2.0	—	150	2.5	2.0
7	15.0	—	150	0.5	2.0
8	15.0	—	150	0.5	2.0

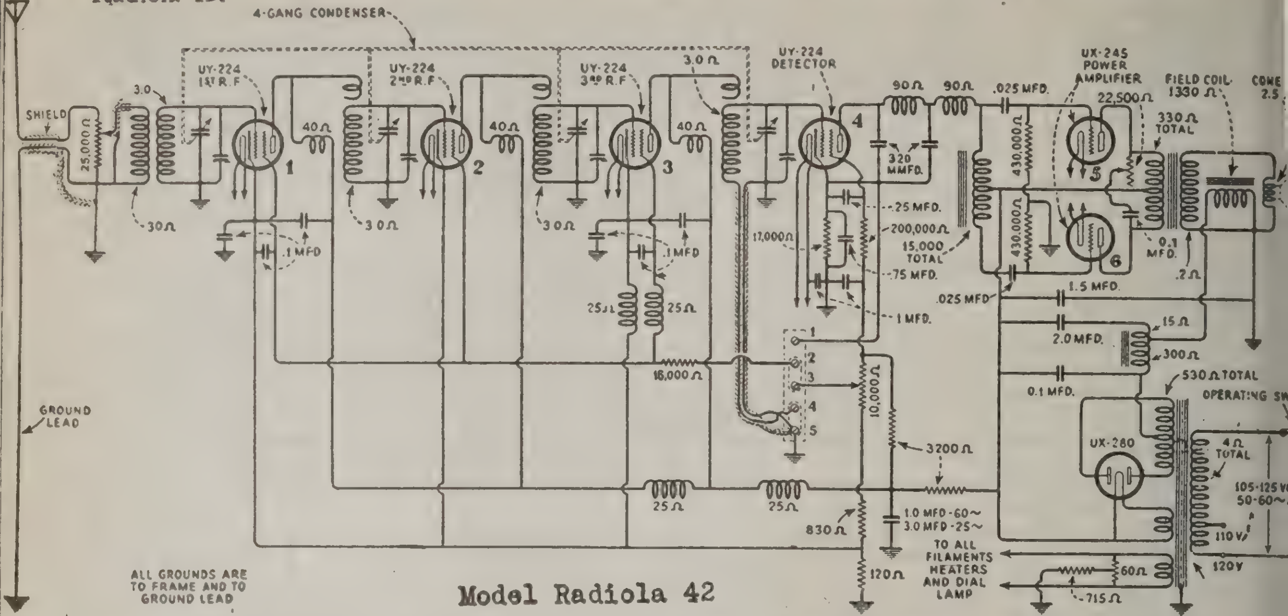

VOLUME CONTROL R-9 50,000Ω
TONE CONTROL R-6 50,000Ω
C-20 .1 MFD.
R-12 8Ω
C-25 .0025 MFD.
R-7 6,000Ω
C-26 2400 MMFD
1ST DET. COIL
OSC. COIL
R.F. COIL
GANG CONDENSER
LOCAL DISTANT SWITCH
R-1 YELLOW BLACK & BLUE
R-2 YELLOW BLACK & ORANGE
1
2
3
4
5
6
7
8
1ST I.F. TRANSFORMER
2ND I.F. TRANSFORMER
R-13 1 MEG
R-14 1 MEG
R-17 180,000Ω
TO ANTENNA
TO GROUND
C-1 .25 MFD
C-22 .25 MFD.
C-8 .25 MFD.
C-12 .1 MFD
C-17 .1 MFD.
C-24 .1 MFD.
C-23 MFD.
C-21 .75 MFD
BLUE
BLACK
MAROON
YELLOW WITH RED TRACER
GREEN
YELLOW
RED
BROWN
INTERNAL CONNECTIONS OF BY-PASS CAPACITORS
T-1
YELLOW
GREEN
BLUE
BLACK-AND-BLUE
T-2
RED
RED-AND-BLACK
RED-AND-YELLOW
BLACK
INTERNAL CONNECTIONS OF A.F. TRANSFORMERS
L-11 R.F. CHOKE
R-11 270,000Ω
R-10 350,000Ω
R-8 350,000Ω
R-13 1 MEG.
R-14 1 MEG.
R-16 29,000Ω
R-4 180,000Ω
R-3 6,000Ω
R-5 1,300Ω
R-15 650Ω
RESISTOR BOARD CONNECTIONS
OPERATING SWITCH
BROWN +A
BLUE -A +22½
GREEN -B
RED +180

—*Wiring Diagram of RCA Victor Console, R-43*

Radiola 42 Schematic
Model R-43 Notes

R. C. A. - VICTOR CO., INC.

All the information contained in the Radiola 48 Service Notes will therefore apply to the Radiola 42.


4-GANG CONDENSER
UY-224 1ST R.F.
UY-224 2ND R.F.
UY-224 3RD R.F.
UY-224 DETECTOR
UX-245 POWER AMPLIFIER
FIELD COIL 1330 Ω
CONE 2.5
SHIELD
3.0
25,000 Ω
30 Ω
40 Ω
.1 MFD
3.0 Ω
25 Ω
16,000 Ω
17,000 Ω
.25 MFD.
200,000 Ω
15,000 TOTAL
.75 MFD.
1 MFD.
90 Ω
320 MMFD.
.025 MFD.
430,000 Ω
22,500 Ω
330 Ω TOTAL
0.1 MFD.
.2 Ω
1.5 MFD.
2.0 MFD.
15 Ω
300 Ω
0.1 MFD.
530 Ω TOTAL
OPERATING SW
UX-280
4 Ω TOTAL
105-125 V 50-60~
110 V
120 V
10,000 Ω
3200 Ω
830 Ω
120 Ω
1.0 MFD-60~
3.0 MFD-25~
TO ALL FILAMENTS HEATERS AND DIAL LAMP
60 Ω
715 Ω
GROUND LEAD
ALL GROUNDS ARE TO FRAME AND TO GROUND LEAD
1
2
3
4
5
6

Model Radiola 42

It will be noted that a new volume control is used. The antenna section of this unit has a value of 25,000 ohms instead of 50,000 ohms as used in the Radiola 48. This volume control is also being used as a replacement in Radiola 48. The screen grid voltage section has a value of 10,000 ohms and the 12,000 ohm shunt resistor is not used. The 0.005 mfd. condenser across the plates of Radiotrons UX-245 has been omitted due to the connection of the tone control in the same position. When making replacements of the condenser and reactor unit it will be necessary to clip the two leads that are connected to the .005 mfd. condenser close to the container. The reason for this is that the replacement unit supplied is suitable for either the Radiola 42 or 48.

Model R-43 Service Notes

The RCA Victor Console, R-43 is an eight tube screen grid battery operated Super-Heterodyne radio receiver.

Three Radiotrons RCA-232 are used in the R.F., 1st detector and I.F. stages respectively. Five Radiotrons RCA-230 are used in the Oscillator, 2nd detector, 1st audio and push-pull power stage.

A reference to the RCA Victor Radiola Superette Service Notes will give the details of circuit operation up to and including the second detector. The audio circuits of the R-43 are however, considerably different from the R-7. A discussion of their function follows:

The first audio stage operates in the usual manner, its output being fed into the grid circuit of the push-pull stage. The output stage is of the push-pull type, in which the tubes are biased to substantially plate current cut-off. The arrangement is such that the output stage may deliver substantially four times the output that would be obtained with the same tubes operated in the usual circuit. This system is very economical due to there being but a small amount of residual plate current flowing in the output stage. Current is drawn only when a modulated signal is being received.

An extra winding, shunted by a capacitor, is placed on the output transformer. The purpose of this circuit is to provide a high frequency cut-off for the audio amplifier.

A tone control is provided, which consists of a 0.1 mfd. capacitor and a 50,000 Ohm variable resistor connected across one half of the secondary of the input transformer. This circuit functions to reduce the high frequency output as the resistance is decreased.

The permanent magnet dynamic loudspeaker used with this receiver is a new development and gives all the fine quality and life-like reproduction inherent in this type of reproducer.

The receiver is designed for use with the new Eveready Aircell "A" battery which provides a life in excess of 600 ampere hours. The receiver draws but .48 amperes, giving approximately 1200 hours life from a single filament battery.

The plate and grid supply for all Radiotrons is furnished from four heavy duty "B" batteries. Due to the low current drain—8 to 15 M.A.—excellent life is obtained from this source of current.

SERVICE DATA

A reference to the RCA Victor, Superette, R-7 Service Notes will give complete details on R.F., oscillator and I.F. adjustments as well as the usual service information required with this type of receiver.

BATTERIES

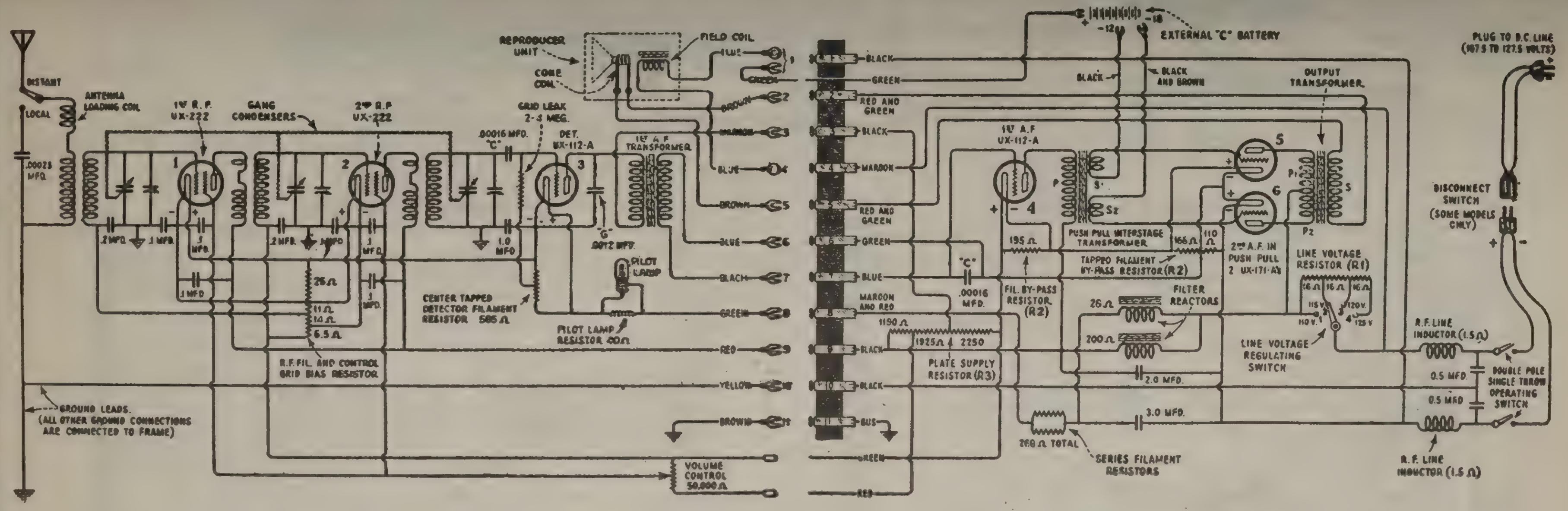
The Eveready Aircell "A" battery must be kept clean and the plates covered with water at all times. Operation at temperatures of 40 degrees Fahrenheit or lower is not recommended and if attempted will result in damage to the battery. Having the battery idle at this temperature does not in any way affect it. If it is essential that an installation be made where the receiver is to be operated at 40 degrees Fahrenheit or less, a single cell storage battery should be used. Due to the low current drain, excellent life from one charging will be obtained.

"B" batteries should be replaced when their output voltage has dropped 25% under load.

SPECIAL NOTE*** Material within border very important information

MODEL Radiola 46 DC
MODEL Radiola 44 AC
Terminal Voltage
MODEL Radiola 46 AC
Terminal Voltage

R. C. A. VICTOR CO., INC.


DISTANT
LOCAL
ANTENNA LOADING COIL
.00023 MFD.
1ST R.F. UX-222
GANG CONDENSERS
2ND R.F. UX-222
.00016 MFD. "C"
GRID LEAK 2-3 MEG.
DET. UX-112-A
1ST A.F. TRANSFORMER
REPRODUCER UNIT
CONE COIL
FIELD COIL
.2 MFD.
.1 MFD.
1 MFD.
1.0 MFD.
"G"
.0012 MFD.
PILOT LAMP
25 Ω
11 Ω
14 Ω
6.5 Ω
R.F. FIL. AND CONTROL GRID BIAS RESISTOR
CENTER TAPPED DETECTOR FILAMENT RESISTOR 585 Ω
PILOT LAMP RESISTOR 40 Ω
GROUND LEADS. (ALL OTHER GROUND CONNECTIONS ARE CONNECTED TO FRAME)
BLUE
GREEN
BROWN
MAROON
BLACK
RED
YELLOW
VOLUME CONTROL 50,000 Ω
RED AND GREEN
MAROON AND RED
BUS
EXTERNAL "C" BATTERY
-12½
-18
BLACK AND BROWN
1ST A.F UX-112-A
PUSH PULL INTERSTAGE TRANSFORMER
TAPPED FILAMENT BY-PASS RESISTOR (R2)
195 Ω
166 Ω
110 Ω
"C"
.00016 MFD.
FIL. BY-PASS RESISTOR (R2)
1190 Ω
1925 Ω
2250
PLATE SUPPLY RESISTOR (R3)
FILTER REACTORS
26 Ω
200 Ω
2.0 MFD.
3.0 MFD.
266 Ω TOTAL
SERIES FILAMENT RESISTORS
2ND A.F. IN PUSH PULL 2 UX-171-A'S
OUTPUT TRANSFORMER
LINE VOLTAGE RESISTOR (R1)
16 Ω
110 V.
115 V.
120 V.
125 V.
LINE VOLTAGE REGULATING SWITCH
R.F. LINE INDUCTOR (1.5 Ω)
0.5 MFD.
DOUBLE POLE SINGLE THROW OPERATING SWITCH
DISCONNECT SWITCH (SOME MODELS ONLY)
PLUG TO D.C. LINE (107.5 TO 127.5 VOLTS)

Model 46 AC Terminal Voltage

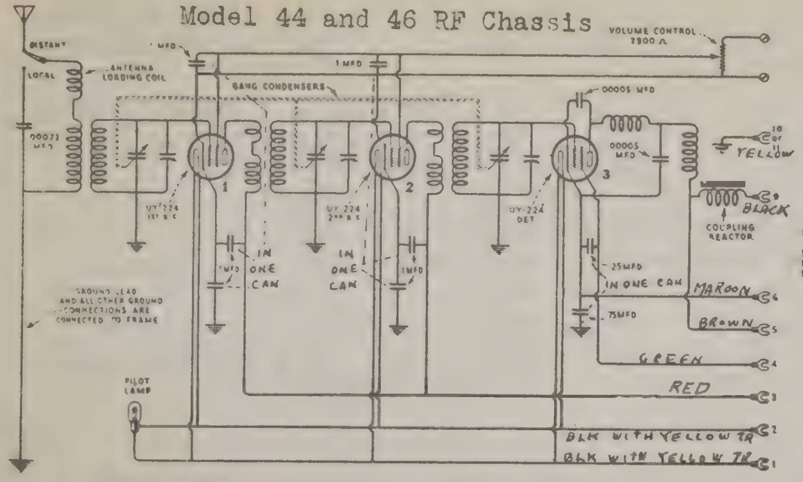
Terminals	Voltage Control at Min	Voltage Control at Max
1 to 2	2.5 A.C.	2.5 A.C.
3 to Red VC lead	185. D.C.	170. D.C.
4 to 6	70. D.C.	65. D.C.
6 to 9	195. D.C.	180. D.C.
6 to 11	5. D.C.	5. D.C.
8 to 11	320. D.C.	320. D.C.
Red VC lead to 11	2.1D.C.	2.1 D.C.
Arm of VC lead to Red VC lead	0.	70. D.C.

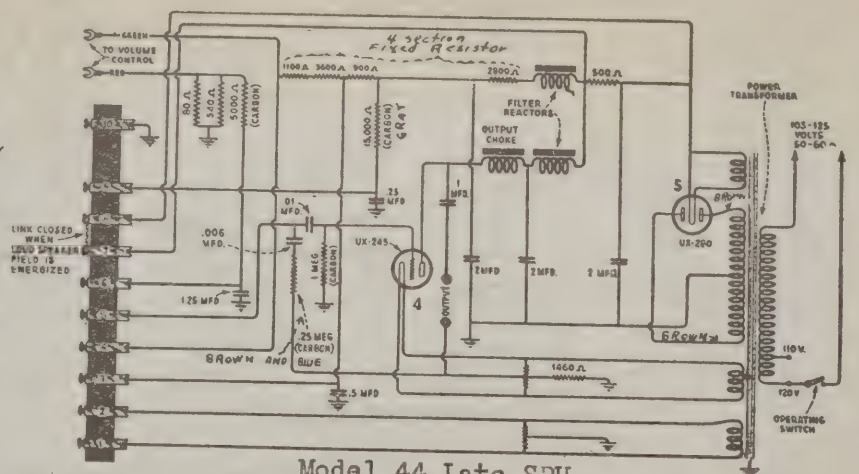
Model 44 AC Terminal Voltage

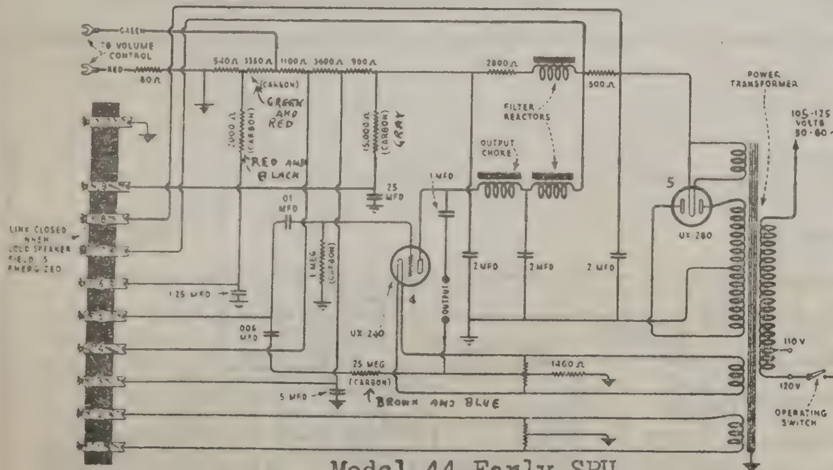
Terminals	Vol. Control at Min.	Vol. Control at Max.
1 to 2	2.5 A.C.	2.5 A.C.
3 to Red VC lead	185. D.C.	170. D.C.
4 to 5	70 D.C.	60. D.C.
6 to 9	195 D.C.	180 D.C.
6 to 10	5. D.C.	5. D.C.
8 to 10	330 D.C.	330 D.C.
Red VC lead to 10	2.1 D.C.	2.1 D.C.
Arm of VC lead to Red VC lead	0.	70. D.C.

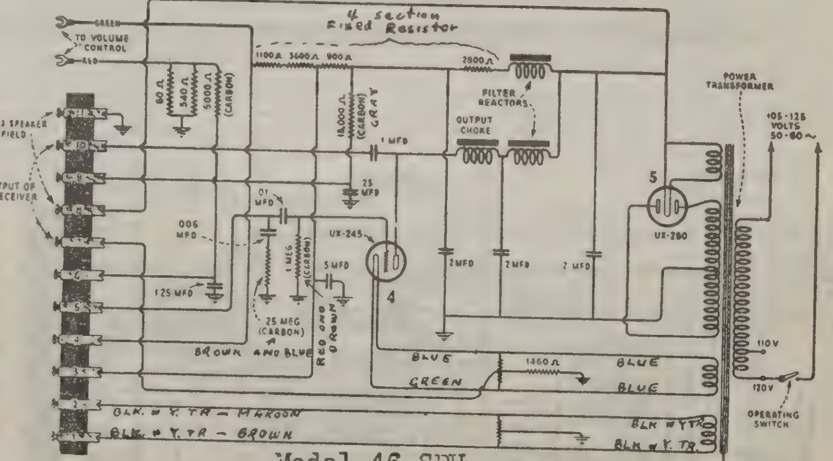
MODEL 44,46 RF Chassis
MODEL 44 Early SPU
MODEL 44 Late SPU
MODEL 46 SPU

R. C. A. VICTOR CO., INC.

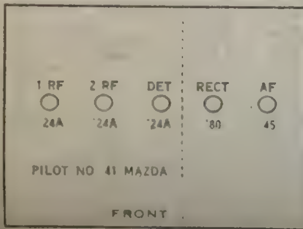

Model 44 and 46 RF Chassis
VOLUME CONTROL 2800 Ω
DISTANT
LOCAL
ANTENNA LOADING COIL
.00025 MFD
1 MFD
GANG CONDENSERS
.00005 MFD
UY-224 1ST R.F.
UY-224 2ND R.F.
UY-224 DET
IN ONE CAN
1 MFD
.25 MFD
IN ONE CAN
.75 MFD
10 or YELLOW
BLACK
COUPLING REACTOR
MAROON 6
BROWN 5
GREEN 4
RED 3
BLK WITH YELLOW TR 2
BLK WITH YELLOW TR 1
GROUND LEAD AND ALL OTHER GROUND CONNECTIONS ARE CONNECTED TO FRAME
PILOT LAMP
1
2
3


Model 44 Late SPU
GREEN
TO VOLUME CONTROL
RED
4 section Fixed Resistor
1100 Ω 3600 Ω 900 Ω
2800 Ω
500 Ω
80 Ω
540 Ω
5000 Ω (CARBON)
15,000 Ω (CARBON) GRAY
FILTER REACTORS
OUTPUT CHOKE
POWER TRANSFORMER
105-125 VOLTS 50-60 ~
.25 MFD
.01 MFD
.006 MFD
1 MFD
UX-245
OUTPUT
1 MEG (CARBON)
.25 MEG (CARBON)
BROWN AND BLUE
.125 MFD
.5 MFD
2 MFD
LINK CLOSED WHEN LOUD SPEAKER FIELD IS ENERGIZED
UX-280
BROWN
1460 Ω
110V
120V
OPERATING SWITCH
4
5


Model 44 Early SPU
GREEN
TO VOLUME CONTROL
RED
80 Ω
540 Ω 3350 Ω 1100 Ω 3600 Ω 900 Ω
(CARBON)
GREEN AND RED
2000 Ω (CARBON)
RED AND BLACK
15,000 Ω (CARBON) GRAY
.25 MFD
2800 Ω
500 Ω
FILTER REACTORS
OUTPUT CHOKE
1 MFD
POWER TRANSFORMER
105-125 VOLTS 50-60 ~
.01 MFD
1 MEG (CARBON)
OUTPUT
2 MFD
UX-280
UX 240
.125 MFD
.006 MFD
.25 MEG (CARBON)
BROWN AND BLUE
.5 MFD
1460 Ω
110V
120V
OPERATING SWITCH
LINK CLOSED WHEN LOUD SPEAKER FIELD IS ENERGIZED
4
5


Model 46 SPU
GREEN
TO VOLUME CONTROL
RED
4 section Fixed Resistor
1100 Ω 3600 Ω 900 Ω
2800 Ω
80 Ω
540 Ω
5000 Ω (CARBON)
15,000 Ω (CARBON) GRAY
1 MFD
FILTER REACTORS
OUTPUT CHOKE
POWER TRANSFORMER
105-125 VOLTS 50-60 ~
LOUD SPEAKER FIELD
OUTPUT OF RECEIVER
.25 MFD
.01 MFD
.006 MFD
1 MEG (CARBON)
.5 MFD
UX-245
.125 MFD
.25 MEG (CARBON)
BROWN AND BLUE
RED AND BROWN
2 MFD
UX-280
BLUE
GREEN
1460 Ω
BLUE
BLUE
110V
120V
OPERATING SWITCH
BLK. W Y. TR – MAROON
BLK. W Y. TR – BROWN
BLK W Y TR
BLK W Y. TR
4
5

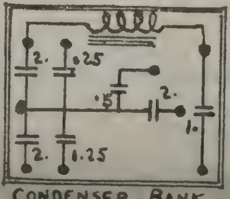
Models Radiolas 44, 46, 47 (1929)


1 RF
24A
2 RF
'24A
DET
'24A
RECT
'80
AF
45
PILOT NO 41 MAZDA
FRONT

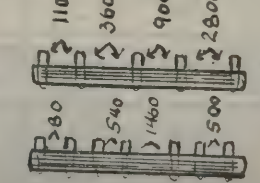
RADIOLA—Models 44-46

Line Voltage 120—Set on 120 Volt Tap—Volume Control Position Max

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M.A. ⑩	PLATE M.A. GRID TEST ⑪	PLATE CHANGE M.A. ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.50	164	2.35	164	1.5	1.5	1.5	3.8	2.3	45.0
2	224	2nd RF	2.50	164	2.35	164	1.5	1.5	1.5	3.8	2.3	45.0
3	224	Det.	[illegible]	164	2.35	100	6.0	7.0	0.1	0.8	0.7	50.0
4	245	Audio	2.65	336	2.5	230	6.0	-	32.0	34.0	2.0	-

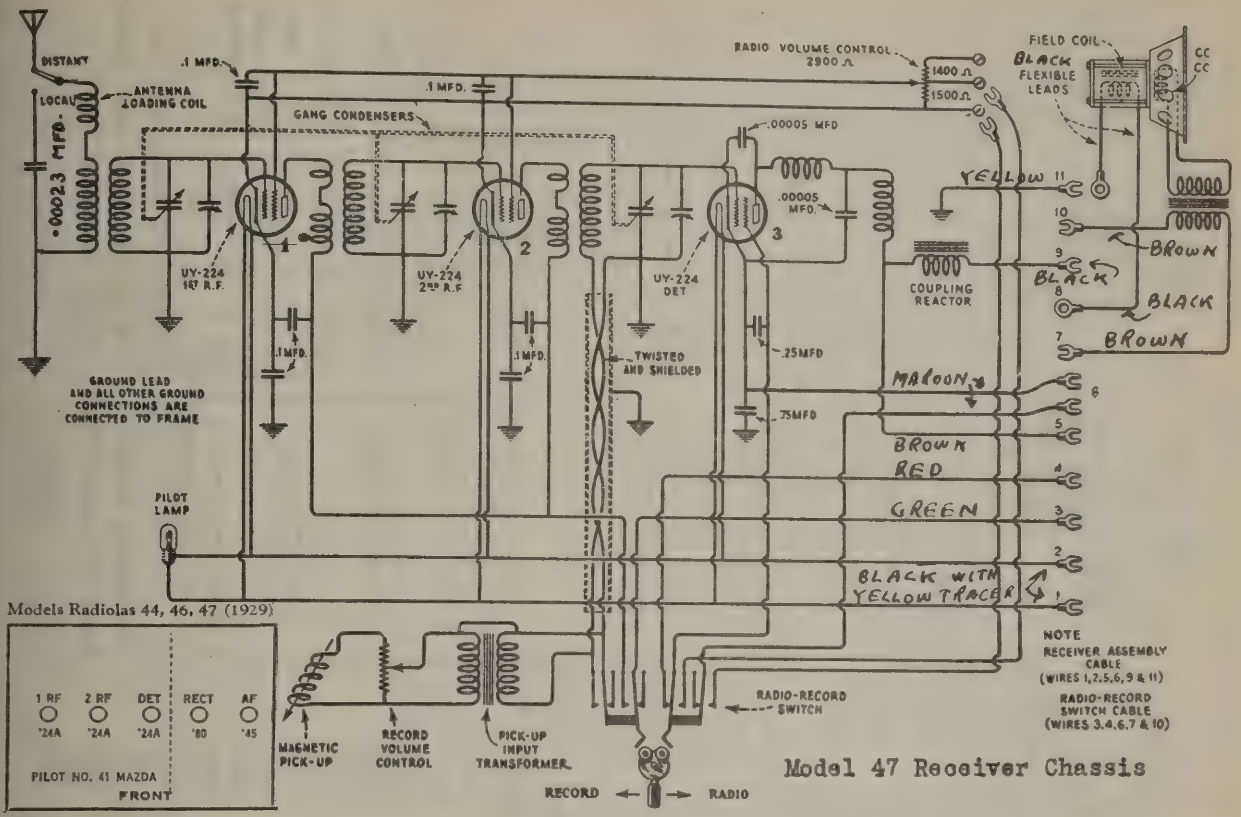


CONDENSER BANK

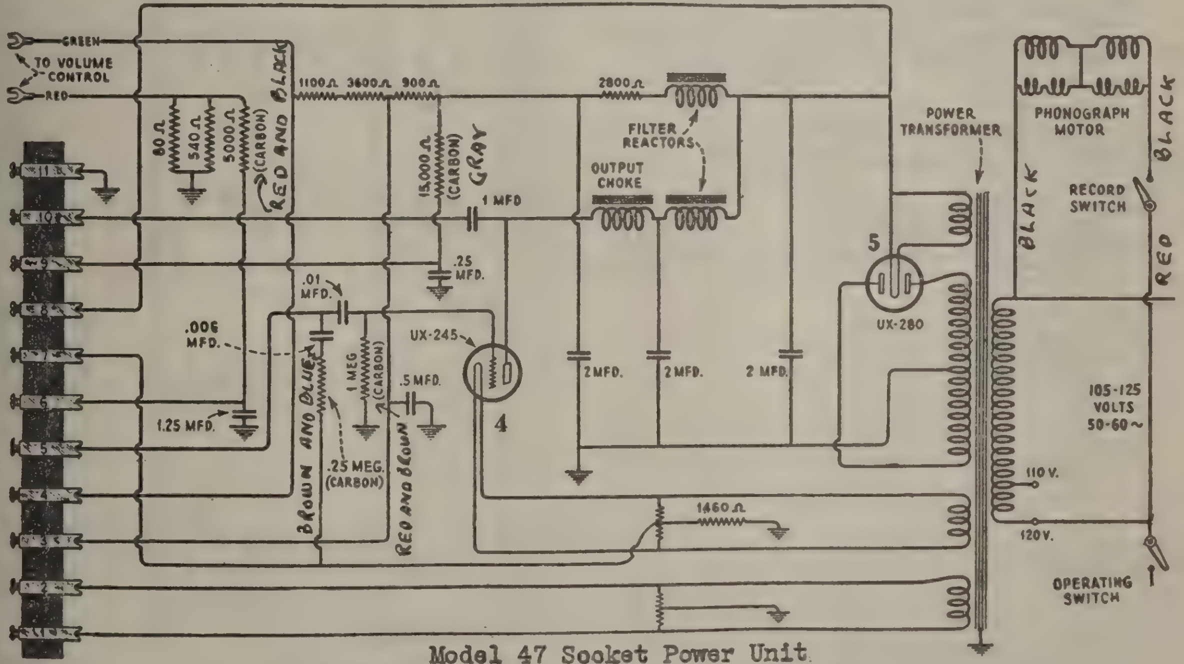

1100
3600
900
2800
80
540
1460
500
Resistance units

MODEL Radiola 47

R. C. A. VICTOR CO., INC.


DISTANT
LOCAL
.00023 MFD.
ANTENNA LOADING COIL
.1 MFD.
GANG CONDENSERS
.1 MFD.
RADIO VOLUME CONTROL 2900 Ω
1400 Ω
1500 Ω
FIELD COIL
BLACK FLEXIBLE LEADS
.00005 MFD
.00005 MFD.
UY-224 1ST R.F.
UY-224 2ND R.F.
UY-224 DET
1
2
3
COUPLING REACTOR
YELLOW
BROWN
BLACK
BLACK
BROWN
.1 MFD.
.1 MFD.
.25 MFD
.75 MFD
TWISTED AND SHIELDED
MAROON
BROWN
RED
GREEN
BLACK WITH YELLOW TRACER
11
10
9
8
7
6
5
4
3
2
1
GROUND LEAD AND ALL OTHER GROUND CONNECTIONS ARE CONNECTED TO FRAME
PILOT LAMP
Models Radiolas 44, 46, 47 (1929)
1 RF
2 RF
DET
RECT
AF
'24A
'24A
'24A
'80
'45
PILOT NO. 41 MAZDA
FRONT
MAGNETIC PICK-UP
RECORD VOLUME CONTROL
PICK-UP INPUT TRANSFORMER
RADIO-RECORD SWITCH
RECORD
RADIO
NOTE
RECEIVER ASSEMBLY CABLE (WIRES 1,2,5,6,9 & 11)
RADIO-RECORD SWITCH CABLE (WIRES 3,4,6,7 & 10)

Model 47 Receiver Chassis


GREEN
TO VOLUME CONTROL
RED
80 Ω
540 Ω
5000 Ω (CARBON)
RED AND BLACK
1100 Ω
3600 Ω
900 Ω
15,000 Ω (CARBON)
GRAY
1 MFD
.25 MFD.
2800 Ω
FILTER REACTORS
OUTPUT CHOKE
POWER TRANSFORMER
PHONOGRAPH MOTOR
BLACK
BLACK
RECORD SWITCH
RED
.01 MFD.
.006 MFD.
1 MEG (CARBON)
.5 MFD.
UX-245
UX-280
5
4
1.25 MFD.
BROWN AND BLUE
.25 MEG. (CARBON)
RED AND BROWN
2 MFD.
2 MFD.
2 MFD.
105-125 VOLTS 50-60 ~
110 V.
120 V.
1460 Ω
OPERATING SWITCH
11
10
9
8
7
6
5
4
3
2
1

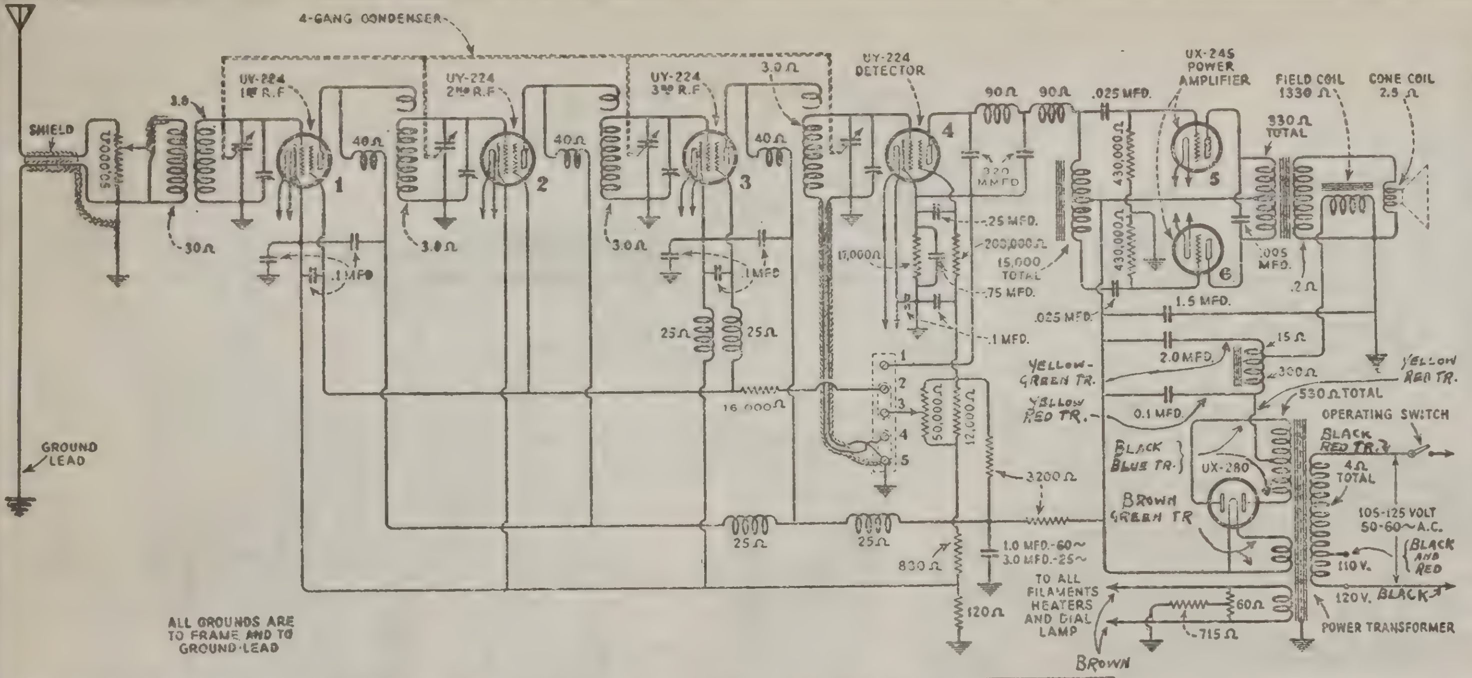
Model 47 Socket Power Unit

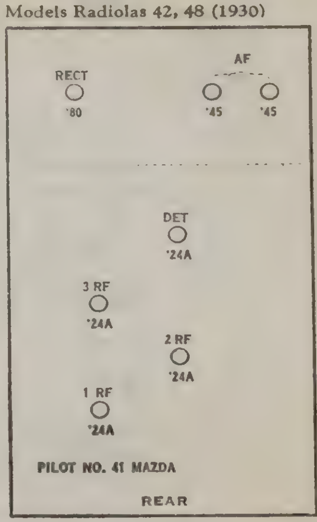
SOCKET VOLTAGES—RADIOLA 47

Volume Control at Minimum—Radio-Record Switch at "Radio"

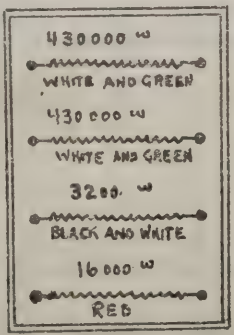
Socket No.	Cathode to Heater Volts	Fil. to Control grid Volts	Cathode or fil. to plate Volts	Plate Current Millamperes	Filament or Heater Volts
1	2.1	—	190	0	2.35
2	2.1	—	185	0	2.35
3	18	—	120	3.0	2.35
4	—	6.0	225	29.0	2.35

R. C. A. VICTOR CO., INC.

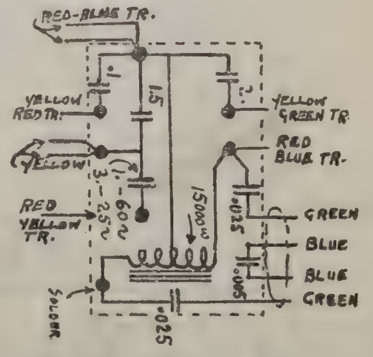

4-GANG CONDENSER
SHIELD
3.8
50,000Ω
30Ω
UY-224 1ST R.F
UY-224 2ND R.F
UY-224 3RD R.F
UY-224 DETECTOR
40Ω
3.0Ω
.1 MFD
25Ω
16,000Ω
17,000Ω
.25 MFD.
200,000Ω
15,000 TOTAL
.75 MFD.
.1 MFD.
50,000Ω
12,000Ω
3200Ω
830Ω
120Ω
1.0 MFD.-60~
3.0 MFD.-25~
90Ω
320 MMFD
.025 MFD.
430,000Ω
UX-245 POWER AMPLIFIER
FIELD COIL 1330Ω
CONE COIL 2.5Ω
330Ω TOTAL
.005 MFD.
.2Ω
1.5 MFD.
2.0 MFD.
0.1 MFD.
15Ω
300Ω
530Ω TOTAL
YELLOW RED TR.
YELLOW-GREEN TR.
YELLOW RED TR.
BLACK BLUE TR.
BROWN GREEN TR
UX-280
OPERATING SWITCH
BLACK RED TR.
4Ω TOTAL
105-125 VOLT 50-60~A.C.
BLACK AND RED
110 V.
120 V. BLACK
60Ω
715Ω
POWER TRANSFORMER
TO ALL FILAMENTS HEATERS AND DIAL LAMP
BROWN
GROUND LEAD
ALL GROUNDS ARE TO FRAME AND TO GROUND LEAD
1
2
3
4
5
6


Models Radiolas 42, 48 (1930)
RECT '80
AF
'45
'45
DET '24A
3 RF '24A
2 RF '24A
1 RF '24A
PILOT NO. 41 MAZDA
REAR

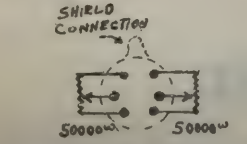
Socket Voltages. (120 Volt Line.) VOL.CONTR. AT MAXIMUM.							
Tube No.	Cath.to Heater V. D.C.	Cath. or Fil. to Contr.Gr. Volts D.C.	Cath.to Screen Gr. Volts D.C.	Cath.or Fil. to Plate Volts D.C.	Plate Current Ma.	S.G. Current Ma.	Heater or Fil. Volts.
1	-40	-2.5	+85	160	3.	0.2	2.3
2	-36	-2.5	+85	155	3.5	0.15	2.3
3	-36	-2.5	+75	155	3.5	0.15	2.3
4	-28	-7.5	+55	225	0.5	0.1	2.3
5	---	-1.	---	200	25.	---	2.3
6	---	-1.	---	200	25.	---	2.3

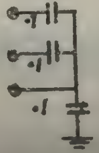

430000 ω
WHITE AND GREEN
430 000 ω
WHITE AND GREEN
3200 ω
BLACK AND WHITE
16000 ω
RED

Resistor Mounting Board Connections


RED-BLUE TR.
YELLOW RED TR.
YELLOW GREEN TR.
RED BLUE TR.
YELLOW
RED YELLOW TR.
1.5
3.-25Ω
1.-60Ω
15000ω
.025
.005
.025
GREEN
BLUE
BLUE
GREEN
SOLDER

Internal connections of Capacitor and Coupling Reactor Pack


SHIELD CONNECTION
50000ω
50000ω

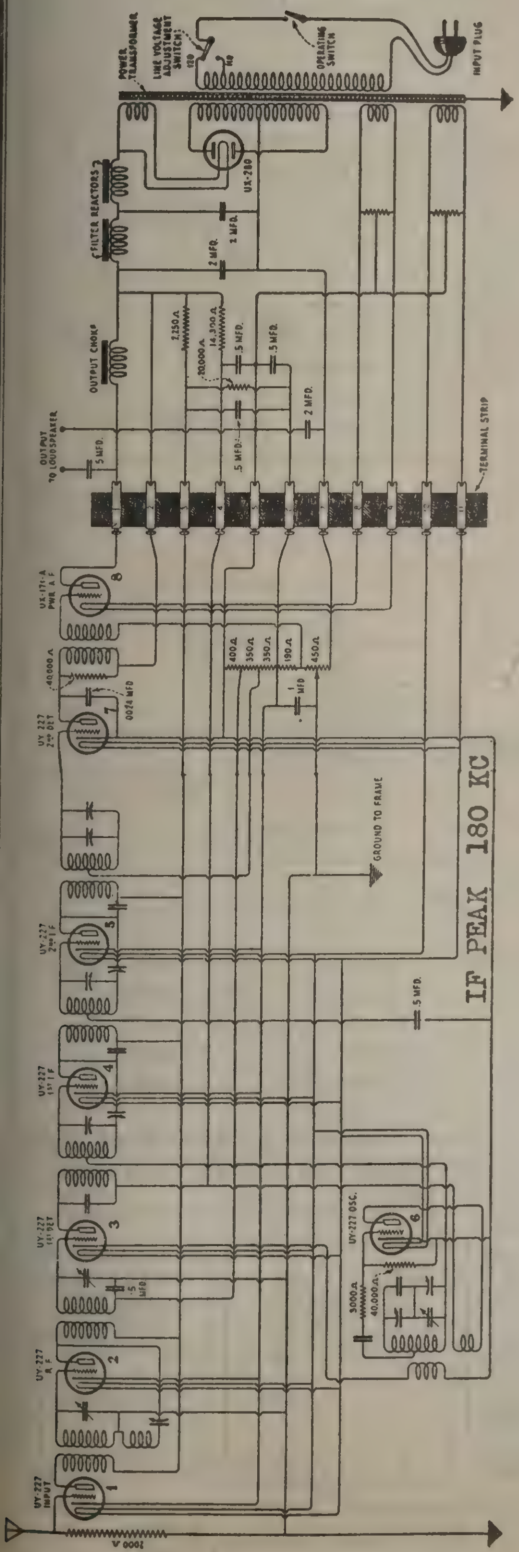


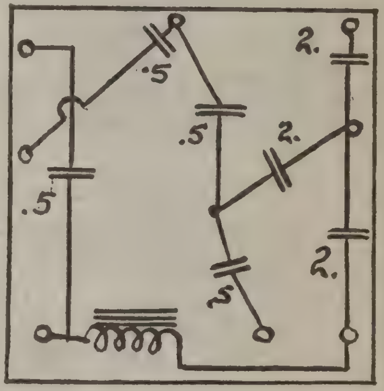
Bypass Condenser Units

Internal Connections of Volume Control

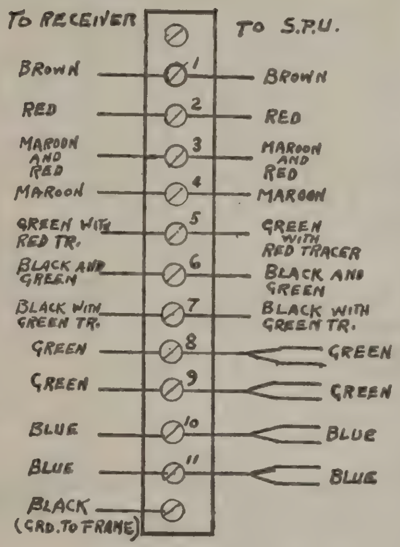
RADIOLA 50 is the same as the Radiola 17 with the exception that it makes use of a 100-A speaker and the receiver is mounted in a console cabinet.

Radiola 51 is the same as the Radiola 18. The Radiola 51 AC is the same as the Radiola 18 AC, except that it is mounted in a console cabinet. The Radiola 51 DC is the same as the Radiola 18 DC, except that it is mounted in a console cabinet.


POWER TRANSFORMER
LINE VOLTAGE ADJUSTMENT SWITCH
OPERATING SWITCH
INPUT PLUG
UX-280
FILTER REACTORS
2 MFD.
2 MFD.
2250 Ω
20000 Ω
14,300 Ω
.5 MFD.
.5 MFD.
2 MFD.
.5 MFD.
OUTPUT CHOKE
OUTPUT TO LOUDSPEAKER
5 MFD.
TERMINAL STRIP
UX-171-A PWR A.F.
8
400 Ω
350 Ω
350 Ω
190 Ω
450 Ω
1 MFD
40000 Ω
.0024 MFD
UY 227 2ND DET
7
GROUND TO FRAME
IF PEAK 180 KC
UY 227 2ND I.F.
5
.5 MFD.
UY-227 1ST I.F.
4
UY-227 1ST DET
3
.5 MFD
UY-227 OSC.
6
3000 Ω
40,000 Ω
UY-227 R.F.
2
UY-227 INPUT
1
1000 Ω

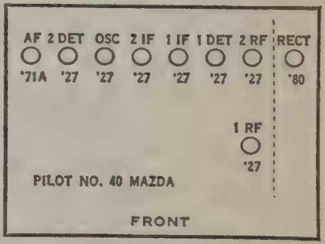


Filter, bypass condensers and output choke.


TO RECEIVER
TO S.P.U.
BROWN
1
BROWN
RED
2
RED
MAROON AND RED
3
MAROON AND RED
MAROON
4
MAROON
GREEN WITH RED TR.
5
GREEN WITH RED TRACER
BLACK AND GREEN
6
BLACK AND GREEN
BLACK WITH GREEN TR.
7
BLACK WITH GREEN TR.
GREEN
8
GREEN
GREEN
9
GREEN
BLUE
10
BLUE
BLUE
11
BLUE
BLACK (GRD. TO FRAME)

Terminal Strip

Models Radiolas 60, (1928)


AF '71A
2 DET '27
OSC '27
2 IF '27
1 IF '27
1 DET '27
2 RF '27
RECT '80
1 RF '27
PILOT NO. 40 MAZDA
FRONT

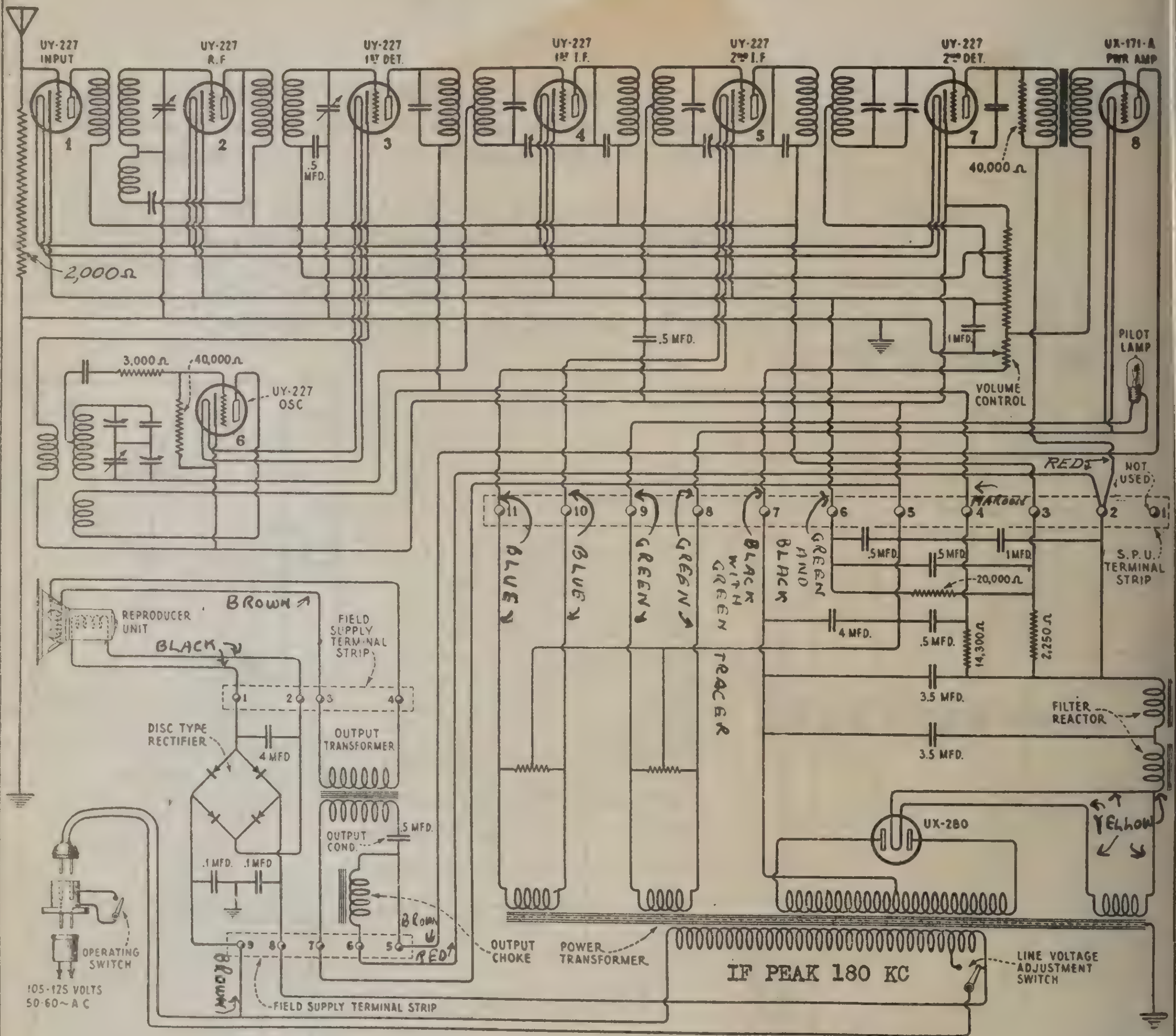
RADIOLA—Model 60

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET.-ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	227	Ant. Coup.	2.35	148	2.2	144	18.0	25	1.0	3.0	2.0
2	227	1st. R.F.	2.35	148	2.2	144	18.0	25	1.0	3.0	2.0
3	227	1st. Det.	2.35	84	2.2	70	9.0	0	1.0	3.0	2.0
4	227	1st. I.F.	2.35	148	2.2	144	13.0	25	1.0	4.0	3.0
5	227	2nd. I.F.	2.35	148	2.2	144	18.0	25	1.0	4.0	3.0
6	227	Oscillator	2.35	118	2.2	70	0.0	0	7.0	7.0	0.0
7	227	2nd. Det.	2.35	162	2.2	157	18.0	0	1.0	3.0	2.0
8	171A	1st. Audio.	5.00	178	4.8	157	31.5		15.0	17.0	2.0
9	280	Rectifier	5.00		4.8				19.0		
10											

Note: The above readings were taken with a line voltage of 117 volts. The volume control should be set centrally with the line vertical in order to get the above readings. The "C" voltage on tubes 1, 2, 4, and 5 will vary from 9 to 27 volts, depending on the position of this volume control, hence, these readings are taken at the middle point.

MODEL Radiola 62

R. C. A. VICTOR CO., INC.


UY-227 INPUT
UY-227 R.F
UY-227 1ST DET.
UY-227 1ST I.F.
UY-227 2ND I.F
UY-227 2ND DET.
UX-171-A PWR AMP
1
2
3
4
5
7
8
.5 MFD.
40,000 Ω
2,000 Ω
3,000 Ω
40,000 Ω
UY-227 OSC
6
.5 MFD.
1 MFD.
VOLUME CONTROL
PILOT LAMP
RED
NOT USED
MAROON
11
10
9
8
7
6
5
4
3
2
1
S.P.U. TERMINAL STRIP
BLUE
BLUE
GREEN
GREEN
BLACK WITH GREEN TRACER
GREEN AND BLACK
.5 MFD.
.5 MFD.
1 MFD.
20,000 Ω
4 MFD.
.5 MFD.
14,300 Ω
2,250 Ω
3.5 MFD.
3.5 MFD.
FILTER REACTOR
REPRODUCER UNIT
BROWN
BLACK
FIELD SUPPLY TERMINAL STRIP
1
2
3
4
DISC TYPE RECTIFIER
4 MFD
OUTPUT TRANSFORMER
OUTPUT COND.
.5 MFD.
.1 MFD.
.1 MFD.
BROWN
RED
9
8
7
6
5
BROWN
FIELD SUPPLY TERMINAL STRIP
OPERATING SWITCH
105-125 VOLTS 50-60~ A C
OUTPUT CHOKE
POWER TRANSFORMER
UX-280
YELLOW
IF PEAK 180 KC
LINE VOLTAGE ADJUSTMENT SWITCH

SOCKET VOLTAGES

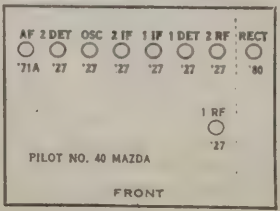
Tube	Fil. V.	Plt. V.	Grid V.	Pl. Crnt
Coupling	2.05	130	8.	3.5 ma
RF	2.05	130	8.	3.5
1 Det	2.05	80	8.	.5
1 IF	2.05	130	8.	3.
2 IF	2.05	130	8.	3.5
Oscil	2.05	75	-	5.
2 Det	2.05	150	15.	---
AF	4.4	180 c	39.	15.

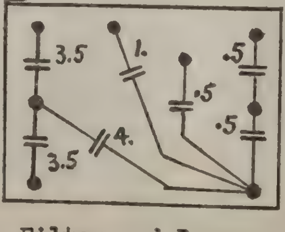
TERMINAL VOLTAGES

Between 2 and 7	210 volts DC
3 and 7	160 volts DC
4 and 7	110 volts DC
8 and 9	5 volts AC
10 and 11	2.5 volts AC

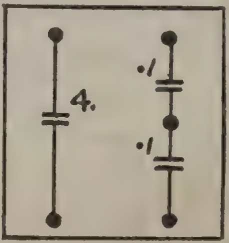
Output voltage of disc rectifier with field connected should be 100 volts.

Models Radiolas 62 (1928)

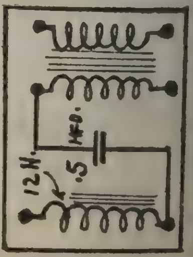

AF
2 DET
OSC
2 IF
1 IF
1 DET
2 RF
RECT
'71A
'27
'27
'27
'27
'27
'27
'80
1 RF
'27
PILOT NO. 40 MAZDA
FRONT



Filter and Bypass Condensers



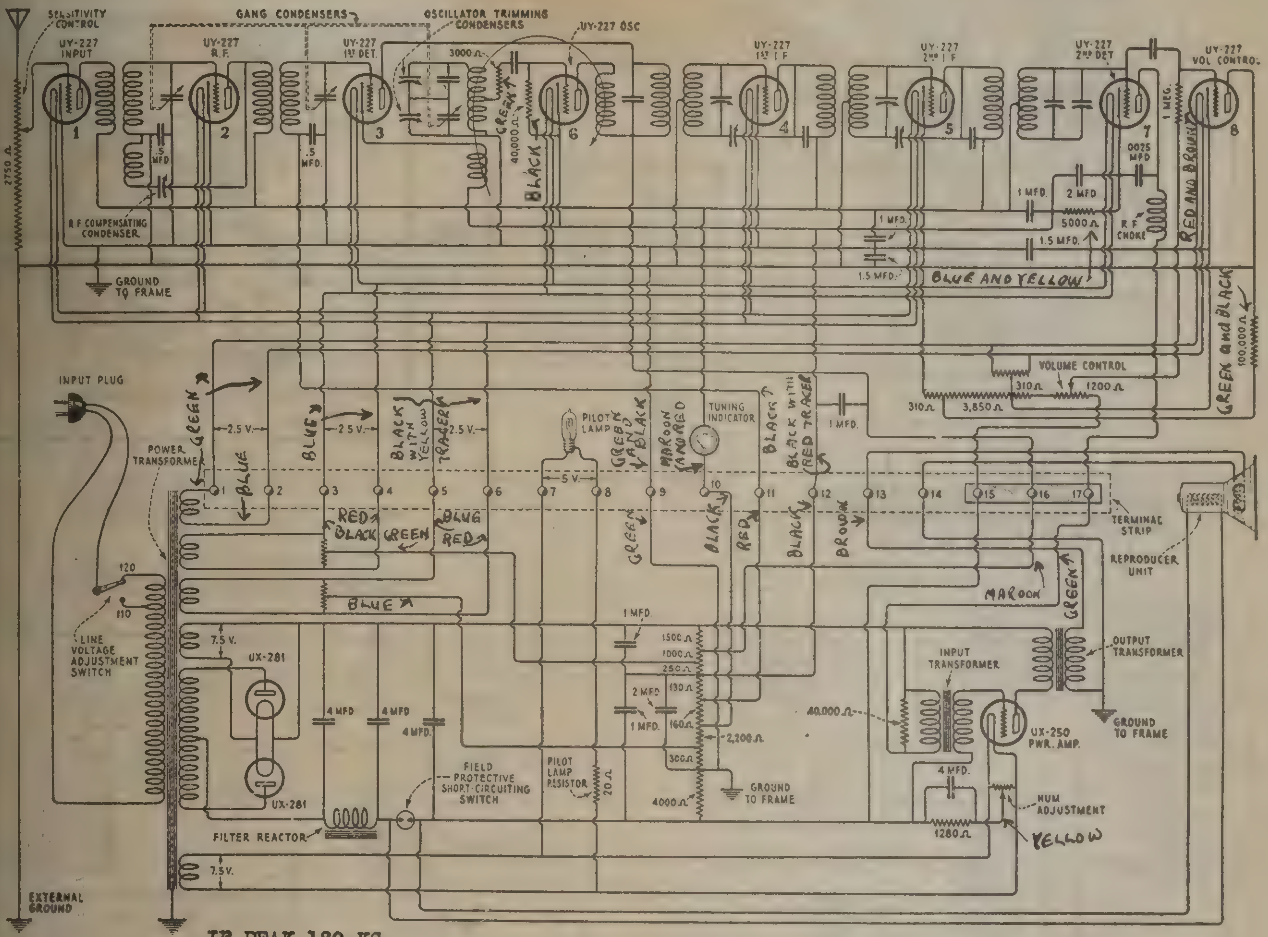
Condenser Bank for Field Supply



Coupling Unit

R. C. A. VICTOR CO., INC.

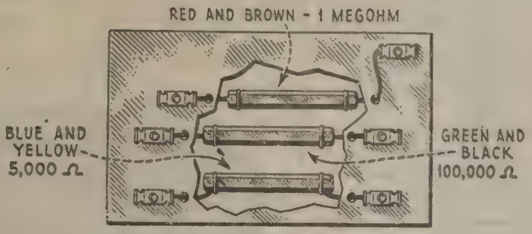
MODEL Radiola 64
Schematic
Voltage


SENSITIVITY CONTROL
GANG CONDENSERS
OSCILLATOR TRIMMING CONDENSERS
UY-227 OSC
UY-227 INPUT
UY-227 R.F.
UY-227 1ST DET.
UY-227 1ST I F
UY-227 2ND I F
UY-227 2ND DET
UY-227 VOL CONTROL
1
2
3
6
4
5
7
8
2750 Ω
.5 MFD
.5 MFD.
3000 Ω
40,000 Ω
GREEN
BLACK
.0025 MFD
1 MEG.
RED AND BROWN
1 MFD.
2 MFD
5000 Ω
R F CHOKE
1.5 MFD.
1 MFD.
1.5 MFD.
BLUE AND YELLOW
R F COMPENSATING CONDENSER
GROUND TO FRAME
GREEN and BLACK 100,000 Ω
VOLUME CONTROL
310 Ω
1200 Ω
310 Ω
3,850 Ω
INPUT PLUG
POWER TRANSFORMER
2.5 V.
2.5 V.
2.5 V.
5 V.
GREEN
BLUE
BLACK WITH YELLOW TRACER
PILOT LAMP
GREEN AND BLACK
MAROON AND RED
TUNING INDICATOR
BLACK WITH RED TRACER
1 MFD.
RED
BLACK
GREEN
BLUE
RED
BLUE
GREEN
BLACK
RED
BLACK
BROWN
TERMINAL STRIP
REPRODUCER UNIT
MAROON
GREEN
OUTPUT TRANSFORMER
INPUT TRANSFORMER
GROUND TO FRAME
120
110
LINE VOLTAGE ADJUSTMENT SWITCH
7.5 V.
UX-281
UX-281
4 MFD
4 MFD
4 MFD.
1 MFD.
1500 Ω
1000 Ω
250 Ω
130 Ω
2 MFD
1 MFD.
160 Ω
2,200 Ω
300 Ω
4000 Ω
40,000 Ω
UX-250 PWR. AMP.
FIELD PROTECTIVE SHORT-CIRCUITING SWITCH
PILOT LAMP RESISTOR
20 Ω
GROUND TO FRAME
4 MFD.
HUM ADJUSTMENT
1280 Ω
YELLOW
FILTER REACTOR
7.5 V.
EXTERNAL GROUND

IF PEAK 180 KC

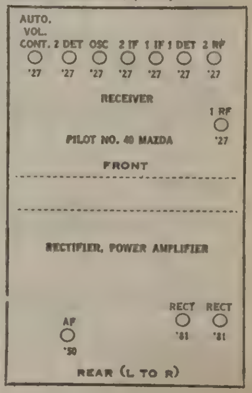
TERMINAL VOLTAGES

1 and 2	2.5 V. AC.
3 and 4	2.5 V. AC.
5 and 6	2.5 V. AC.
7 and 8 Light On	5.0 V. AC.
9 and 15	150. V. DC.
11 and 15	300. V. DC.
12 and 15	315. V. DC.
15 and 16	400. V. DC.
15 and 17	500. V. DC.


RED AND BROWN - 1 MEGOHM
BLUE AND YELLOW 5,000 Ω
GREEN AND BLACK 100,000 Ω

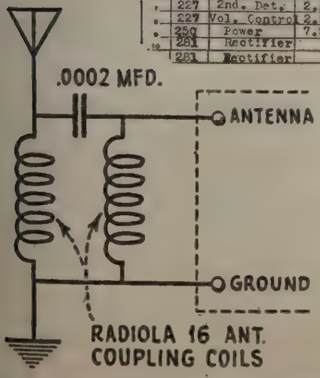
Arrangement of resistors on terminal board

Model Radiola 64 (1928)

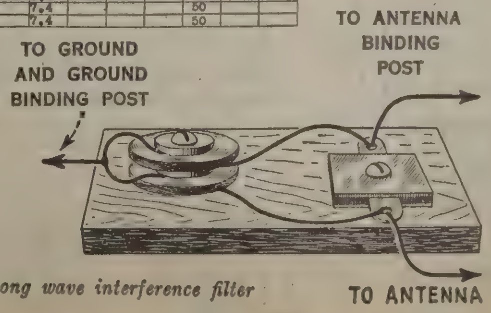

AUTO. VOL. CONT.
2 DET
OSC
2 IF
1 IF
1 DET
2 RF
'27
'27
'27
'27
'27
'27
'27
RECEIVER
1 RF
'27
PILOT NO. 40 MAZDA
FRONT
RECTIFIER, POWER AMPLIFIER
RECT
RECT
AF
'81
'81
'50
REAR (L TO R)

RADIOLA—Model 64
Line Voltage 112—Volume Control Full

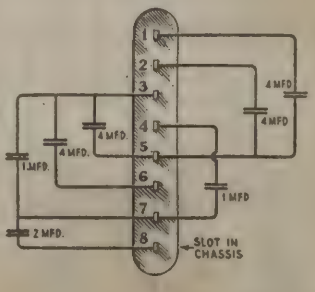
TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET.. ETC	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A GRID TEST	PLATE M A CHANGE
1	227	Ant.Coup.St.	2.5	128	2.4	124	25	13.5	3.4	7.8	4.4
2	227	Tuned R.F.	2.5	128	2.4	124	25	16.0	3.3	7.1	3.8
3	227	Tuned 1stDet	2.5	80	2.4	75	25	16.0	.2	2.9	2.7
4	227	1st. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
5	227	2nd. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
6	227	Oscillator	2.5	80	2.4	75	25	13.5	7.0	7.6	.6
7	227	2nd. Det.	2.5	180	2.4	176	25	13.5	-	-	-
8	227	Vol. Control	2.5	80	2.4	75	4	-	-	-	-
9	250	Power	7.5	584	7.2	392	65	-	52	55	3.0
10	281	Rectifier			7.4				50		
	281	Rectifier			7.4				50		


.0002 MFD.
ANTENNA
GROUND

RADIOLA 16 ANT. COUPLING COILS


TO GROUND AND GROUND BINDING POST
TO ANTENNA BINDING POST
TO ANTENNA

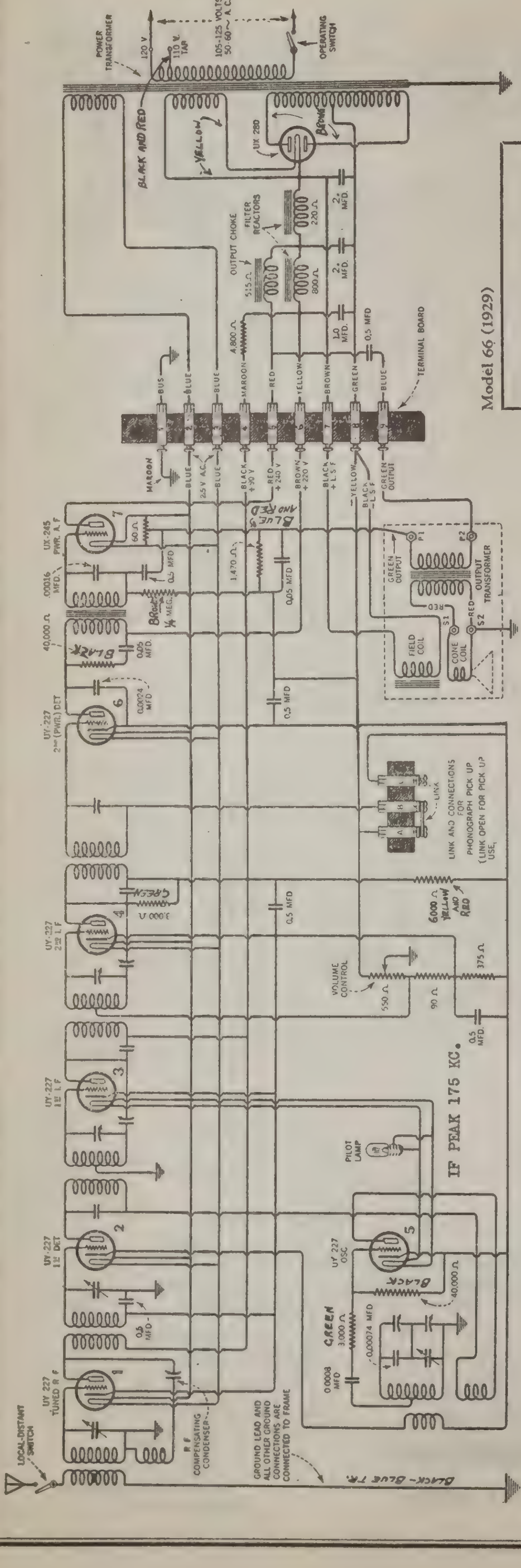
Long wave interference filter

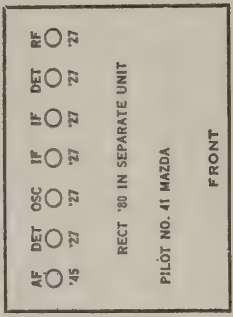

1
2
3
4
5
6
7
8
4 MFD.
4 MFD
4 MFD.
4 MFD.
1 MFD.
1 MFD
2 MFD.
SLOT IN CHASSIS

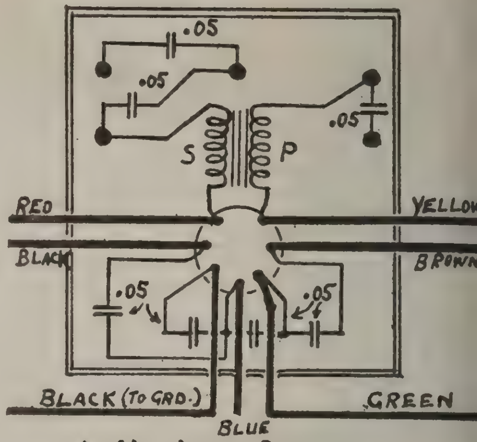
Internal connections of filter condensers

R. C. A. VICTOR CO., INC.

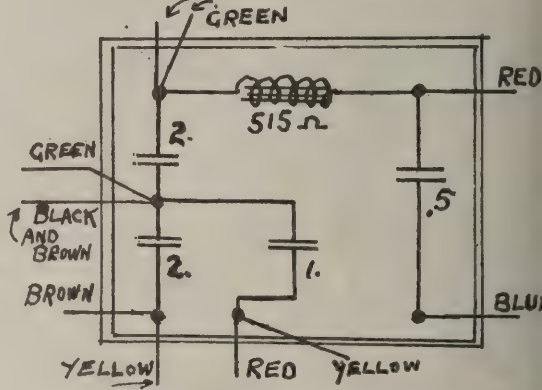
MODEL Radiola 66


POWER TRANSFORMER
120 V
110 V. TAP
105-125 VOLTS 50-60~ A.C.
OPERATING SWITCH
BLACK AND RED
YELLOW
UX 280
BROWN
OUTPUT CHOKE
FILTER REACTORS
515 Ω
220 Ω
800 Ω
2. MFD.
2. MFD.
1.0 MFD.
0.5 MFD
4,800 Ω
TERMINAL BOARD
BUS
BLUE
BLUE
MAROON
RED
YELLOW
BROWN
GREEN
BLUE
MAROON
BLUE
25 V A.C.
BLUE
BLACK +90 V
RED +240 V
BROWN +220 V
BLACK +L.S.F
YELLOW
BLACK -L.S.F
GREEN OUTPUT
BLUE AND RED
UX-245 PWR. A.F
7
60 Ω
.00016 MFD.
0.5 MFD
1,470 Ω
0.5 MFD
BROWN
½ MEG.
40,000 Ω
BLACK
0.05 MFD.
GREEN OUTPUT
P1
P2
OUTPUT TRANSFORMER
RED
S1
S2
RED
FIELD COIL
CONE COIL
UY-227 2ND (PWR.) DET
6
0.0074 MFD
0.5 MFD
LINK AND CONNECTIONS FOR PHONOGRAPH PICK UP (LINK OPEN FOR PICK UP USE)
LINK
GREEN
3,000 Ω
UY-227 2ND I.F
4
0.5 MFD
6000 Ω YELLOW AND RED
VOLUME CONTROL
550 Ω
90 Ω
375 Ω
0.5 MFD.
IF PEAK 175 KC.
UY-227 1ST I.F
3
PILOT LAMP
UY-227 1ST DET
2
UY 227 OSC
5
BLACK
40,000 Ω
GREEN 3,000 Ω
0.00074 MFD
0.0008 MFD
0.5 MFD
UY 227 TUNED R.F
1
R.F COMPENSATING CONDENSER
GROUND LEAD AND ALL OTHER GROUND CONNECTIONS ARE CONNECTED TO FRAME
LOCAL-DISTANT SWITCH
BLACK-BLUE TR.

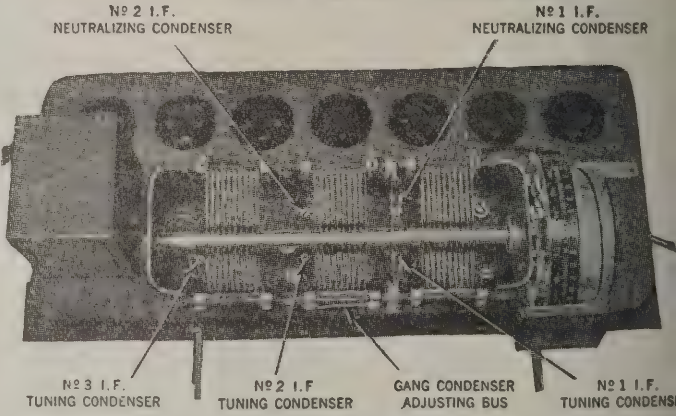

Model 66 (1929)
AF
'45
DET
'27
OSC
'27
IF
'27
IF
'27
DET
'27
RF
'27
RECT '80 IN SEPARATE UNIT
PILOT NO. 41 MAZDA
FRONT


.05
.05
.05
S
P
RED
YELLOW
BLACK
BROWN
.05
.05
BLACK (TO GRD.)
GREEN
BLUE

Audio transformer and bypass condenser


GREEN
515 Ω
RED
2.
GREEN
.5
BLACK AND BROWN
2.
1.
BROWN
BLUE
YELLOW
RED
YELLOW

Output choke, condenser and filter condenser.


Nº 2 I.F. NEUTRALIZING CONDENSER
Nº 1 I.F. NEUTRALIZING CONDENSER
Nº 3 I.F. TUNING CONDENSER
Nº 2 I.F. TUNING CONDENSER
GANG CONDENSER ADJUSTING BUS
Nº 1 I.F. TUNING CONDENSE

Condenser adjusting screws for I.F. transformers

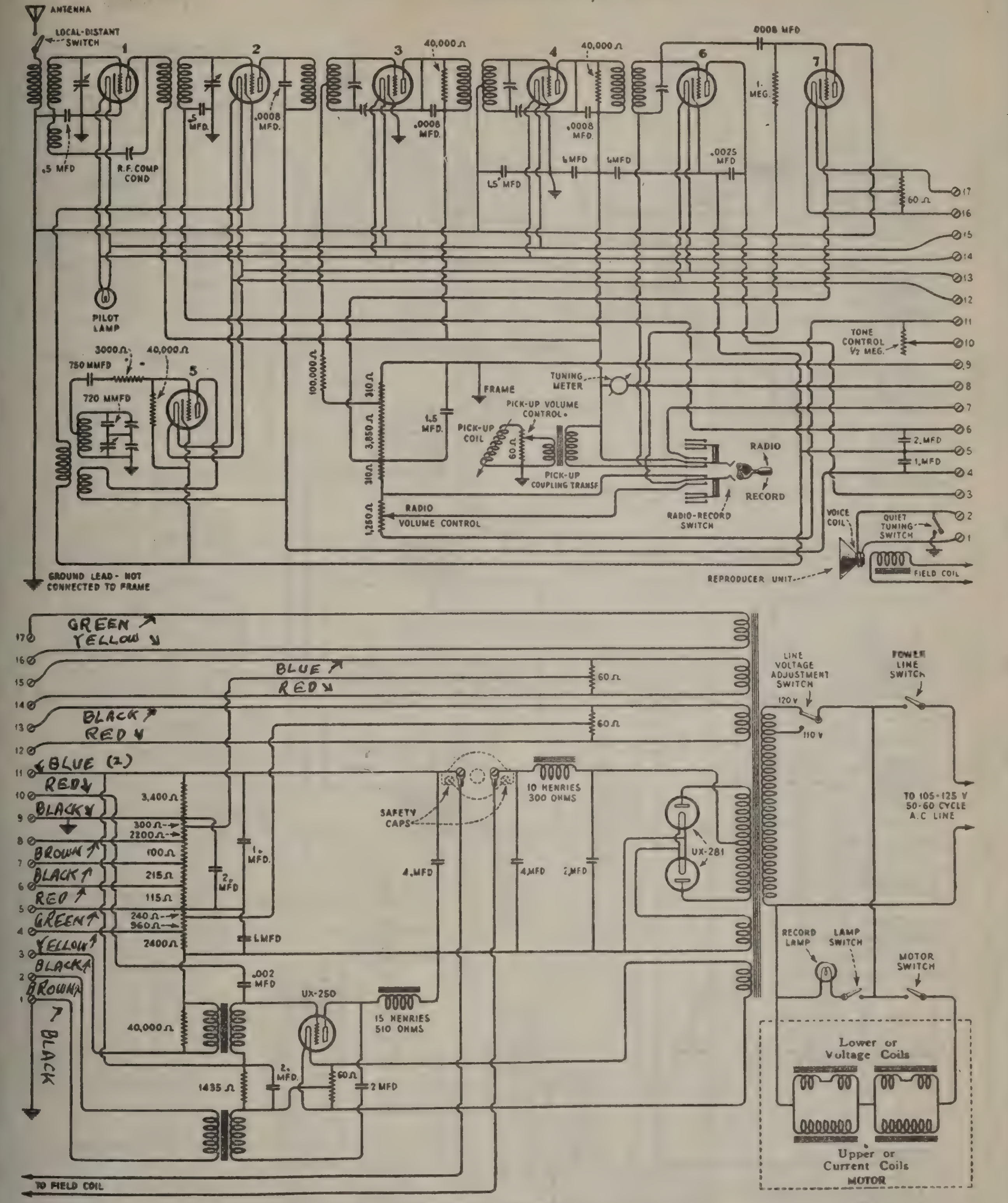
RADIOLA—Model 66

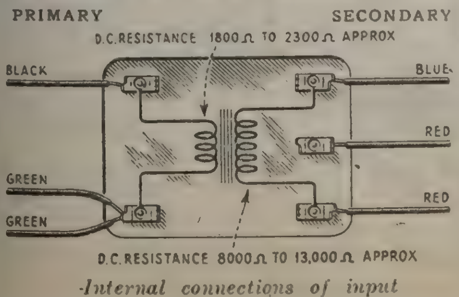
Line Voltage 120.0—Set on 120.0 Volt Tap—Volume Control Position Max

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS. PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE - HEATER VOLTS ⑨	NORMAL PLATE MA ⑩	PLATE MA GRID TEST ⑪	PLATE CHANGE MA ⑫	SCREE GRID VOLT ⑬
1	227	RF	2.65	83.0	2.4	80.0	3.0	24.0	4.5	8.6	4.1	-
2	227	1st Det	2.65	83.0	2.4	72.0	7.0	17.0	2.0	3.5	1.5	-
3	227	1st IF	2.65	83.0	2.4	80.0	3.0	23.0	4.5	8.6	4.1	-
4	227	2nd IF	2.65	83.0	2.4	80.0	3.0	23.0	4.5	8.6	4.1	-
5	227	OSC.	2.65	83.0	2.4	66.0	0.0	16.0	6.4	6.8	.4	-
6	227	2nd Det	2.65	237.0	2.4	236.0	29.0	17.0	.1	1.0	.9	-
7	245	AF	2.65	237.0	2.4	224.0	17.0	-	32.0	34.0	2.0	-
8	280	Rect.	5.2	-	5.0	250	-	-	52.0	-	-	-

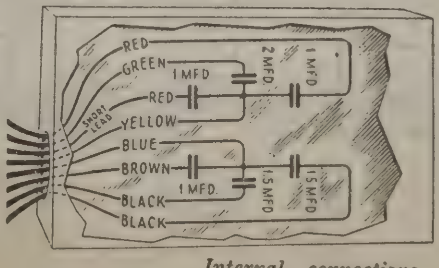
MODEL Radiola 67
Schematic

R. C. A. VICTOR CO., INC.

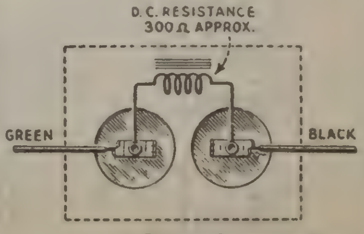

ANTENNA
LOCAL-DISTANT SWITCH
1
2
3
4
5
6
7
.5 MFD
R.F. COMP COND
.5 MFD
.0008 MFD.
40,000 Ω
.0008 MFD.
40,000 Ω
.0008 MFD.
.0008 MFD
1. MEG.
1.5 MFD
.6 MFD
.6 MFD
.0025 MFD
60 Ω
PILOT LAMP
3000 Ω
40,000 Ω
750 MMFD
720 MMFD
100,000 Ω
310 Ω
3,850 Ω
310 Ω
1,250 Ω
1.5 MFD.
FRAME
TUNING METER
PICK-UP VOLUME CONTROL
PICK-UP COIL
60 Ω
PICK-UP COUPLING TRANSF
RADIO
RECORD
RADIO-RECORD SWITCH
RADIO VOLUME CONTROL
TONE CONTROL 1/2 MEG.
2. MFD
1. MFD
VOICE COIL
QUIET TUNING SWITCH
REPRODUCER UNIT
FIELD COIL
GROUND LEAD - NOT CONNECTED TO FRAME
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
GREEN
YELLOW
BLUE
RED
BLACK
RED
BLUE (2)
RED
BLACK
BROWN
BLACK
RED
GREEN
YELLOW
BLACK
BROWN
BLACK
60 Ω
60 Ω
3,400 Ω
300 Ω
2200 Ω
100 Ω
215 Ω
115 Ω
240 Ω
960 Ω
2400 Ω
1. MFD
2. MFD
1. MFD
.002 MFD
40,000 Ω
UX-250
15 HENRIES 510 OHMS
1435 Ω
2. MFD.
60 Ω
2 MFD
SAFETY CAPS
10 HENRIES 300 OHMS
4. MFD
4. MFD
2. MFD
UX-281
LINE VOLTAGE ADJUSTMENT SWITCH
120 V
110 V
POWER LINE SWITCH
TO 105-125 V 50-60 CYCLE A.C LINE
RECORD LAMP
LAMP SWITCH
MOTOR SWITCH
Lower or Voltage Coils
Upper or Current Coils
MOTOR
TO FIELD COIL


PRIMARY
SECONDARY
D.C. RESISTANCE 1800 Ω TO 2300 Ω APPROX
BLACK
BLUE
RED
GREEN
GREEN
RED
D.C. RESISTANCE 8000 Ω TO 13,000 Ω APPROX

Internal connections of input transformer


RED
GREEN
1 MFD
2 MFD.
1 MFD
RED
SHORT LEAD
YELLOW
BLUE
BROWN
1 MFD.
1.5 MFD
1.5 MFD
BLACK
BLACK

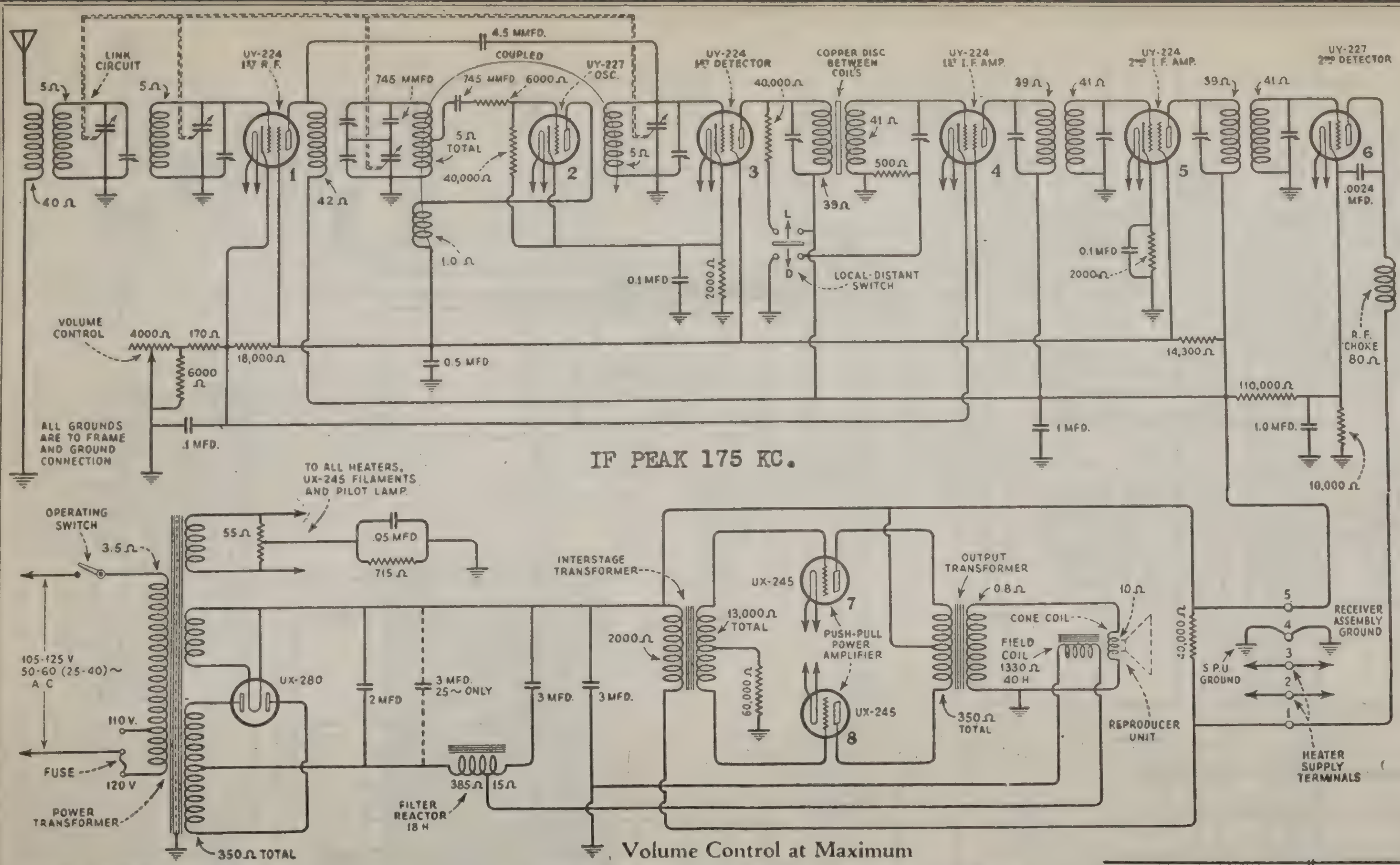
Internal connections of receiver by-pass condensers


D.C. RESISTANCE 300 Ω APPROX.
GREEN
BLACK

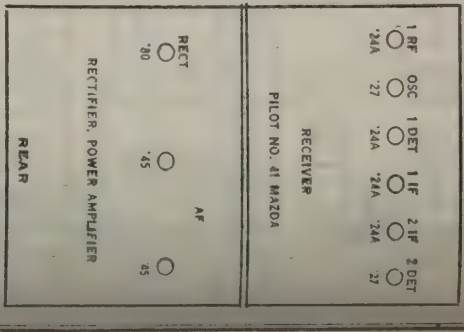
Internal connections of filter reactor

R. C. A. VICTOR CO., INC.

MODEL Radiola 80
Schematic
Voltage


LINK CIRCUIT
5Ω
40Ω
5Ω
UY-224 1ST R.F.
1
42Ω
745 MMFD
745 MMFD
6000Ω
4.5 MMFD.
COUPLED
UY-227 OSC.
5Ω TOTAL
40,000Ω
2
1.0Ω
5Ω
UY-224 1ST DETECTOR
3
40,000Ω
COPPER DISC BETWEEN COILS
41Ω
500Ω
39Ω
L
D
LOCAL-DISTANT SWITCH
0.1 MFD
2000Ω
UY-224 1ST I.F. AMP.
4
39Ω
41Ω
UY-224 2ND I.F. AMP.
5
0.1 MFD
2000Ω
39Ω
41Ω
UY-227 2ND DETECTOR
6
.0024 MFD.
R.F. CHOKE 80Ω
VOLUME CONTROL
4000Ω
170Ω
6000 Ω
18,000Ω
0.5 MFD
14,300Ω
110,000Ω
1 MFD.
1.0 MFD.
10,000Ω
ALL GROUNDS ARE TO FRAME AND GROUND CONNECTION
.1 MFD.
IF PEAK 175 KC.
TO ALL HEATERS, UX-245 FILAMENTS AND PILOT LAMP.
OPERATING SWITCH
3.5Ω
55Ω
.05 MFD
715Ω
105-125 V 50-60 (25-40)~ A C
UX-280
110V.
FUSE
120 V
POWER TRANSFORMER
350Ω TOTAL
2 MFD
3 MFD. 25~ ONLY
3 MFD.
3 MFD.
FILTER REACTOR 18 H
385Ω
15Ω
INTERSTAGE TRANSFORMER
2000Ω
13,000Ω TOTAL
60,000Ω
UX-245
7
PUSH-PULL POWER AMPLIFIER
UX-245
8
OUTPUT TRANSFORMER
0.8Ω
350Ω TOTAL
CONE COIL
FIELD COIL 1330Ω 40 H
10Ω
REPRODUCER UNIT
40,000Ω
5
4
3
2
1
RECEIVER ASSEMBLY GROUND
S.P.U. GROUND
HEATER SUPPLY TERMINALS

Models Radiolas 80,


1 RF
'24A
OSC
'27
1 DET
'24A
1 IF
'24A
2 IF
'24A
2 DET
'27
RECEIVER
PILOT NO. 41 MAZDA
RECT
'80
AF
'45
'45
RECTIFIER, POWER AMPLIFIER
REAR

Volume Control at Minimum

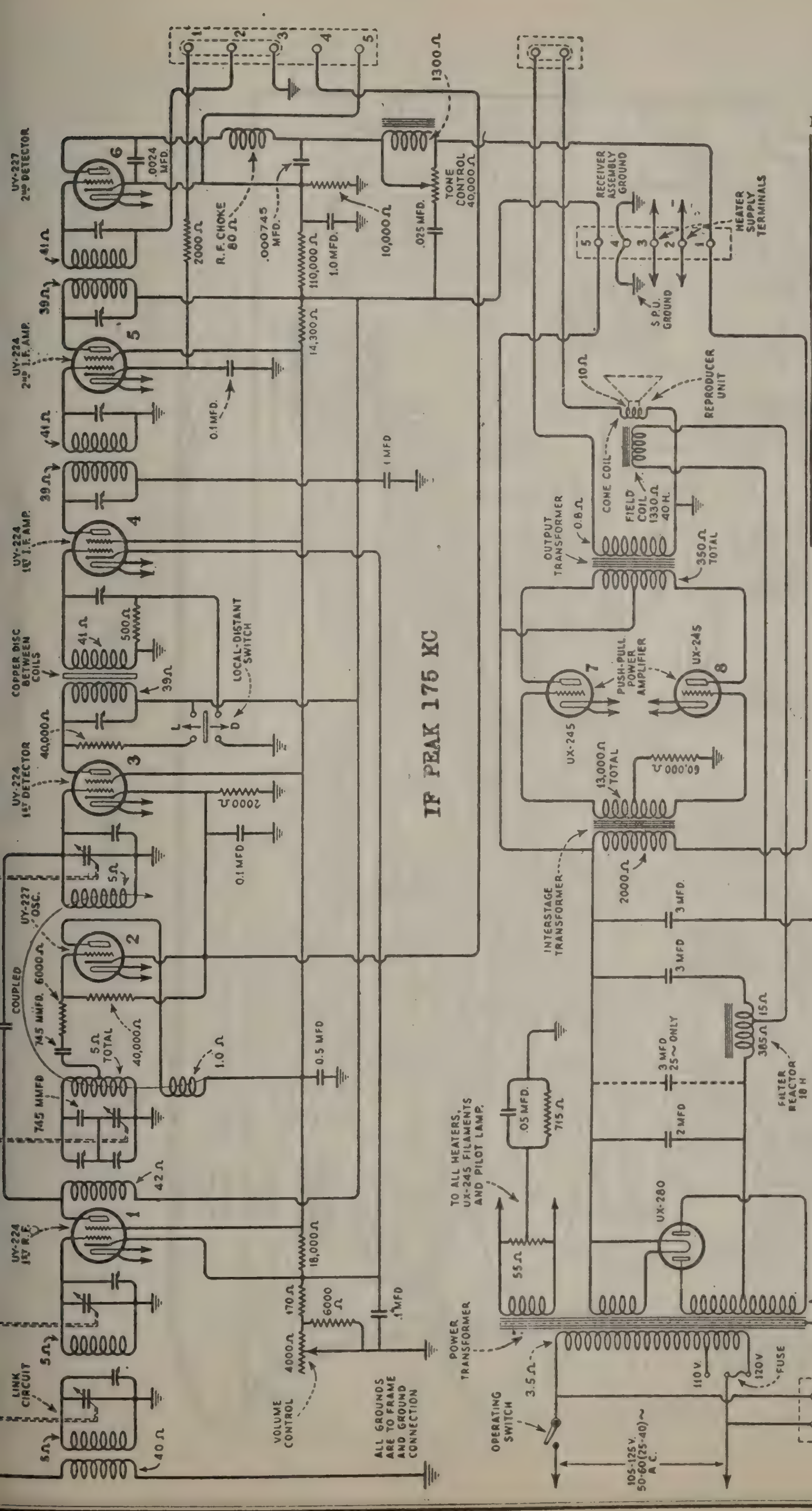
Tube No. in Order Tested	Type of Tube	Position of Tube in Set	Filament or Heater	Plate or Anode	Control Grid – Space Gd +	Normal Grid – Screen Gd +	Cathode to Heater	Screen Gd L H 80 Plate	Plate R H 80 Plate	Tube Test	Plate Current Change	
			Meter Readings with Jewell Test Plug in Socket of Set									
			Operating Voltages					Milli-Amperes				
1	224	1 R.F.	2.2	230	10	75	-25	0	0			
2	227	Osc.	2.2	65	-	-	-22	-	7.5			
3	224	1 Det.	2.2	240	10	82	-25	.1	0			
4	224	1 I.F.	2.2	230	10	75	-25	0	0			
5	224	2 I.F.	2.2	250	6	90	-32	1.0	2.2			
6	227	2 Det.	2.2	220	-	22	-12	-	.25			
7	245	PP-AF	2.2	210	-	20*	-	-	24.0			
8	245	PP-AF	2.2	210	-	20*	-	-	24.0			
9	280	Rect.	4.6	-	-	-	-	-	-			
10												

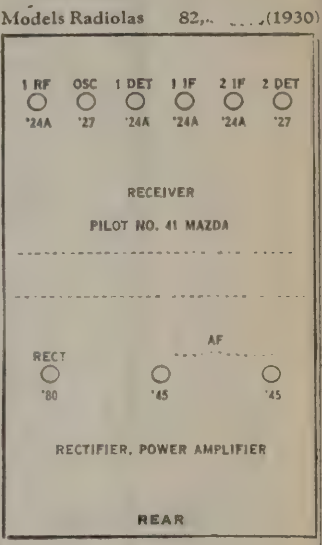
Volume Control at Maximum

*Not True Reading Due to Resistor in Circuit

Tube No. in Order Tested	Type of Tube	Position of Tube in Set	Filament or Heater	Plate or Anode	Control Grid – Space Gd +	Normal Grid – Screen Gd +	Cathode to Heater	Screen Gd L H 80 Plate	Plate R H 80 Plate	Tube Test	Plate Current Change	
			Meter Readings with Jewell Test Plug in Socket of Set									
			Operating Voltages					Milli-Amperes				
1	224	1 R.F.	2.2	240	2.2	80	-34	.5	3.2			
2	227	Osc.	2.2	60	-	-	-22	-	6.5			
3	224	1 Det.	2.2	230	9.5	72	-25	.1	.25			
4	224	1 I.F.	2.2	240	2.2	78	-34	.5	1.0			
5	224	2 I.F.	2.2	240	4.2	78	-31.5	.5	1.6			
6	227	2 Det.	2.2	212	-	22	-12	-	.25			
7	245	PP-AF	2.2	206	-	19*	-	-	25.0			
8	245	PP-AF	2.2	206	-	19*	-	-	25.0			
9	280	Rect.	4.6	-	-	-	-	-	-			
10												

MODEL Radiola 82 Schematic


UY-224 1ST R.F.
UY-227 OSC.
UY-224 1ST DETECTOR
UY-224 1ST I.F. AMP.
UY-224 2ND I.F. AMP.
UY-227 2ND DETECTOR
LINK CIRCUIT
COUPLED
745 MMFD
6000 Ω
40,000 Ω
5 Ω TOTAL
1.0 Ω
0.5 MFD
42 Ω
40 Ω
18,000 Ω
170 Ω
6000 Ω
4000 Ω
.1 MFD
VOLUME CONTROL
ALL GROUNDS ARE TO FRAME AND GROUND CONNECTION
2000 Ω
0.1 MFD
COPPER DISC BETWEEN COILS
LOCAL-DISTANT SWITCH
500 Ω
41 Ω
39 Ω
IF PEAK 175 KC
1 MFD
14,300 Ω
110,000 Ω
1.0 MFD
10,000 Ω
.000745 MFD.
R. F. CHOKE 80 Ω
.0024 MFD.
.025 MFD.
TONE CONTROL 40,000 Ω
1300 Ω
RECEIVER ASSEMBLY GROUND
S.P.U. GROUND
HEATER SUPPLY TERMINALS
REPRODUCER UNIT
10 Ω
CONE COIL
FIELD COIL 1330 Ω 40 H.
OUTPUT TRANSFORMER
0.8 Ω
350 Ω TOTAL
PUSH-PULL POWER AMPLIFIER
UX-245
60,000 Ω
13,000 Ω TOTAL
INTERSTAGE TRANSFORMER
2000 Ω
3 MFD.
3 MFD
15 Ω
385 Ω
FILTER REACTOR 18 H
3 MFD 25~ ONLY
2 MFD
UX-280
350 Ω TOTAL
TO ALL HEATERS, UX-245 FILAMENTS AND PILOT LAMP.
.05 MFD.
715 Ω
55 Ω
POWER TRANSFORMER
3.5 Ω
110 V.
120 V
FUSE
OPERATING SWITCH
105-125 V. 50-60 (25-40) ~ A.C.

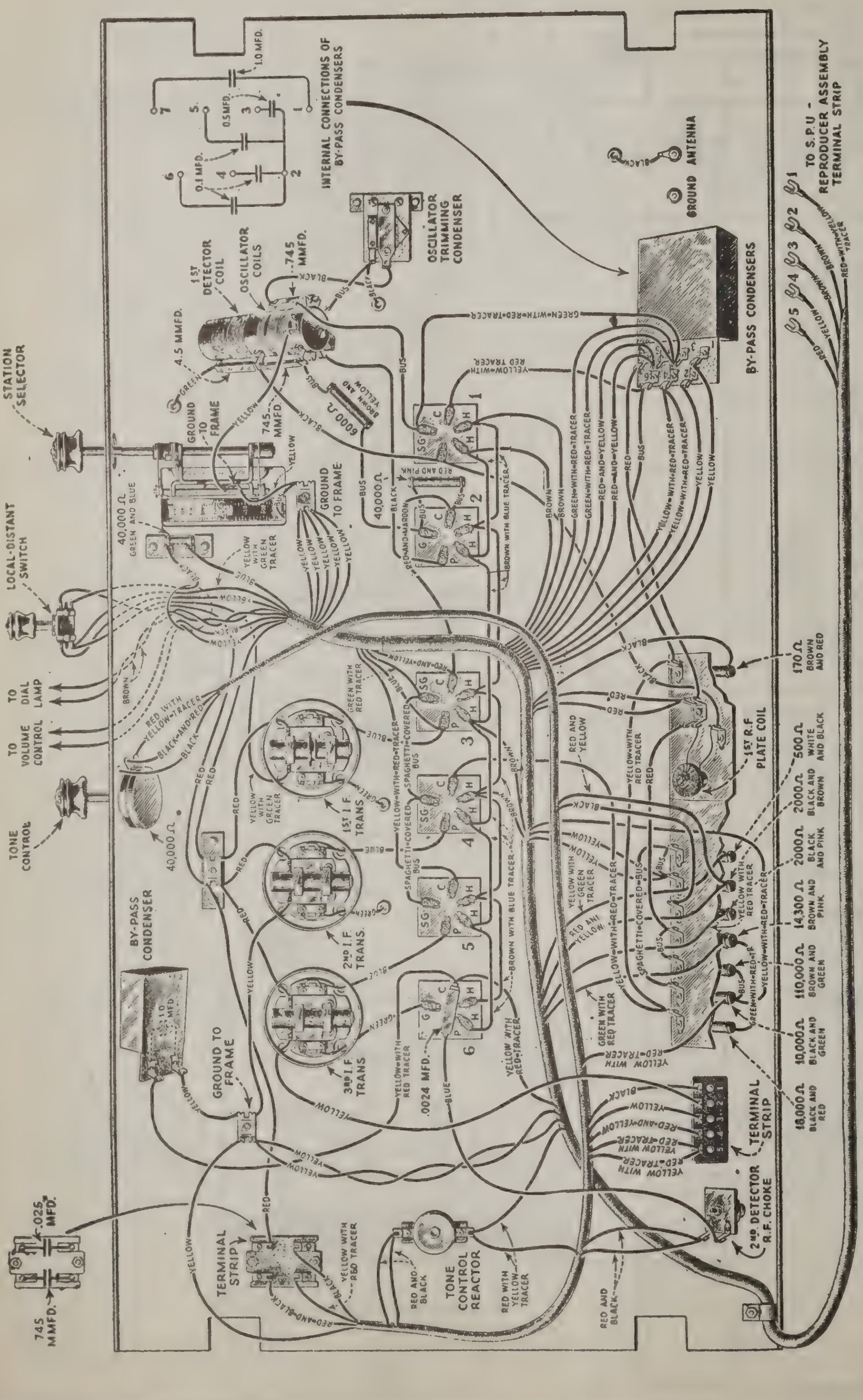

Models Radiolas 82,.. ...(1930)
1 RF
OSC
1 DET
1 IF
2 IF
2 DET
'24A
'27
'24A
'24A
'24A
'27
RECEIVER
PILOT NO. 41 MAZDA
RECT
'80
AF
'45
'45
RECTIFIER, POWER AMPLIFIER
REAR

Schematic circuit diagram of Radiola 80 with tone control and Radiola 82.

(Note:—The terminal strip in series with the cone coil and the extra A. C. terminals are not included with the Radiola 80.)

MODELS Radiola 82 and 86
with Remote Control
Assembly Wiring

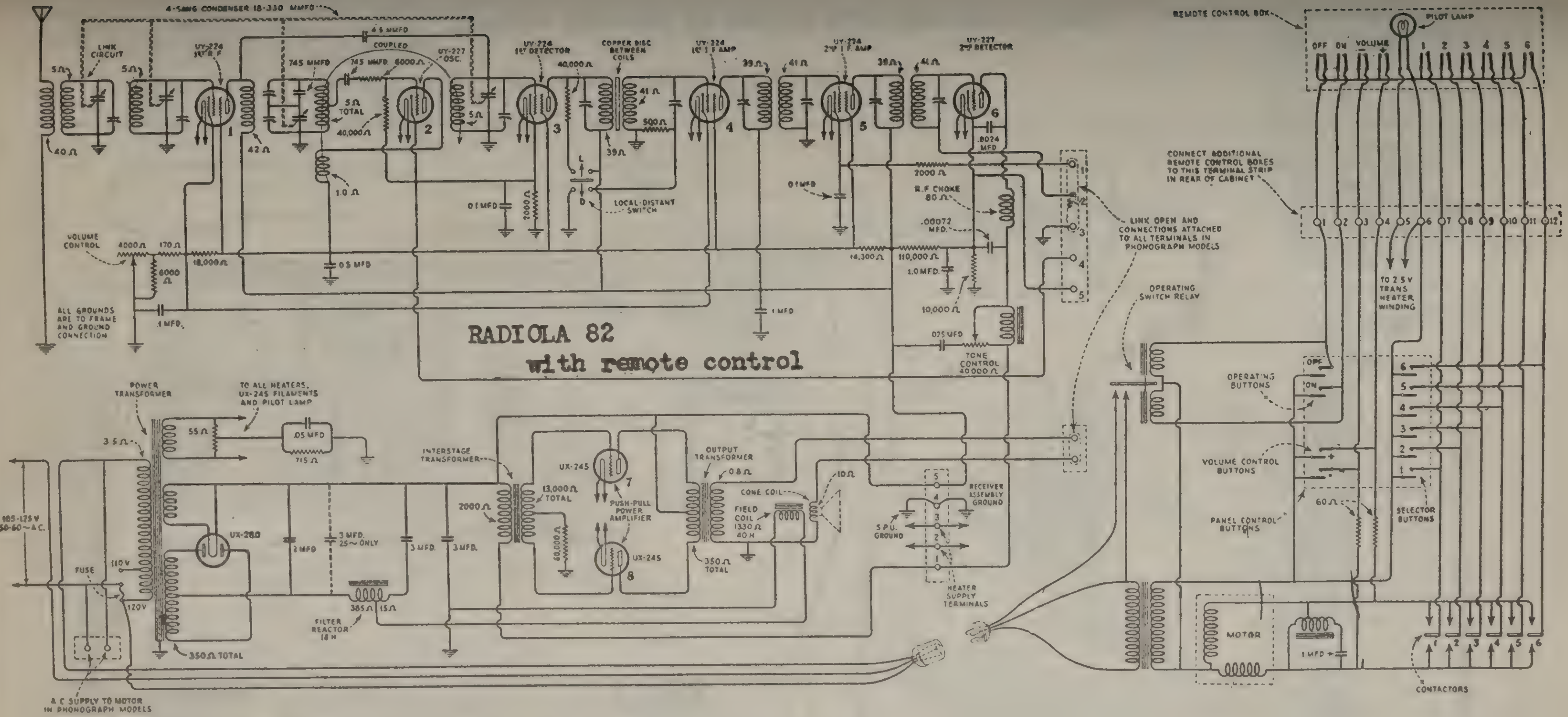
R. C. A. VICTOR CO., INC.


STATION SELECTOR
LOCAL-DISTANT SWITCH
TO DIAL LAMP
TO VOLUME CONTROL
TONE CONTROL
40,000 Ω
BY-PASS CONDENSER
1.0 MFD.
GROUND TO FRAME
.025 MFD.
745 MMFD.
TERMINAL STRIP
TONE CONTROL REACTOR
RED AND BLACK
RED WITH YELLOW TRACER
YELLOW WITH RED TRACER
3RD I.F. TRANS
2ND I.F. TRANS.
1ST I.F. TRANS
.0024 MFD.
40,000 Ω GREEN AND BLUE
1ST DETECTOR COIL
OSCILLATOR COILS
4.5 MMFD.
.745 MMFD.
745 MMFD.
6000 Ω BROWN AND YELLOW
40,000 Ω
OSCILLATOR TRIMMING CONDENSER
INTERNAL CONNECTIONS OF BY-PASS CONDENSERS
0.1 MFD.
0.5 MFD.
1.0 MFD.
BY-PASS CONDENSERS
GROUND ANTENNA
TO S.P.U - REPRODUCER ASSEMBLY TERMINAL STRIP
1ST R.F. PLATE COIL
170 Ω BROWN AND RED
500 Ω WHITE AND BLACK
2000 Ω BLACK AND BROWN
2000 Ω BLACK AND PINK
14,300 Ω BROWN AND PINK
110,000 Ω BROWN AND GREEN
10,000 Ω BLACK AND GREEN
18,000 Ω BLACK AND RED
2ND DETECTOR R.F. CHOKE
SPAGHETTI-COVERED
BUS

RECEIVER ASSEMBLY

RADIOLA 82 and 86 with Remote Control

MODEL Radiola 82 with Remote Control Schematic


4-GANG CONDENSER 18-330 MMFD
LINK CIRCUIT
5Ω
5Ω
40Ω
UY-224 1ST R F
1
42Ω
4.5 MMFD
COUPLED
745 MMFD
745 MMFD
6000Ω
UY-227 OSC.
5Ω TOTAL
40,000Ω
2
1.0Ω
5Ω
UY-224 1ST DETECTOR
3
40,000Ω
COPPER DISC BETWEEN COILS
39Ω
41Ω
500Ω
L
D
LOCAL-DISTANT SWITCH
.01 MFD
2000Ω
UY-224 1ST I F AMP
4
39Ω
41Ω
UY-224 2ND I F AMP
5
39Ω
41Ω
UY-227 2ND DETECTOR
6
.0024 MFD
2000Ω
.01 MFD
R.F CHOKE 80Ω
.00072 MFD.
14,300Ω
110,000Ω
1.0 MFD.
10,000Ω
.025 MFD
TONE CONTROL 40,000Ω
1 MFD
VOLUME CONTROL
4000Ω
170Ω
18,000Ω
6000 Ω
0.5 MFD
.1 MFD.
ALL GROUNDS ARE TO FRAME AND GROUND CONNECTION
RADIOLA 82
with remote control
1
2
3
4
5
LINK OPEN AND CONNECTIONS ATTACHED TO ALL TERMINALS IN PHONOGRAPH MODELS
OPERATING SWITCH RELAY
REMOTE CONTROL BOX
PILOT LAMP
OFF
ON
VOLUME
−
+
1
2
3
4
5
6
CONNECT ADDITIONAL REMOTE CONTROL BOXES TO THIS TERMINAL STRIP IN REAR OF CABINET
1
2
3
4
5
6
7
8
9
10
11
12
TO 2.5 V TRANS HEATER WINDING
OFF
ON
OPERATING BUTTONS
6
5
4
3
2
1
VOLUME CONTROL BUTTONS
60Ω
SELECTOR BUTTONS
PANEL CONTROL BUTTONS
MOTOR
1 MFD
1
2
3
4
5
6
CONTACTORS
POWER TRANSFORMER
TO ALL HEATERS, UX-245 FILAMENTS AND PILOT LAMP
3.5Ω
55Ω
.05 MFD
715Ω
105-125 V 50-60 ~ A.C.
FUSE
110V
120V
UX-280
350Ω TOTAL
2 MFD
3 MFD. 25 ~ ONLY
3 MFD.
3 MFD.
385Ω
15Ω
FILTER REACTOR 18 H
INTERSTAGE TRANSFORMER
2000Ω
13,000Ω TOTAL
60,000Ω
UX-245
7
PUSH-PULL POWER AMPLIFIER
UX-245
8
OUTPUT TRANSFORMER
0.8Ω
CONE COIL
FIELD COIL 1330Ω 40 H
350Ω TOTAL
10Ω
5
4
3
2
1
S.P.U. GROUND
RECEIVER ASSEMBLY GROUND
HEATER SUPPLY TERMINALS
A C SUPPLY TO MOTOR IN PHONOGRAPH MODELS

IF PEAK 175 KC

The cable to the remote control box supplied with the remote control models is twenty five (25) feet in length. This is ample for most rooms as it is very rare that a person wishes to listen to a program at a greater distance from the loudspeaker.

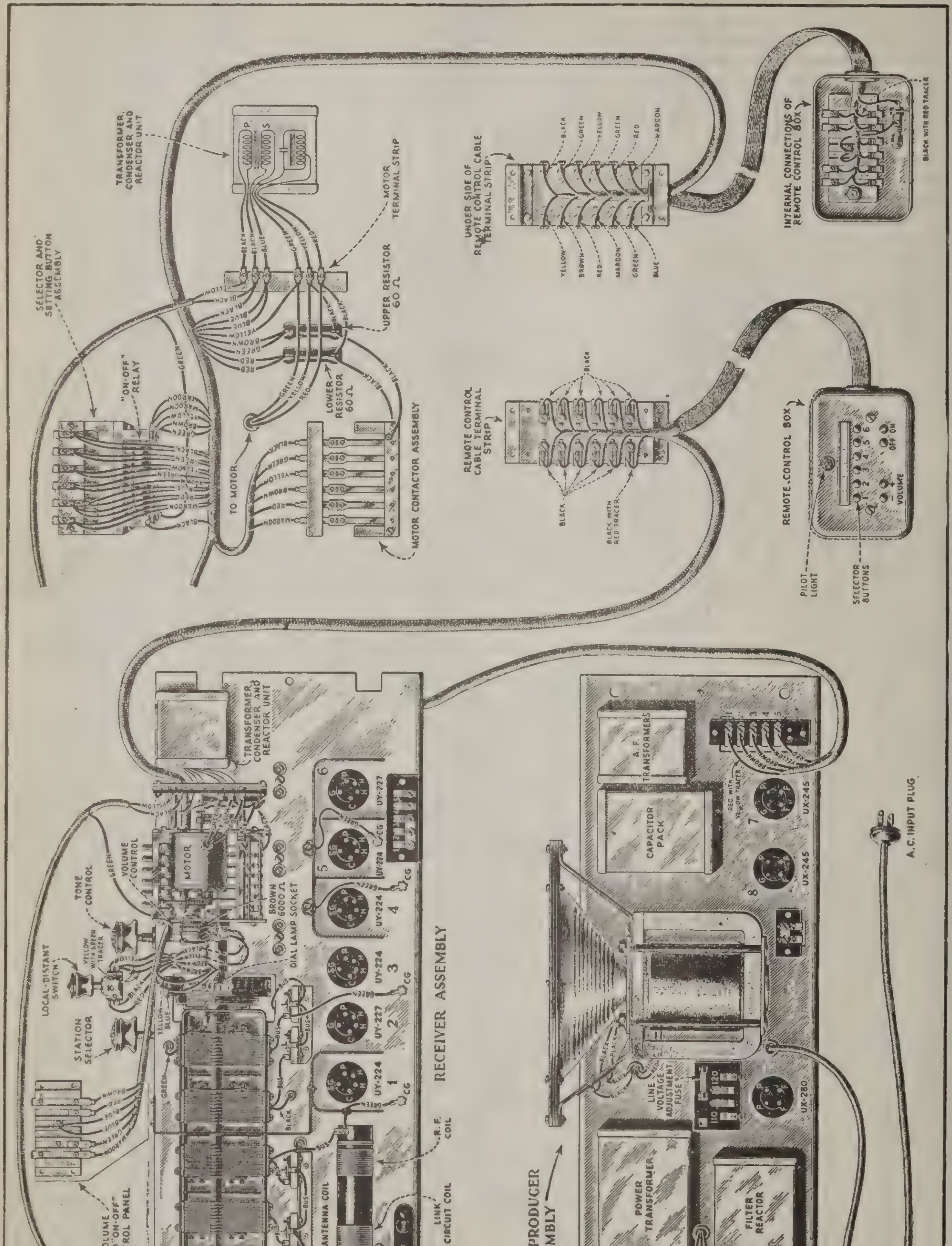
If, however, it is desired to place the remote control box at a greater distance from the set, any twelve conductor cable, the wires of which are No. 14 or larger in size, may be used to splice onto the regular cable and increase the total length up to seventy-five (75) feet. Figure 8 shows the method recommended for adding this additional cable.

The setting of the drums is made by the pins on the front panel. These are known as the "setting buttons." The selector button is pressed and the drum is moved by the motor until the corresponding contactor is midway between the contacts. The pin will now fall in the hole in the drum if pushed in by the finger. See Figure 7. Holding the pin firmly in the hole, the desired station is then accurately tuned in by means of the manual station selector knob. After tuning the pin is then released. As the point on the opposite side of the drum is where the diameter of the drum changes, the contactor is half way between the contacts. Pressing the selector buttons will therefore cause no movement of the motor. If another button is pressed and the drum moved, pressing the original button will always bring the drum back to the position for which it was set.

Referring to the schematic diagram, it will be noted that a common lead is used for the pilot lamp and the selector buttons in the remote control box. By doing this, when a selector button on the box is pressed, the current through the common lead is increased, likewise the voltage drop in the lead is increased. The result is that while the motor is running the pilot lamp becomes very dim. As soon as the motor stops, the lamp flashes bright, thus indicating that the motor has stopped and the station is tuned in. If the station is not then heard, it is necessary to press the + volume control button a little at a time until the desired output level is obtained.

MODELS Radiola 82 and 86
with Remote Control
Receiver Chassis

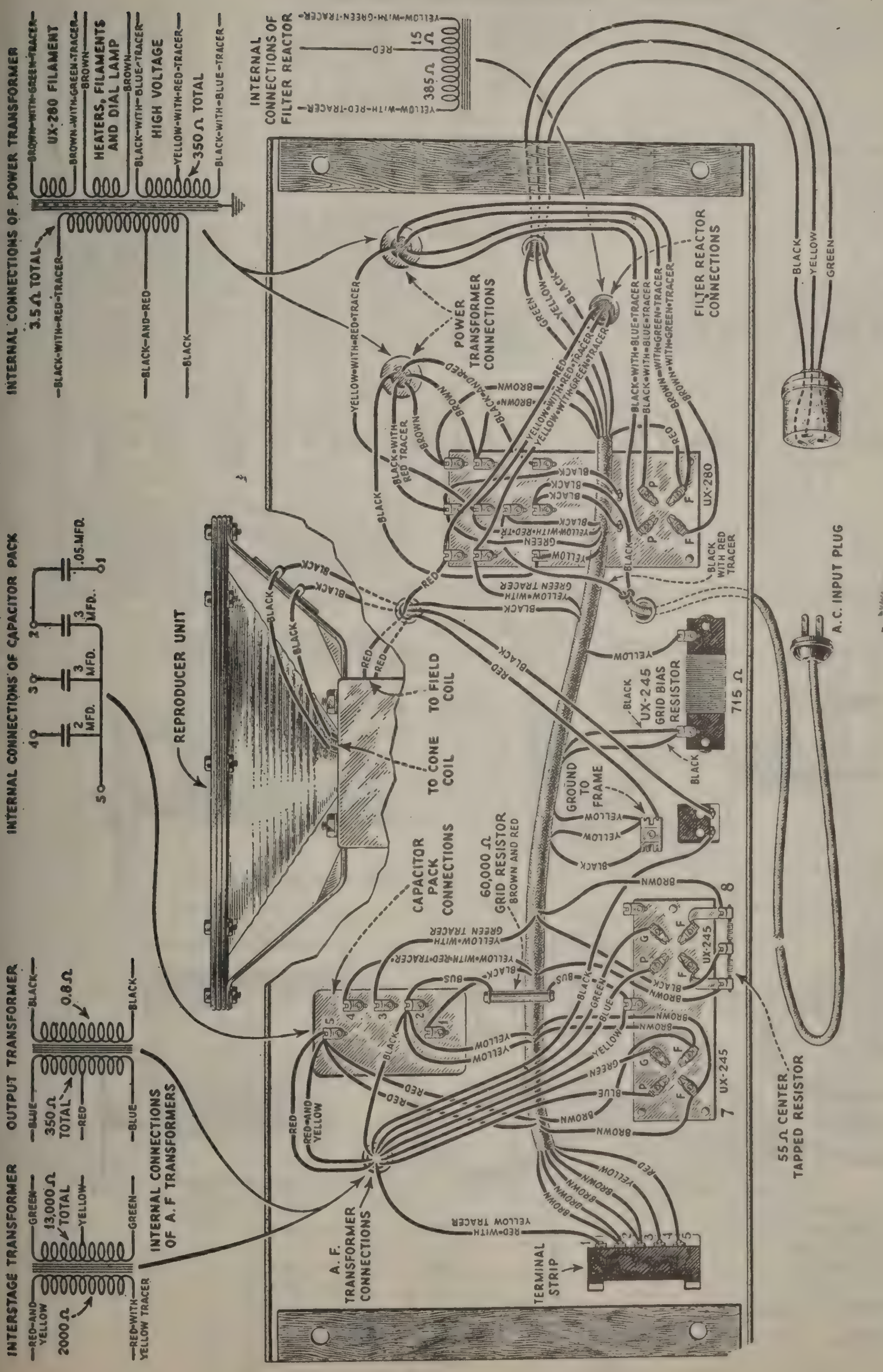
R. C. A. VICTOR CO., INC.


SELECTOR AND SETTING BUTTON ASSEMBLY
TRANSFORMER, CONDENSER AND REACTOR UNIT
"ON-OFF" RELAY
MOTOR TERMINAL STRIP
UPPER RESISTOR 60 Ω
LOWER RESISTOR 60 Ω
TO MOTOR
MOTOR CONTACTOR ASSEMBLY
UNDER SIDE OF REMOTE CONTROL CABLE TERMINAL STRIP
INTERNAL CONNECTIONS OF REMOTE CONTROL BOX
BLACK WITH RED TRACER
REMOTE CONTROL CABLE TERMINAL STRIP
BLACK
BLACK WITH RED TRACER
REMOTE CONTROL BOX
PILOT LIGHT
SELECTOR BUTTONS
VOLUME
OFF ON
VOLUME AND "ON-OFF" CONTROL PANEL
STATION SELECTOR
LOCAL-DISTANT SWITCH
TONE CONTROL
VOLUME CONTROL
MOTOR
BROWN 6000 Ω
DIAL LAMP SOCKET
UY-224
UY-227
RECEIVER ASSEMBLY
R.F. COIL
ANTENNA COIL
LINK CIRCUIT COIL
S.P.U.-REPRODUCER ASSEMBLY
A.F. TRANSFORMERS
CAPACITOR PACK
UX-245
UX-280
LINE VOLTAGE ADJUSTMENT FUSE
POWER TRANSFORMER
FILTER REACTOR
A.C. INPUT PLUG
RED WITH YELLOW TRACER
YELLOW
BLACK
GREEN

Assembly Wiring Diagram

Models Radiola 82 and 86 with Remote Control

MODELS Radiola 82 and 86
with Remote Control
Power Unit Chassis


INTERNAL CONNECTIONS OF POWER TRANSFORMER
3.5 Ω TOTAL
BLACK-WITH-RED-TRACER
BLACK-AND-RED
BLACK
BROWN-WITH-GREEN-TRACER
UX-280 FILAMENT
BROWN-WITH-GREEN-TRACER
BROWN
HEATERS, FILAMENTS AND DIAL LAMP
BROWN
BLACK-WITH-BLUE-TRACER
HIGH VOLTAGE
YELLOW-WITH-RED-TRACER
350 Ω TOTAL
BLACK-WITH-BLUE-TRACER
INTERNAL CONNECTIONS OF FILTER REACTOR
YELLOW-WITH-RED-TRACER
385 Ω
RED
15 Ω
YELLOW-WITH-GREEN-TRACER
BLACK
YELLOW
GREEN
POWER TRANSFORMER CONNECTIONS
FILTER REACTOR CONNECTIONS
UX-280
P
F
BLACK WITH RED TRACER
A.C. INPUT PLUG
INTERNAL CONNECTIONS OF CAPACITOR PACK
5
4
3
2
1
2 MFD.
3 MFD.
3 MFD.
.05 MFD.
REPRODUCER UNIT
TO FIELD COIL
TO CONE COIL
CAPACITOR PACK CONNECTIONS
60,000 Ω GRID RESISTOR BROWN AND RED
UX-245 GRID BIAS RESISTOR
715 Ω
GROUND TO FRAME
UX-245
8
UX-245
7
55 Ω CENTER TAPPED RESISTOR
TERMINAL STRIP
A.F. TRANSFORMER CONNECTIONS
INTERNAL CONNECTIONS OF A.F TRANSFORMERS
INTERSTAGE TRANSFORMER
RED-AND-YELLOW
2000 Ω
RED-WITH-YELLOW TRACER
GREEN
13,000 Ω TOTAL
YELLOW
GREEN
OUTPUT TRANSFORMER
BLUE
350 Ω TOTAL
RED
BLUE
BLACK
0.8 Ω
BLACK

SOCKET POWER UNIT ASSEMBLY

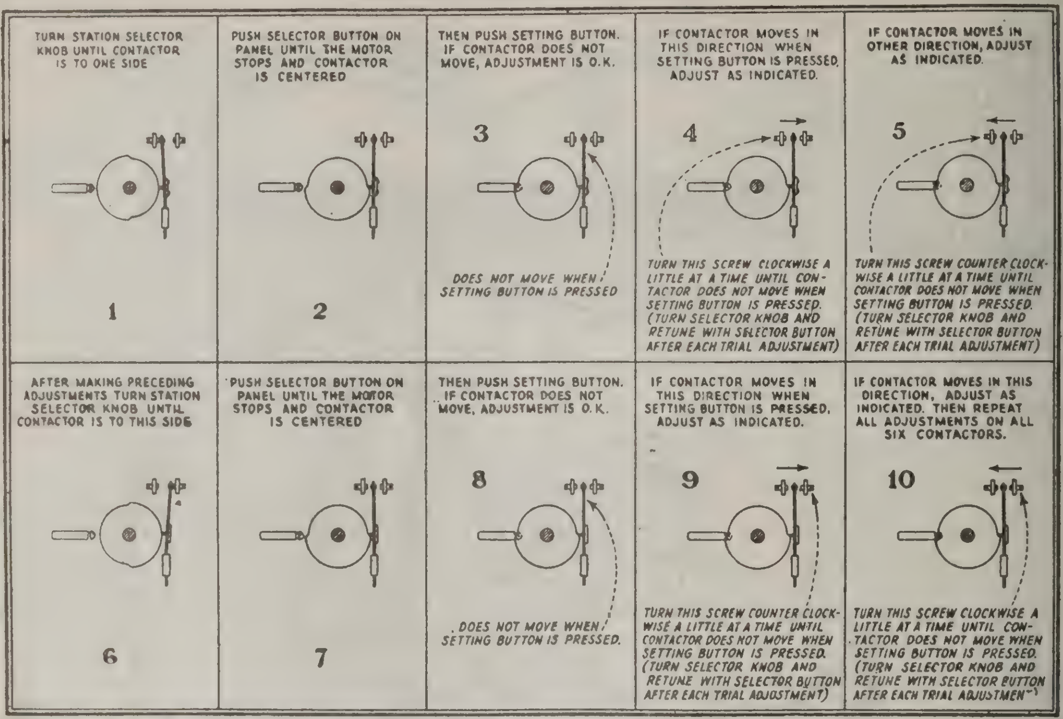
RADIOLA Models 82 and 86 with Remote Control

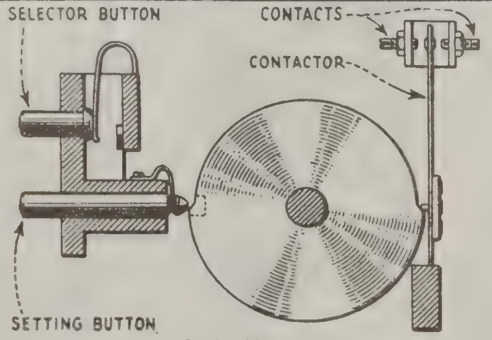
R. C. A. VICTOR CO., INC.

MODELS Radiola 82 and 86
with Remote Control
Remote Control Units

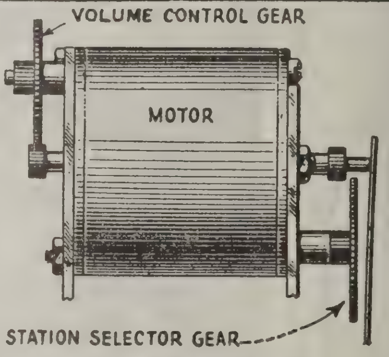
MOTOR CONTACTOR ADJUSTMENT CHART

Repeat Entire Procedure For All Contactors

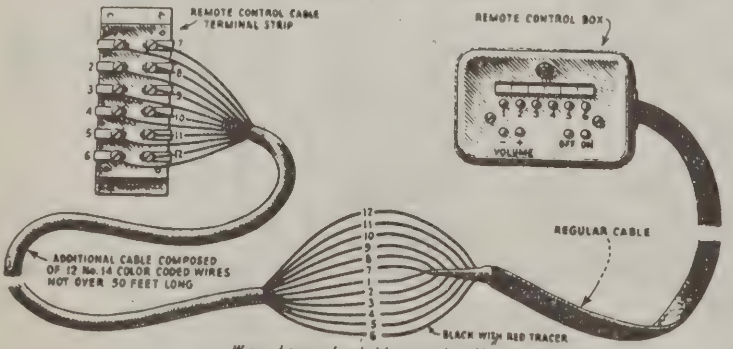

1. TURN STATION SELECTOR KNOB UNTIL CONTACTOR IS TO ONE SIDE
2. PUSH SELECTOR BUTTON ON PANEL UNTIL THE MOTOR STOPS AND CONTACTOR IS CENTERED
3. THEN PUSH SETTING BUTTON. IF CONTACTOR DOES NOT MOVE, ADJUSTMENT IS O.K. *DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED*
4. IF CONTACTOR MOVES IN THIS DIRECTION WHEN SETTING BUTTON IS PRESSED, ADJUST AS INDICATED. *TURN THIS SCREW CLOCKWISE A LITTLE AT A TIME UNTIL CONTACTOR DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED. (TURN SELECTOR KNOB AND RETUNE WITH SELECTOR BUTTON AFTER EACH TRIAL ADJUSTMENT)*
5. IF CONTACTOR MOVES IN OTHER DIRECTION, ADJUST AS INDICATED. *TURN THIS SCREW COUNTER CLOCKWISE A LITTLE AT A TIME UNTIL CONTACTOR DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED. (TURN SELECTOR KNOB AND RETUNE WITH SELECTOR BUTTON AFTER EACH TRIAL ADJUSTMENT)*
6. AFTER MAKING PRECEDING ADJUSTMENTS TURN STATION SELECTOR KNOB UNTIL CONTACTOR IS TO THIS SIDE
7. PUSH SELECTOR BUTTON ON PANEL UNTIL THE MOTOR STOPS AND CONTACTOR IS CENTERED
8. THEN PUSH SETTING BUTTON. IF CONTACTOR DOES NOT MOVE, ADJUSTMENT IS O.K. *DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED.*
9. IF CONTACTOR MOVES IN THIS DIRECTION WHEN SETTING BUTTON IS PRESSED, ADJUST AS INDICATED. *TURN THIS SCREW COUNTER CLOCKWISE A LITTLE AT A TIME UNTIL CONTACTOR DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED. (TURN SELECTOR KNOB AND RETUNE WITH SELECTOR BUTTON AFTER EACH TRIAL ADJUSTMENT)*
10. IF CONTACTOR MOVES IN THIS DIRECTION, ADJUST AS INDICATED. THEN REPEAT ALL ADJUSTMENTS ON ALL SIX CONTACTORS. *TURN THIS SCREW CLOCKWISE A LITTLE AT A TIME UNTIL CONTACTOR DOES NOT MOVE WHEN SETTING BUTTON IS PRESSED. (TURN SELECTOR KNOB AND RETUNE WITH SELECTOR BUTTON AFTER EACH TRIAL ADJUSTMEN*


SELECTOR BUTTON
CONTACTS
CONTACTOR
SETTING BUTTON

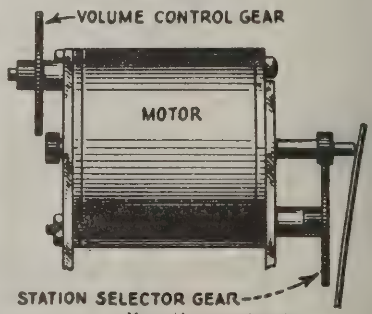
End view of drum and contactor


VOLUME CONTROL GEAR
MOTOR
STATION SELECTOR GEAR

Motor with armature in volume control position

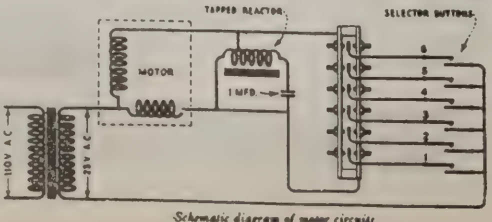

REMOTE CONTROL CABLE TERMINAL STRIP
1
2
3
4
5
6
7
8
9
10
11
12
REMOTE CONTROL BOX
1
2
3
4
5
6
– +
VOLUME
OFF ON
REGULAR CABLE
ADDITIONAL CABLE COMPOSED OF 12 No. 14 COLOR CODED WIRES NOT OVER 50 FEET LONG
12
11
10
9
8
7
1
2
3
4
5
6
BLACK WITH RED TRACER

Wiring diagram of method for connecting additional cable


VOLUME CONTROL GEAR
MOTOR
STATION SELECTOR GEAR

Motor with armature in station selector position

This is figure 8 illustrating the method of increasing the length of the cable.


TAPPED REACTOR
SELECTOR BUTTONS
MOTOR
1 MFD.
110V AC
25V AC
6
5
4
3
2
1

Schematic diagram of motor circuits

For additional remote control data, see RAE-79 service data.

MODEL Radiola 86
Audio Circuit
Diagrams

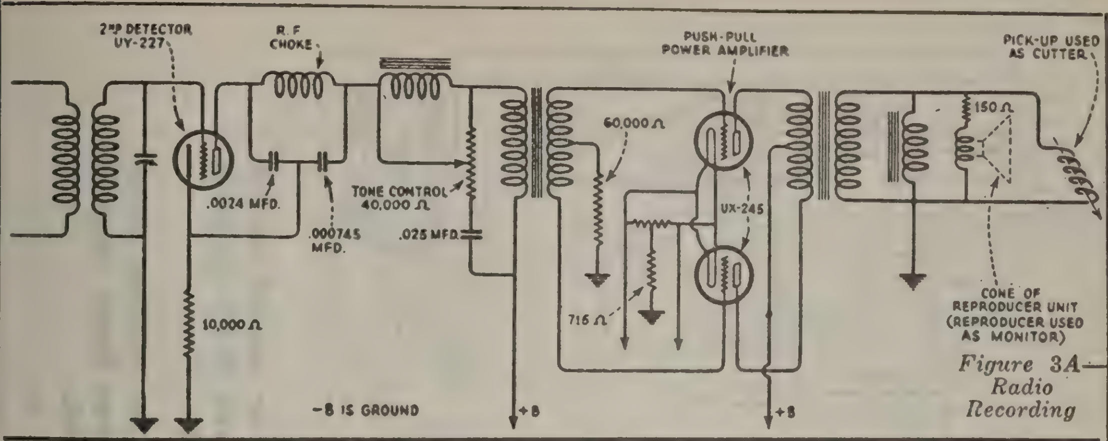

2ND DETECTOR
UY-227
R. F
CHOKE
PUSH-PULL
POWER AMPLIFIER
PICK-UP USED
AS CUTTER
60,000 Ω
150 Ω
.0024 MFD.
TONE CONTROL
40,000 Ω
.000745
MFD.
.025 MFD.
UX-245
715 Ω
10,000 Ω
CONE OF
REPRODUCER UNIT
(REPRODUCER USED
AS MONITOR)
-B IS GROUND
+B
+B

Figure 3A—
Radio
Recording

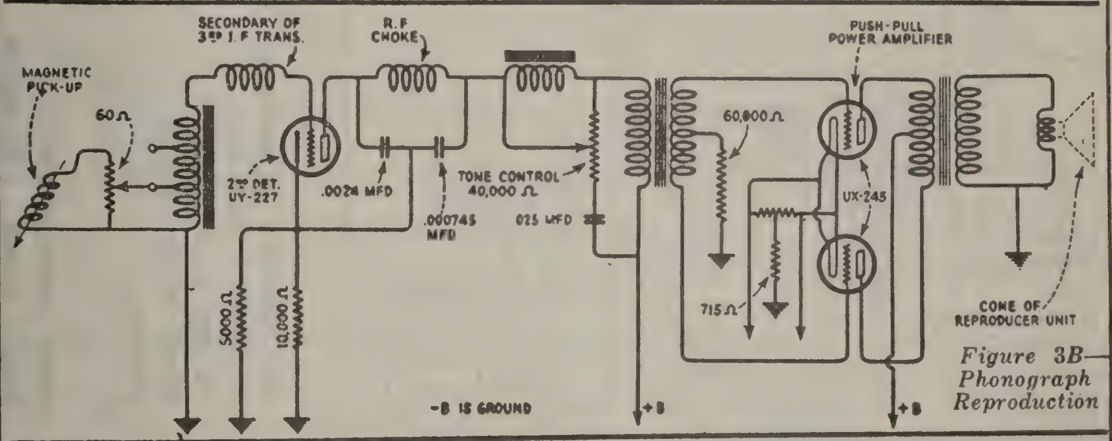

SECONDARY OF
3RD I. F TRANS.
R. F
CHOKE
PUSH-PULL
POWER AMPLIFIER
MAGNETIC
PICK-UP
60 Ω
60,000 Ω
2ND DET.
UY-227
.0024 MFD
TONE CONTROL
40,000 Ω
.000745
MFD
.025 MFD
UX-245
715 Ω
5000 Ω
10,000 Ω
CONE OF
REPRODUCER UNIT
-B IS GROUND
+B
+B

Figure 3B—
Phonograph
Reproduction

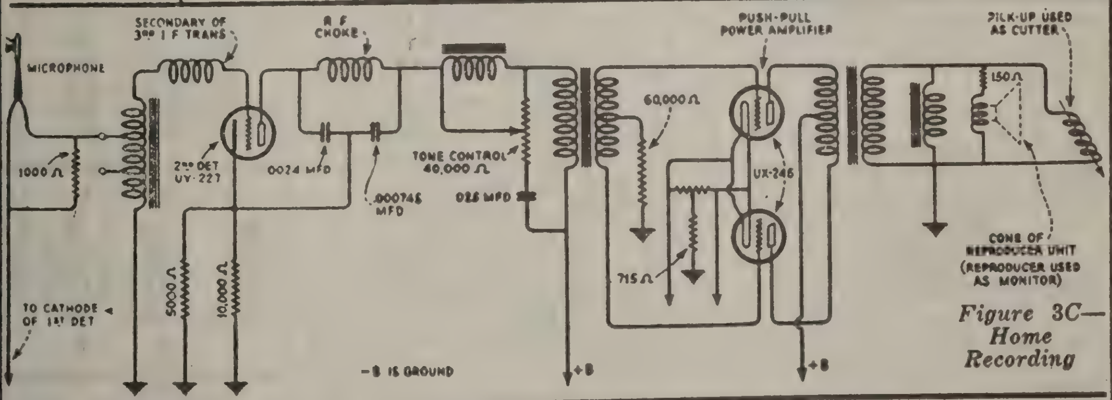

SECONDARY OF
3RD I F TRANS.
R F
CHOKE
PUSH-PULL
POWER AMPLIFIER
PICK-UP USED
AS CUTTER
MICROPHONE
60,000 Ω
150 Ω
1000 Ω
2ND DET
UY-227
.0024 MFD
TONE CONTROL
40,000 Ω
.000745
MFD
.025 MFD
UX-245
715 Ω
5000 Ω
10,000 Ω
CONE OF
REPRODUCER UNIT
(REPRODUCER USED
AS MONITOR)
TO CATHODE
OF 1ST DET
-B IS GROUND
+B
+B

Figure 3C—
Home
Recording

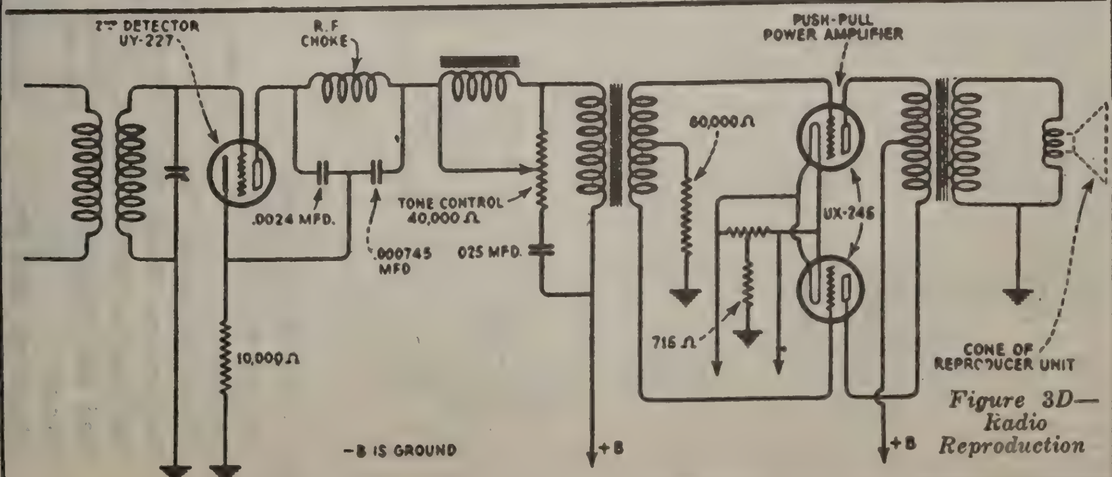
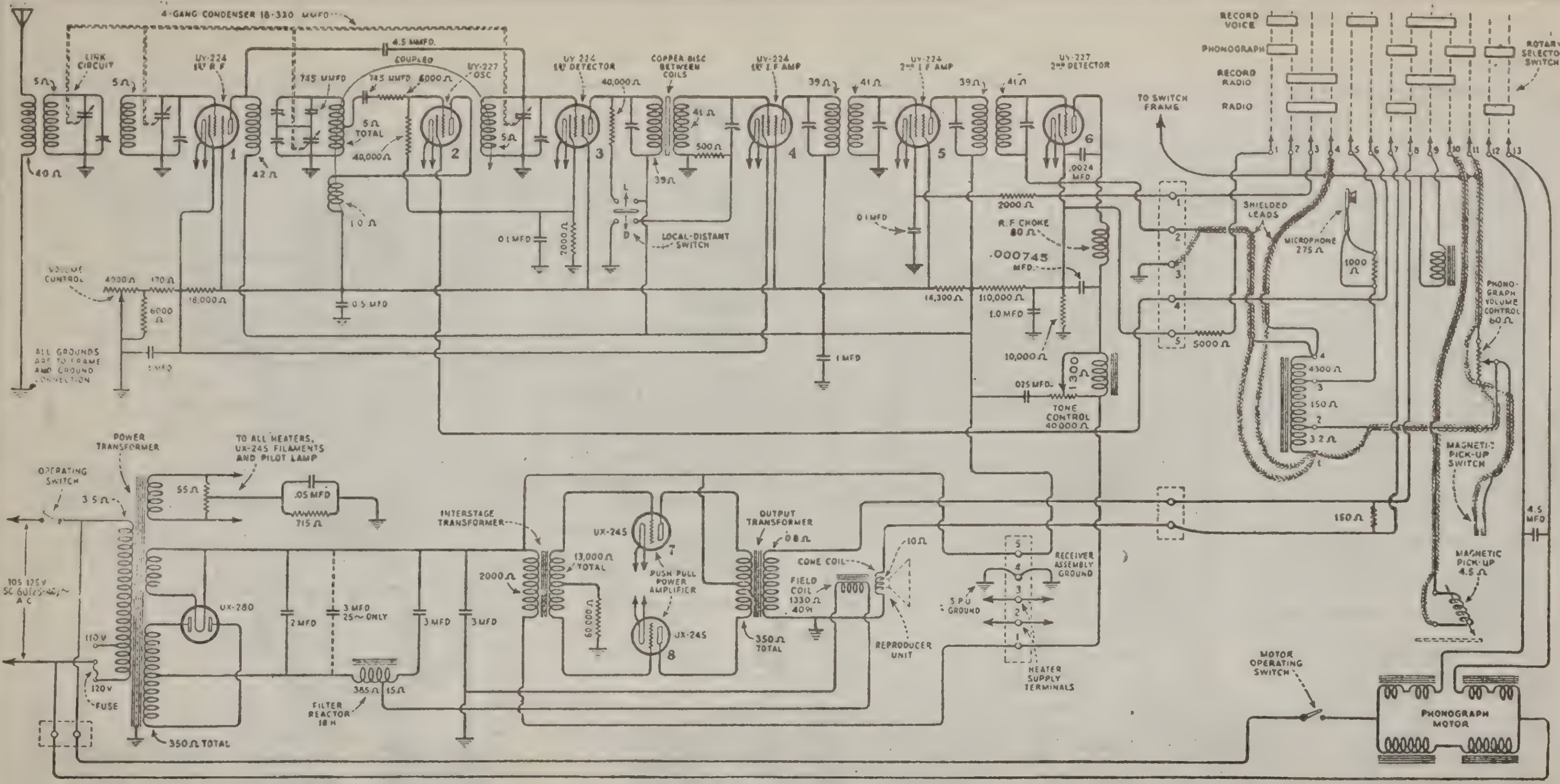

2ND DETECTOR
UY-227
R. F
CHOKE
PUSH-PULL
POWER AMPLIFIER
60,000 Ω
.0024 MFD.
TONE CONTROL
40,000 Ω
.000745
MFD
.025 MFD.
UX-245
715 Ω
10,000 Ω
CONE OF
REPRODUCER UNIT
-B IS GROUND
+B
+B

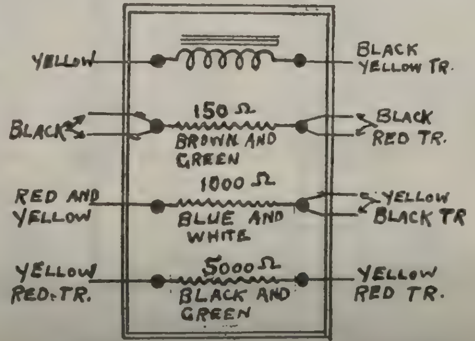
Figure 3D—
Radio
Reproduction

MODEL Radiola 86
Schematic

R. C. A. VICTOR CO., INC.


4-GANG CONDENSER 18-330 MMFD
4.5 MMFD.
COUPLED
LINK CIRCUIT
5Ω
40Ω
UY-224 1ST R.F
1
42Ω
745 MMFD
745 MMFD
6000Ω
5Ω TOTAL
40,000Ω
UY-227 OSC
2
5Ω
10Ω
UY-224 1ST DETECTOR
3
40,000Ω
COPPER DISC BETWEEN COILS
41Ω
500Ω
39Ω
LOCAL-DISTANT SWITCH
L
D
.01 MFD
2000Ω
UY-224 1ST I.F AMP
4
39Ω
41Ω
UY-224 2ND I.F AMP
5
UY-227 2ND DETECTOR
6
.0024 MFD
.01 MFD
2000Ω
R.F CHOKE 80Ω
.000745 MFD
14,300Ω
110,000Ω
1.0 MFD
10,000Ω
.025 MFD
1300
TONE CONTROL 40,000Ω
1 MFD
VOLUME CONTROL
4000Ω
170Ω
18,000Ω
6000Ω
0.5 MFD
1 MFD
ALL GROUNDS ARE TO FRAME AND GROUND CONNECTION
TO SWITCH FRAME
RECORD VOICE
PHONOGRAPH
RECORD RADIO
RADIO
ROTARY SELECTOR SWITCH
1 2 3 4 5 6 7 8 9 10 11 12 13
SHIELDED LEADS
MICROPHONE 275Ω
1000Ω
5000Ω
4300Ω
150Ω
3.2Ω
PHONOGRAPH VOLUME CONTROL 60Ω
MAGNETIC PICK-UP SWITCH
MAGNETIC PICK-UP 4.5Ω
4.5 MFD
150Ω
MOTOR OPERATING SWITCH
PHONOGRAPH MOTOR
POWER TRANSFORMER
TO ALL HEATERS, UX-245 FILAMENTS AND PILOT LAMP
55Ω
.05 MFD
715Ω
OPERATING SWITCH
3.5Ω
105-125 V 50-60 (25-40)~ A.C
110 V
120 V
FUSE
UX-280
350Ω TOTAL
2 MFD
3 MFD 25~ ONLY
3 MFD
3 MFD
FILTER REACTOR 18 H
385Ω
15Ω
INTERSTAGE TRANSFORMER
2000Ω
13,000Ω TOTAL
UX-245
7
PUSH PULL POWER AMPLIFIER
60,000Ω
UX-245
8
OUTPUT TRANSFORMER
.08Ω
350Ω TOTAL
CONE COIL
FIELD COIL 1330Ω 40W
10Ω
REPRODUCER UNIT
RECEIVER ASSEMBLY GROUND
3 P.U GROUND
HEATER SUPPLY TERMINALS

Rotary Switch Connections
- #1 Yellow w. Red Tr.
- #2 Yellow
- #3 Black w. Green Tr.
- #4 Yellow w. Green Tr.
- #5 Yellow w. Black Tr.
- #6 Red and Yellow
- #7 Black
- #8 Black w. Red Tr.
- #9 Black w. Yellow Tr.
- #10 Metal braid
- #11 Black and Yellow
- #12,#13 Black


YELLOW
BLACK YELLOW TR.
BLACK
150Ω
BROWN AND GREEN
BLACK RED TR.
RED AND YELLOW
1000Ω
BLUE AND WHITE
YELLOW BLACK TR
YELLOW RED TR.
5000Ω
BLACK AND GREEN
YELLOW RED TR.

Resistor and Reactor Unit

For chassis layouts see Model Radiola 82 and also Models 82-86 with remote control.

Power Consumption
Radio alone 120 watts
Combination 200 watts

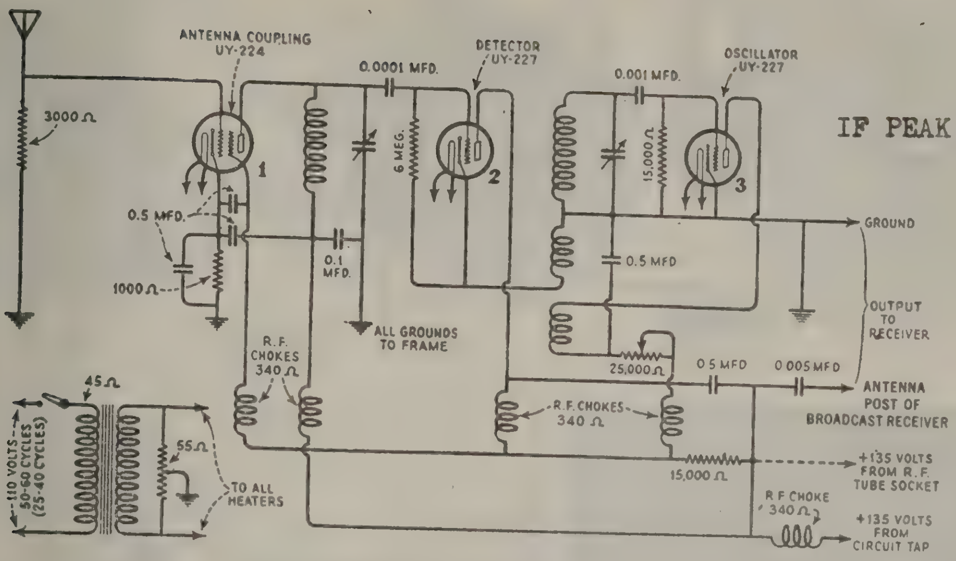
For socket layout see Model Radiola 82

For voltage data, see Model Radiola 82.

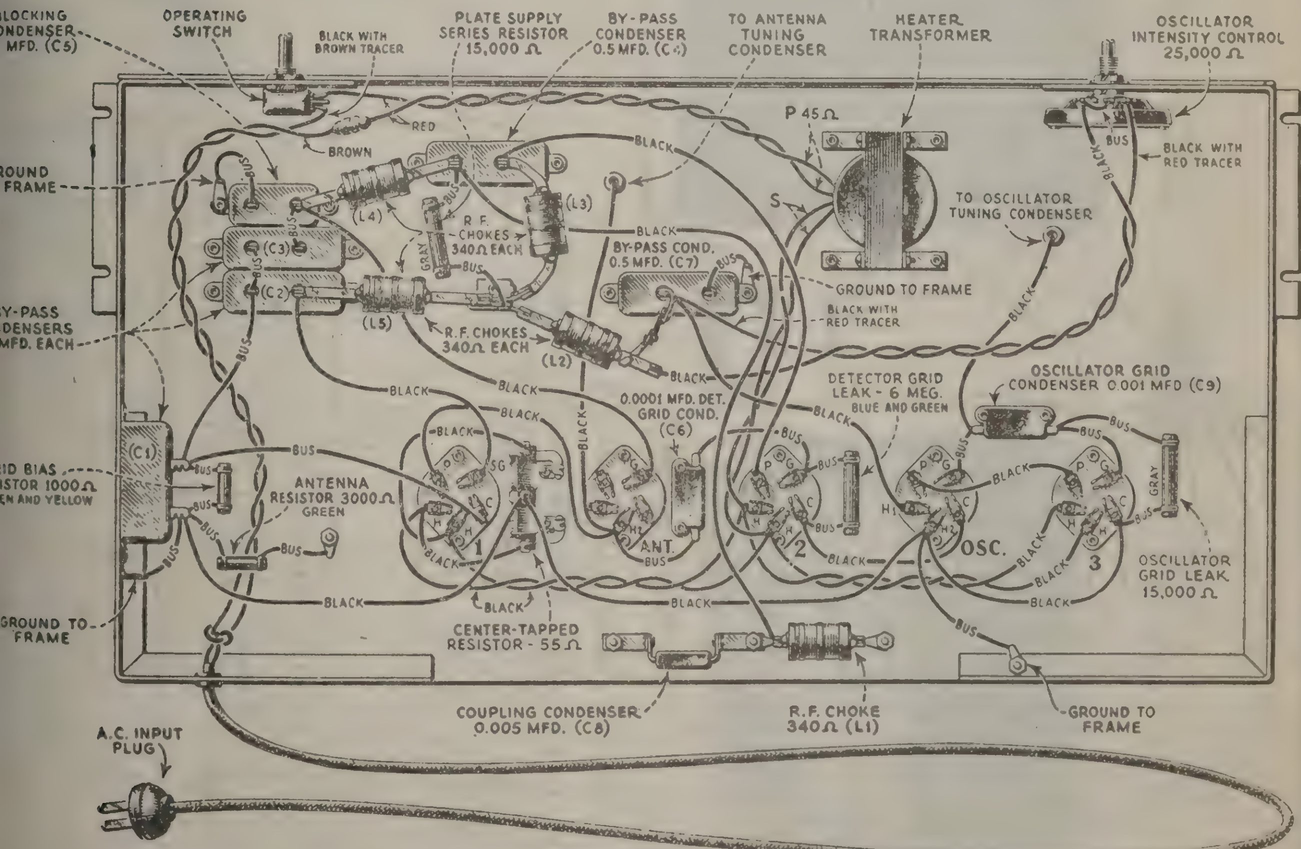
R. C. A. VICTOR CO., INC.

**MODEL RCA Short Wave Adaptor
Victor SW-10
Schematic- Chassis**

IF PEAK 1000 KC

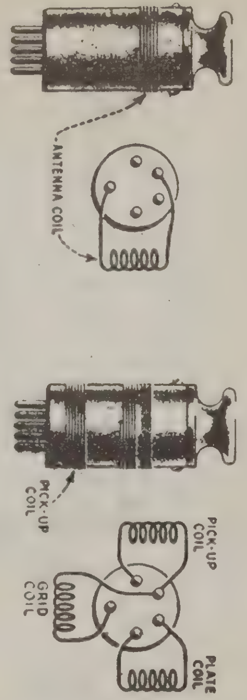

ANTENNA COUPLING UY-224
3000 Ω
1
0.5 MFD.
1000 Ω
0.0001 MFD.
DETECTOR UY-227
6 MEG.
2
0.1 MFD.
ALL GROUNDS TO FRAME
R.F. CHOKES 340 Ω
0.001 MFD.
OSCILLATOR UY-227
15,000 Ω
3
GROUND
0.5 MFD
OUTPUT TO RECEIVER
25,000 Ω
0.5 MFD
0.005 MFD
ANTENNA POST OF BROADCAST RECEIVER
R.F. CHOKES 340 Ω
15,000 Ω
+135 VOLTS FROM R.F. TUBE SOCKET
R.F. CHOKE 340 Ω
+135 VOLTS FROM CIRCUIT TAP
45 Ω
110 VOLTS 50-60 CYCLES (25-40 CYCLES)
55 Ω
TO ALL HEATERS

RCA RADIOLA SHORT WAVE ADAPTOR

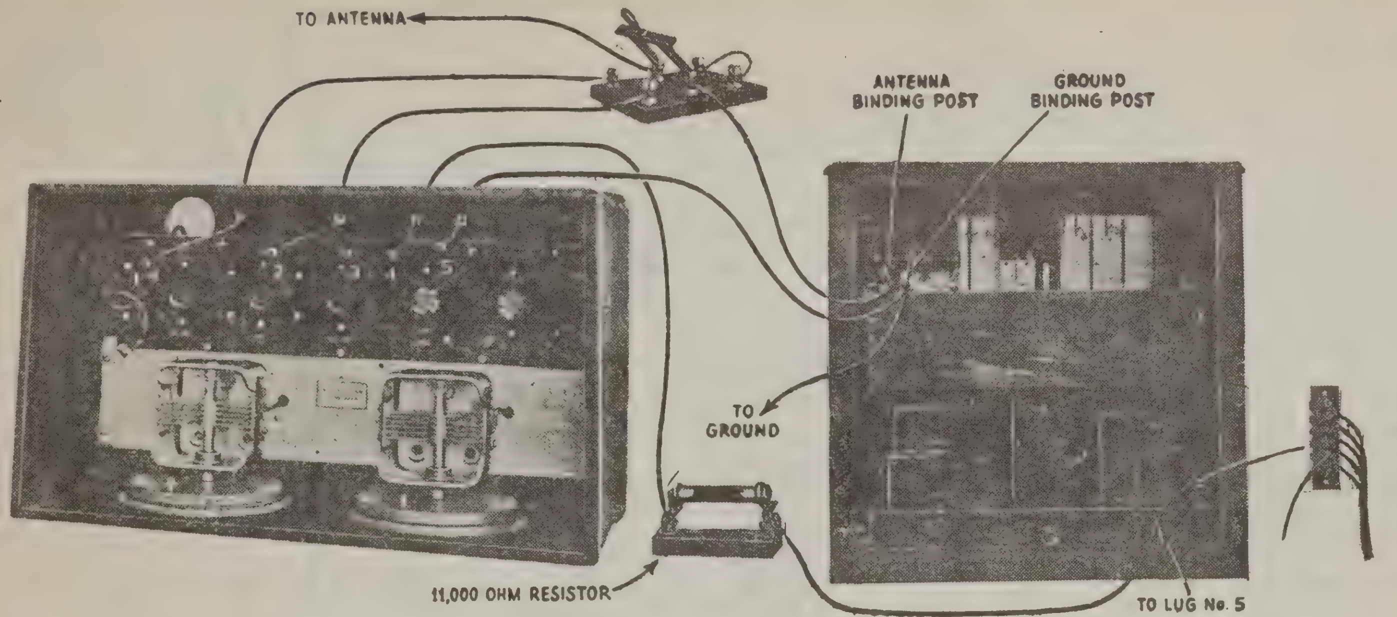

LOCKING ONDENSER MFD. (C5)
OPERATING SWITCH
BLACK WITH BROWN TRACER
PLATE SUPPLY SERIES RESISTOR 15,000 Ω
BY-PASS CONDENSER 0.5 MFD. (C4)
TO ANTENNA TUNING CONDENSER
HEATER TRANSFORMER
OSCILLATOR INTENSITY CONTROL 25,000 Ω
RED
BROWN
BLACK
P 45 Ω
BUS
BLACK WITH RED TRACER
ROUND FRAME
(L4)
R.F. CHOKES 340 Ω EACH
(L3)
GRAY
(C3)
(C2)
S
TO OSCILLATOR TUNING CONDENSER
BY-PASS COND. 0.5 MFD. (C7)
GROUND TO FRAME
BLACK WITH RED TRACER
Y-PASS DENSERS MFD. EACH
(L5)
R.F. CHOKES 340 Ω EACH
(L2)
0.0001 MFD. DET. GRID COND. (C6)
DETECTOR GRID LEAK - 6 MEG. BLUE AND GREEN
OSCILLATOR GRID CONDENSER 0.001 MFD (C9)
(C1)
ID BIAS ISTOR 1000 Ω EN AND YELLOW
ANTENNA RESISTOR 3000 Ω GREEN
SG
P
G
C
H
H1
H2
1
ANT.
2
OSC.
3
OSCILLATOR GRID LEAK 15,000 Ω
GROUND TO FRAME
CENTER-TAPPED RESISTOR - 55 Ω
COUPLING CONDENSER 0.005 MFD. (C8)
R.F. CHOKE 340 Ω (L1)
GROUND TO FRAME
A.C. INPUT PLUG

MODEL RCA Short Wave Adaptor
Victor SW-10
Voltage- Data

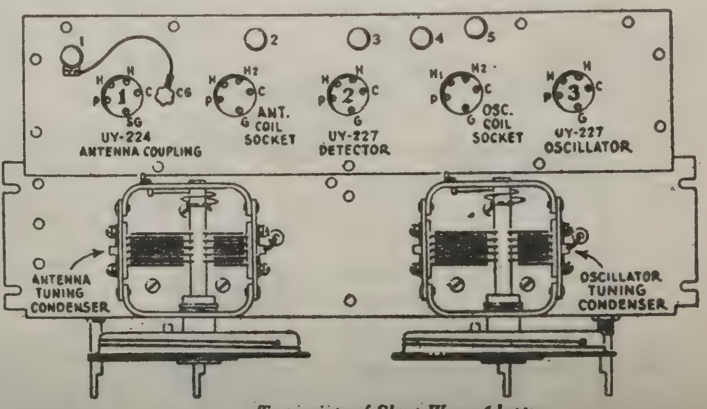
R. C. A. VICTOR CO., INC.


ANTENNA COIL
PICK-UP COIL
PICK-UP COIL
GRID COIL
PLATE COIL

Internal connections of Plug-in Coils


TO ANTENNA
ANTENNA BINDING POST
GROUND BINDING POST
TO GROUND
11,000 OHM RESISTOR
TO LUG No. 5

Connections of Short Wave Adaptor to Radiola 80


1
2
3
4
5
UY-224 ANTENNA COUPLING
ANT. COIL SOCKET
UY-227 DETECTOR
OSC. COIL SOCKET
UY-227 OSCILLATOR
ANTENNA TUNING CONDENSER
OSCILLATOR TUNING CONDENSER

-Test points of Short Wave Adaptor

OSCILLATOR INTENSITY CONTROL AT MAXIMUM

Socket No.	Cathode to Heater Volts D. C.	Cathode to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode to Plate Volts D. C.	Heater Volts A. C.	Plate Current M.A. D.C.	Screen Grid Current M.A. D.C.
1	—1	—1	43	125	2.45	1.60	0.25
2	0	—1.3*	—	50	2.45	2.0	—
3	0	—0.4*	—	45	2.45	2.8	—

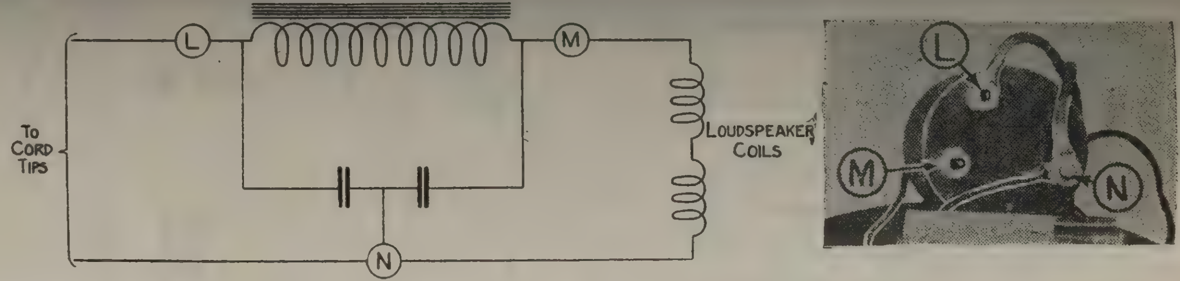
OSCILLATOR INTENSITY CONTROL AT MINIMUM

Socket No.	Cathode to Heater Volts D. C.	Cathode to Control Grid Volts D. C.	Cathode to Screen Grid Volts D. C.	Cathode to Plate Volts D. C.	Heater Volts A. C.	Plate Current M.A. D.C.	Screen Grid Current M.A. D.C.
1	—1.2	—1.2	54	127	2.45	1.25	0.28
2	0	0	—	56	2.45	3.0	—
3	0	—0.3*	—	23	2.45	1.7	—

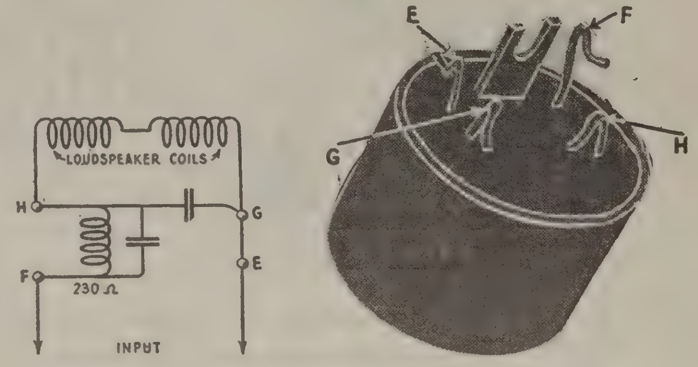
*Measured on 50 volt range. Is inaccurate because of voltmeter resistance in shunt with grid circuit resistance. Actual grid voltage is slightly higher than the readings.

R. C. A. VICTOR CO. INC.

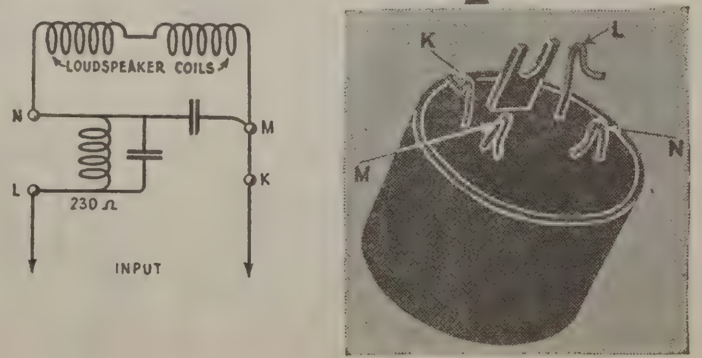
MODELS 100-A,100-B, 103,104-AC speakers


L
M
N
LOUDSPEAKER COILS
To CORD TIPS

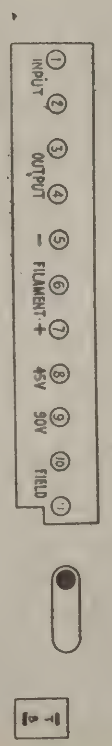
Schematic circuit diagram of RCA Loudspeaker Model 100A and photo of the filter unit


E
F
G
H
LOUDSPEAKER COILS
230 Ω
INPUT

Schematic circuit of Loudspeaker 100B coils and filter and photo of filter unit

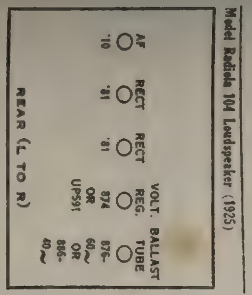

K
L
M
N
LOUDSPEAKER COILS
230 Ω
INPUT

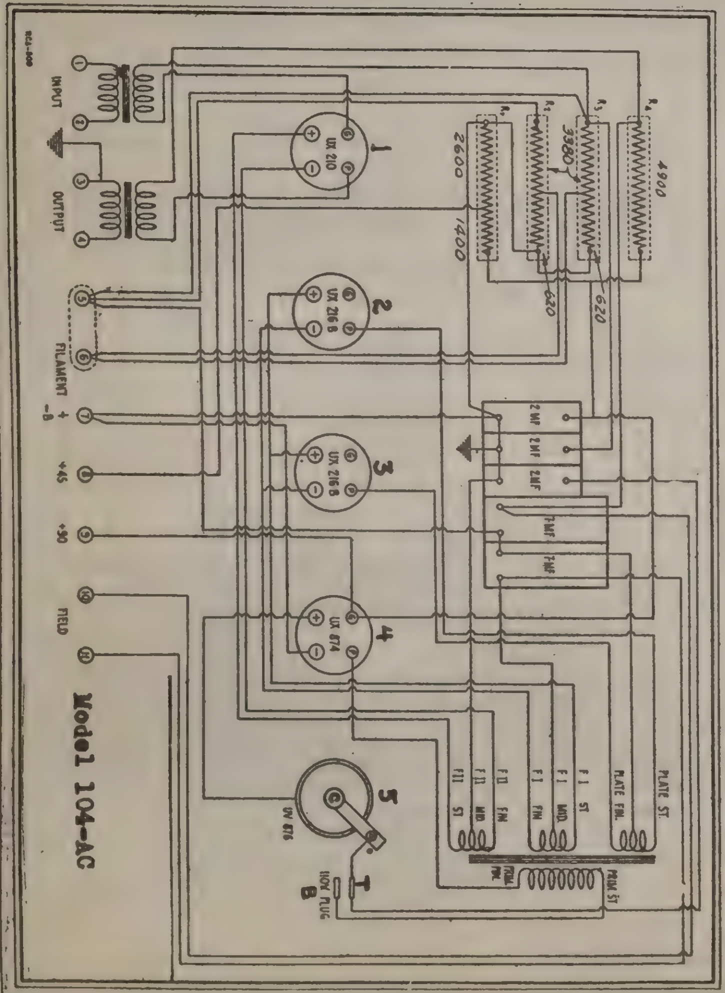
Schematic circuit of Loudspeaker 103 coils and filter and photo of filter unit


① ② INPUT
③ ④ OUTPUT
⑤ − FILAMENT ⑥ ⑦ +
⑧ 45V
⑨ 90V
⑩ ⑪ FIELD
T
B

Terminal Layout

Model Radiola 104 Loudspeaker (1925)

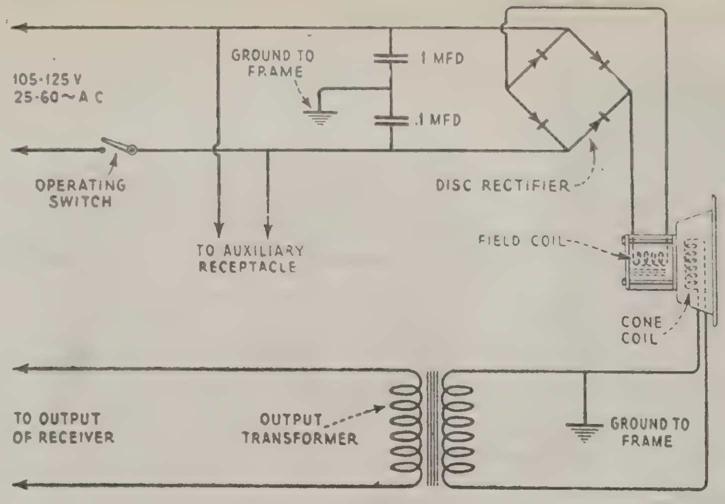

AF '10
RECT '81
RECT '81
VOLT. REG. 874 OR UP591
BALLAST TUBE 876-60~ OR 886-40~
REAR (L TO R)


R4
4900
R3
620
3380
R2
620
R1
2600
1400
2 MF
2 MF
2 MF
7 MF
7 MF
PLATE ST.
PLATE FIN.
PRIM ST
F I ST
F I MID.
F I FIN
PRIM FIN.
F II FIN
F II MID
F II ST
1
UX 210
2
UX 216 B
3
UX 216 B
4
UX 874
5
UV 876
110V PLUG
B
INPUT
OUTPUT
FILAMENT
+ −B
+45
+90
FIELD
RCA-800

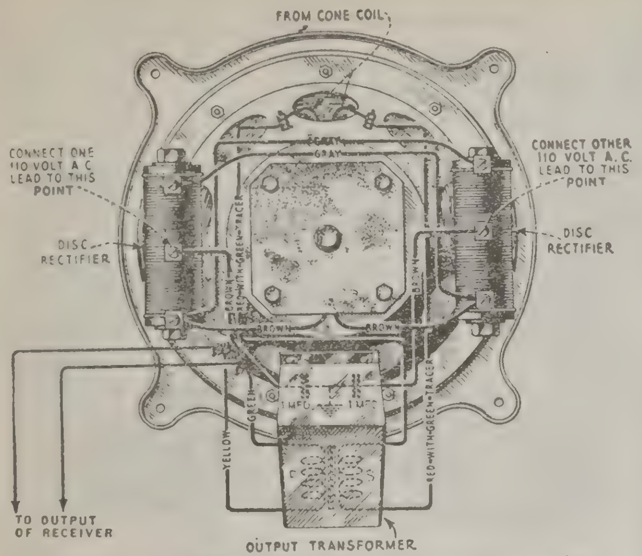
Model 104-AC

MODELS **105,106**
Speakers

R. C. A. VICTOR CO., INC.

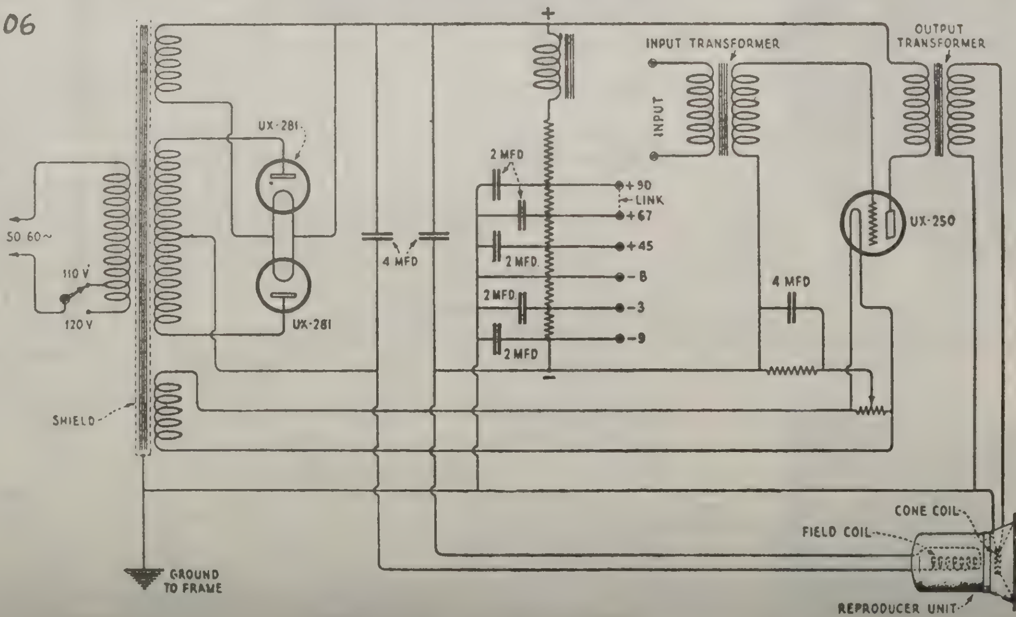

105-125 V
25-60~ A C
OPERATING SWITCH
GROUND TO FRAME
1 MFD
.1 MFD
TO AUXILIARY RECEPTACLE
DISC RECTIFIER
FIELD COIL
CONE COIL
TO OUTPUT OF RECEIVER
OUTPUT TRANSFORMER
GROUND TO FRAME

Schematic wiring diagram of Loudspeaker 106


FROM CONE COIL
CONNECT ONE 110 VOLT A C LEAD TO THIS POINT
DISC RECTIFIER
CONNECT OTHER 110 VOLT A. C. LEAD TO THIS POINT
DISC RECTIFIER
GRAY
BROWN
RED-WITH-GREEN-TRACER
GREEN
YELLOW
1 MFD
TO OUTPUT OF RECEIVER
OUTPUT TRANSFORMER

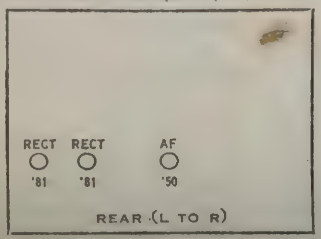
Wiring diagram of reproducer unit 106

106 Speaker
Voltage across field coil.
With field connected 80 volts
With field disconnected 95 volts


+
INPUT TRANSFORMER
INPUT
OUTPUT TRANSFORMER
UX-281
UX-281
UX-250
50 60~
110 V
120 V
SHIELD
4 MFD
2 MFD
2 MFD
2 MFD
2 MFD
+90
LINK
+67
+45
-B
-3
-9
4 MFD
CONE COIL
FIELD COIL
REPRODUCER UNIT
GROUND TO FRAME

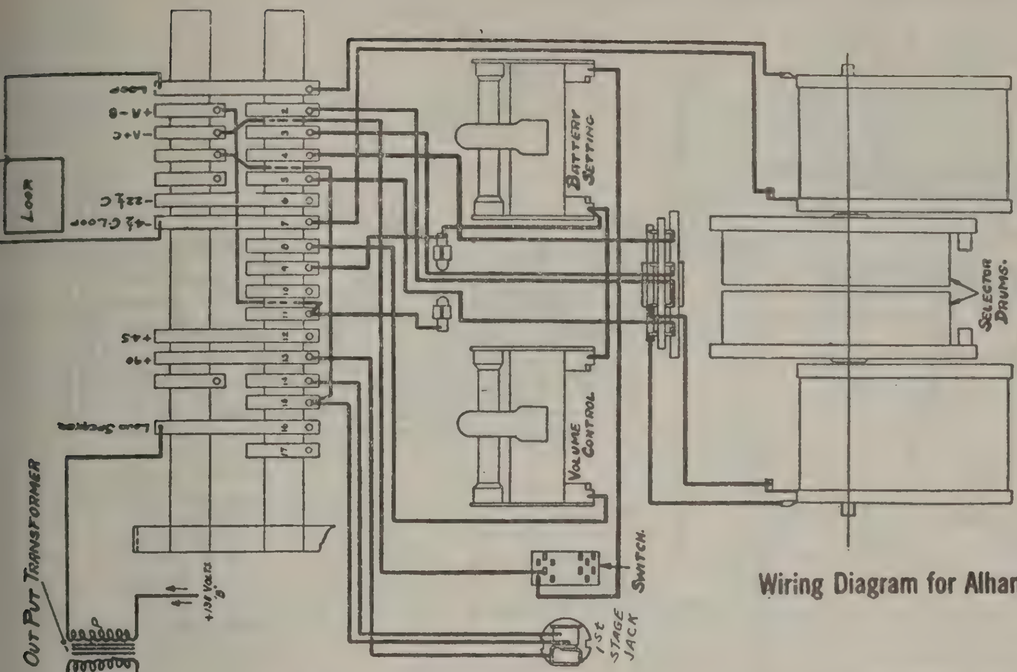
Schematic circuit diagram of RCA Loudspeaker 105.

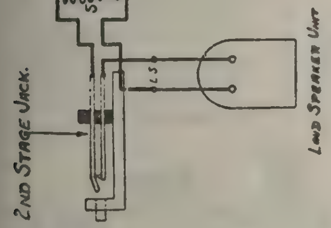
Model Radiola 105 Loudspeaker (1927)


RECT
'81
RECT
'81
AF
'50
REAR (L TO R)

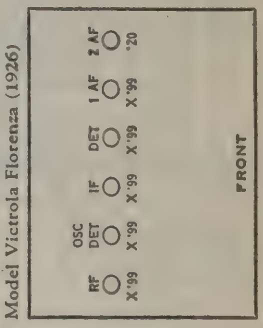
R. C. A. VICTOR CO., INC.

MODEL Victor Alhambra I
(7-1)
MODEL Victor Alhambra II
MODEL Victor Florenza

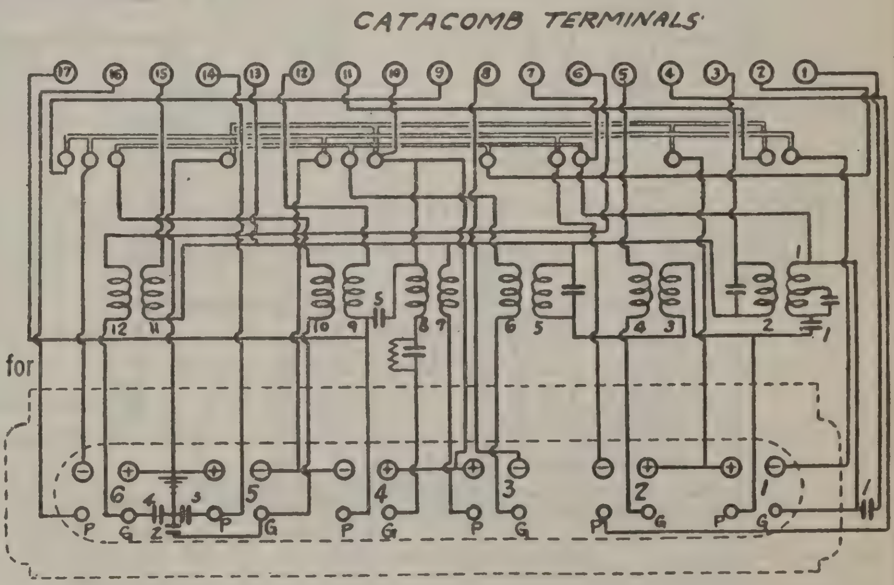

Loop
+A-B
+A+C
-22½C
-4½C Loop
Loop
+45
+90
Loud Speaker
Battery Setting
Volume Control
Selector Drums.
Switch.
1st Stage Jack
Out Put Transformer
+135 Volts "B"


2nd Stage Jack.
L.S.
Loud Speaker Unit

Wiring Diagram for Alhambra II and Florenza

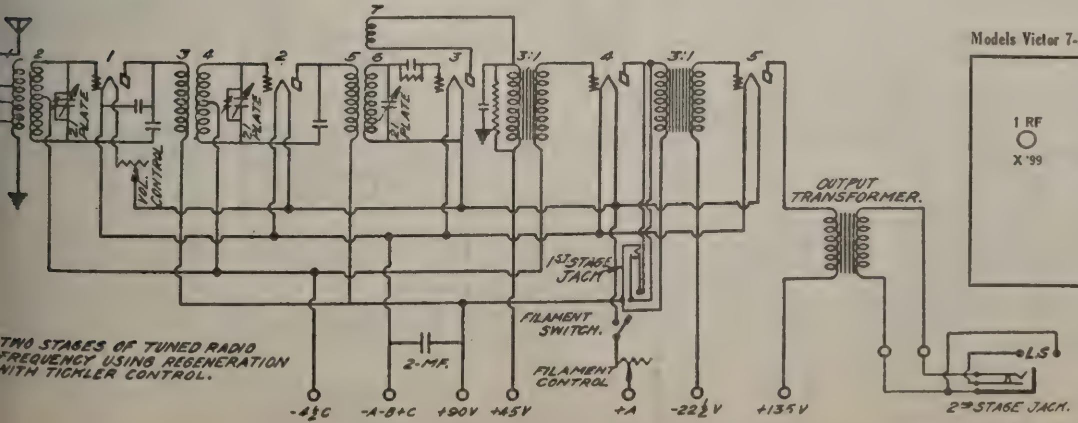

RF X'99
OSC DET X'99
IF X'99
DET X'99
1 AF X'99
2 AF '20
FRONT

Model Victrola Florenza (1926)


CATACOMB TERMINALS

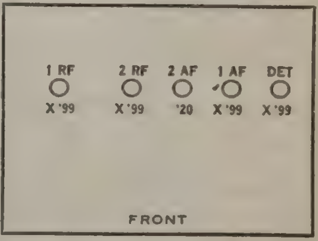
adiola 25 Catacomb Continuity Diagram for

Alhambra II (7-2) and Florenza (9-1)


27 Plate
Vol. Control
3:1
1st Stage Jack
Filament Switch.
Filament Control
2-MF.
Output Transformer.
LS
2nd Stage Jack.
-4½C
-A-B+C
+90V
+45V
+A
-22½V
+135V
Two stages of tuned radio frequency using regeneration with tickler control.

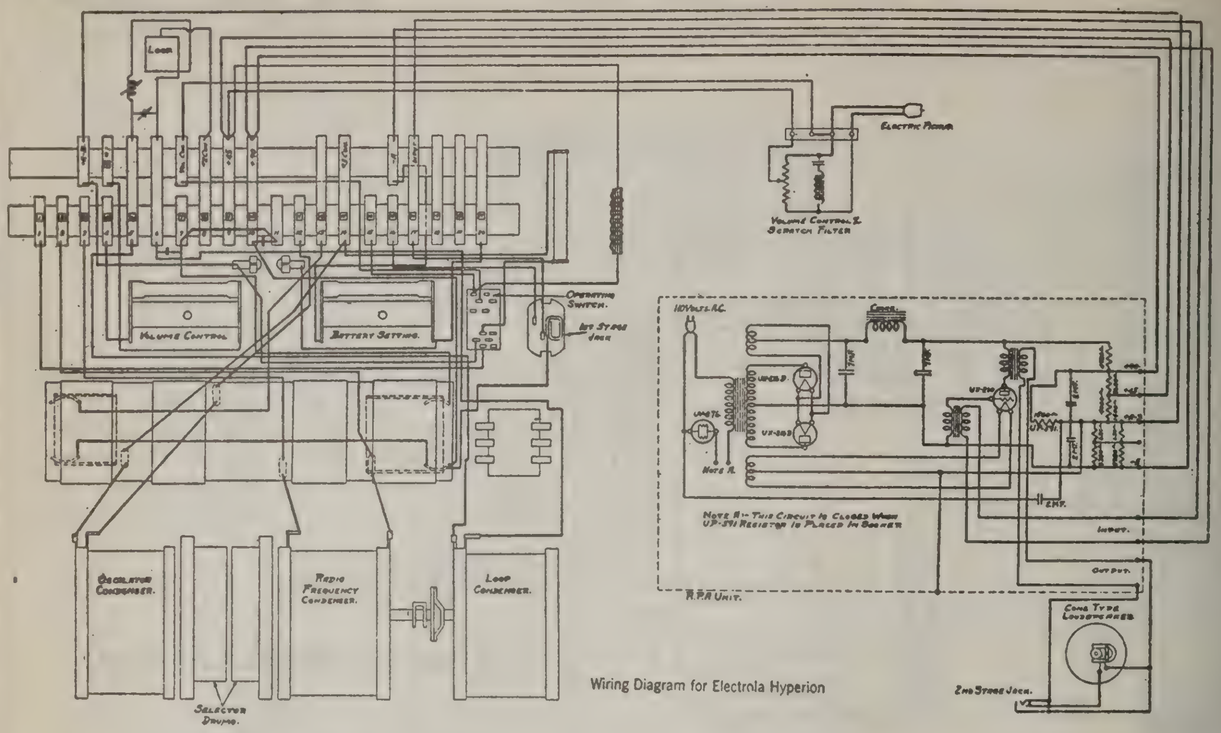
Wiring Diagram Alhambra I (7-1)

Models Victor 7-3, Victrola Alhambra I (1925)

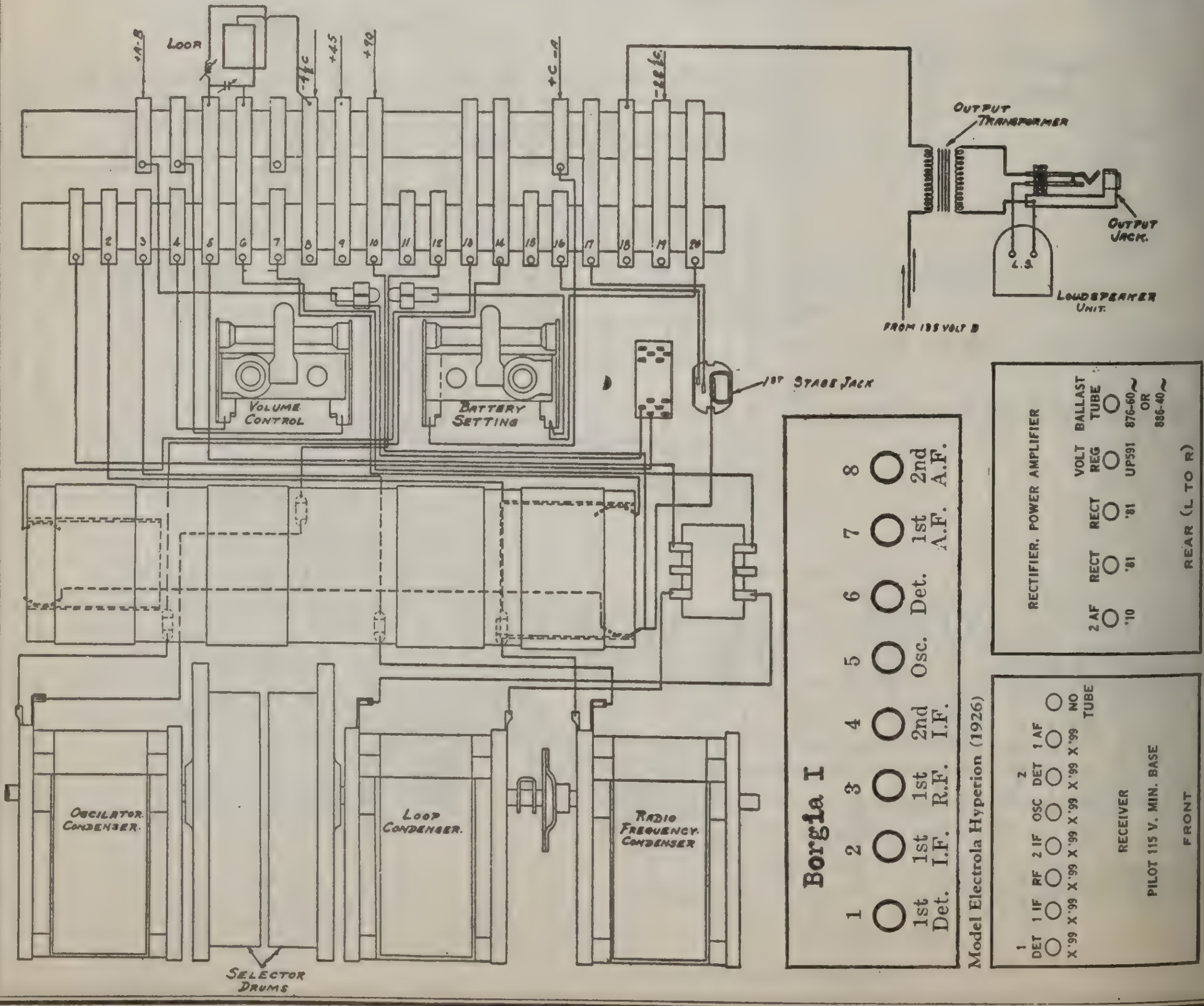

1 RF X'99
2 RF X'99
2 AF '20
1 AF X'99
DET X'99
FRONT

MODEL Victor Borgia I
MODEL Victor Hyperion Electrola

R. C. A. VICTOR CO., INC.


Loop
Electric Pickup
Volume Control & Scratch Filter
Operating Switch
1st Stage Jack
Volume Control
Battery Setting
110 Volts A.C.
Choke
UX-874
UX-210
Note A
Note A— This Circuit is Closed When UP-591 Resistor is Placed in Socket
Input
Output
R.P.A. Unit
Cone Type Loudspeaker
2nd Stage Jack
Oscilator Condenser
Radio Frequency Condenser
Loop Condenser
Selector Drums

Wiring Diagram for Electrola Hyperion


1A-B
Loop
-4½C
+45
+90
+C -A
-22½C
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Output Transformer
Output Jack
L.S.
Loudspeaker Unit
From 135 Volt B
1st Stage Jack
Volume Control
Battery Setting
Oscilator Condenser
Loop Condenser
Radio Frequency Condenser
Selector Drums

Borgia I

1	2	3	4	5	6	7	8
○	○	○	○	○	○	○	○
1st Det.	1st I.F.	1st R.F.	2nd I.F.	Osc.	Det.	1st A.F.	2nd A.F.

Model Electrola Hyperion (1926)

RECTIFIER. POWER AMPLIFIER

2 AF	RECT	RECT	VOLT REG	BALLAST TUBE
○	○	○	○	○
'10	'81	'81	UP591	876-60~ OR 886-40~

REAR (L TO R)

1 DET	1 IF	RF	2 IF	OSC	2 DET	1 AF	NO TUBE
○	○	○	○	○	○	○	○
X'99	X'99	X'99	X'99	X'99	X'99	X'99	

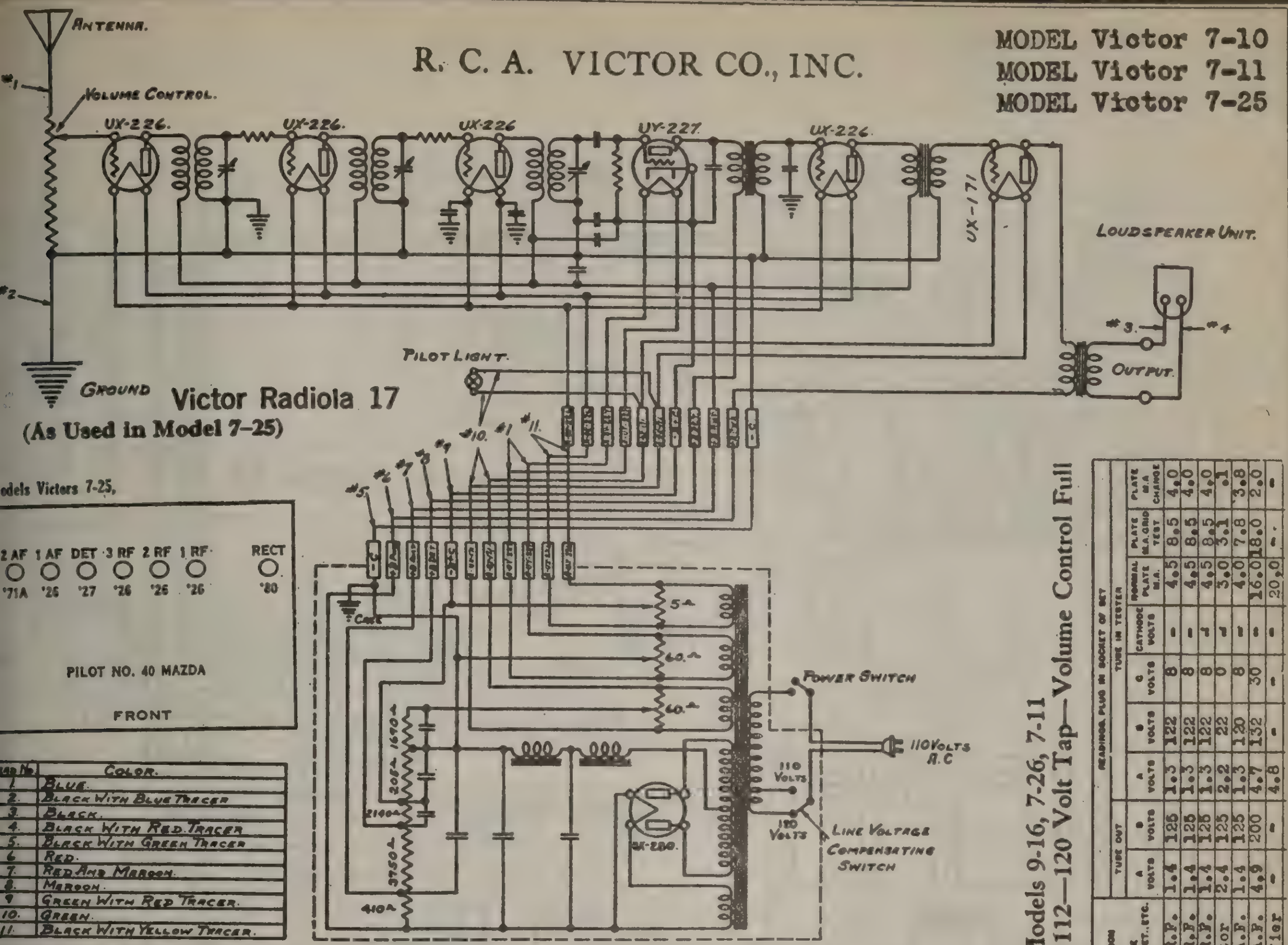
RECEIVER

PILOT 115 V. MIN. BASE

FRONT

R. C. A. VICTOR CO., INC.

MODEL Victor 7-10
MODEL Victor 7-11
MODEL Victor 7-25


ANTENNA.
#1
VOLUME CONTROL.
#2
GROUND
UX-226.
UX-226.
UX-226
UY-227
UX-226.
UX-171
LOUDSPEAKER UNIT.
#3.
#4
OUTPUT.
PILOT LIGHT.
#10.
#1
#11.
#5.
#6
#7
#8
#9
COM.
5Ω
60Ω
60Ω
1670Ω
2054Ω
2140Ω
3750Ω
410Ω
UX-280.
POWER SWITCH
110 VOLTS A.C
110 VOLTS
120 VOLTS
LINE VOLTAGE COMPENSATING SWITCH

Victor Radiola 17
(As Used in Model 7-25)

odels Victors 7-25,

2 AF 1 AF DET 3 RF 2 RF 1 RF RECT
○ ○ ○ ○ ○ ○ ○
'71A '26 '27 '26 '26 '26 '80

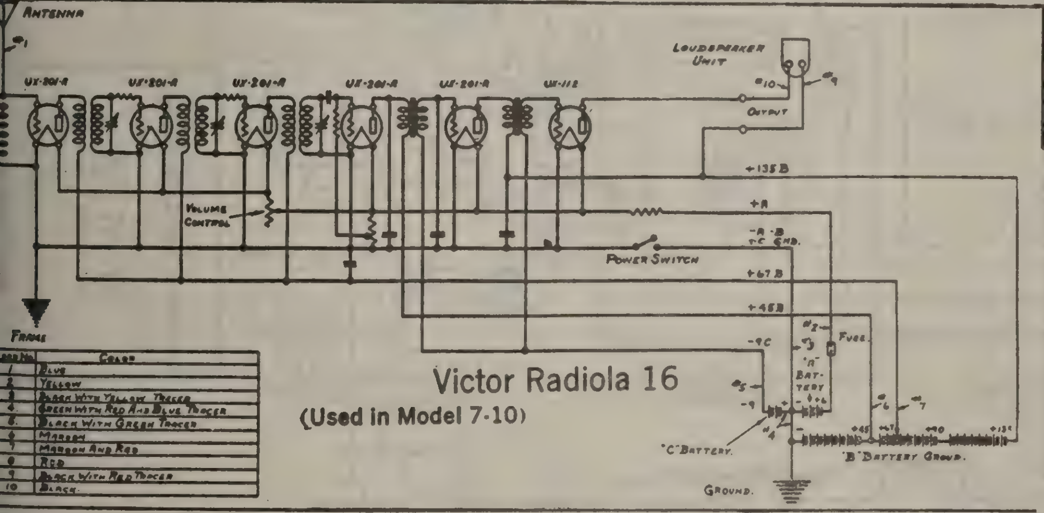
PILOT NO. 40 MAZDA

FRONT

ad No.	Color.
1.	Blue.
2.	Black With Blue Tracer
3.	Black.
4.	Black With Red Tracer
5.	Black With Green Tracer
6	Red.
7.	Red And Maroon.
8.	Maroon.
9	Green With Red Tracer.
10.	Green.
11.	Black With Yellow Tracer.

VICTOR—Models 9-16, 7-26, 7-11
Line Voltage 112—120 Volt Tap—Volume Control Full

Tube No. in Order	Type of Tube	Position of Tube (1st. RF, Det., Etc.)	Readings, Plug in Socket of Set: Tube Out: A Volts	Tube Out: B Volts	Tube in Tester: A Volts	B Volts	G Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
2	226	2nd.R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
3	226	3rd.R.F.	1.4	125	1.3	122	8	-	4.5	8.5	4.0
4	227	Detector	2.4	125	2.2	22	0	-	3.0	3.1	.1
5	226	1st.A.F.	1.4	125	1.3	120	8	-	4.0	7.8	3.8
6	171A	2nd.A.F.	4.9	200	4.7	132	30	-	16.0	18.0	2.0
7	280	Rectifier	-	-	4.8	-	-	-	20.0	-	-


ANTENNA
#1
UX-201-A
UX-201-A
UX-201-A
UX-201-A
UX-201-A
UX-112
LOUDSPEAKER UNIT
#10
#9
OUTPUT
+135 B
+A
VOLUME CONTROL
-A -B +C GND.
POWER SWITCH
+67 B
+45 B
-9 C
#2
FUSE
"A" BATTERY
#5
-9
#4
#3
#6
#8
#7
+45
+67
+90
+135
"C" BATTERY.
"B" BATTERY GROUP.
GROUND.
FRAME

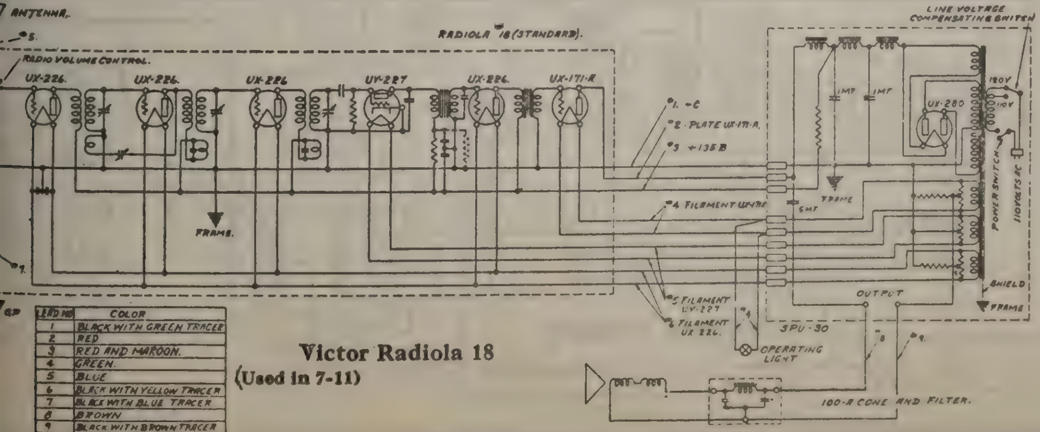
No.	Color
1	Blue
2	Yellow
3	Black With Yellow Tracer
4.	Green With Red And Blue Tracer
5.	Black With Green Tracer
6	Maroon
7	Maroon And Red
8	Red
9	Black With Red Tracer
10	Black.

Victor Radiola 16
(Used in Model 7-10)

Models Victors R16, 7-10 (1925)

2 AF 1 AF DET 3 RF 2 RF 1 RF
○ ○ ○ ○ ○ ○
'12A '01A '01A '01A '01A '01A

FRONT


ANTENNA.
#5.
RADIO VOLUME CONTROL.
RADIOLA 18 (STANDARD).
UX-226.
UX-226.
UX-226
UY-227
UX-226.
UX-171-A
FRAME.
#7.
#1. -C
#2. PLATE UX-171-A.
#3. +135 B
#4. FILAMENT UX-171-A
#5 FILAMENT UY-227
#6 FILAMENT UX 226.
#8
#9
1MF
1MF
5MF
FRAME
UX-280
LINE VOLTAGE COMPENSATING SWITCH
120V
110V
POWER SWITCH
110 VOLTS AC
SHIELD
FRAME
OUTPUT
3PU-30
OPERATING LIGHT
100-A CONE AND FILTER.

LEAD NO.	COLOR
1	BLACK WITH GREEN TRACER
2	RED
3	RED AND MAROON.
4	GREEN.
5	BLUE
6	BLACK WITH YELLOW TRACER
7	BLACK WITH BLUE TRACER
8	BROWN
9	BLACK WITH BROWN TRACER

Victor Radiola 18
(Used in 7-11)

Models Victor 7-11,

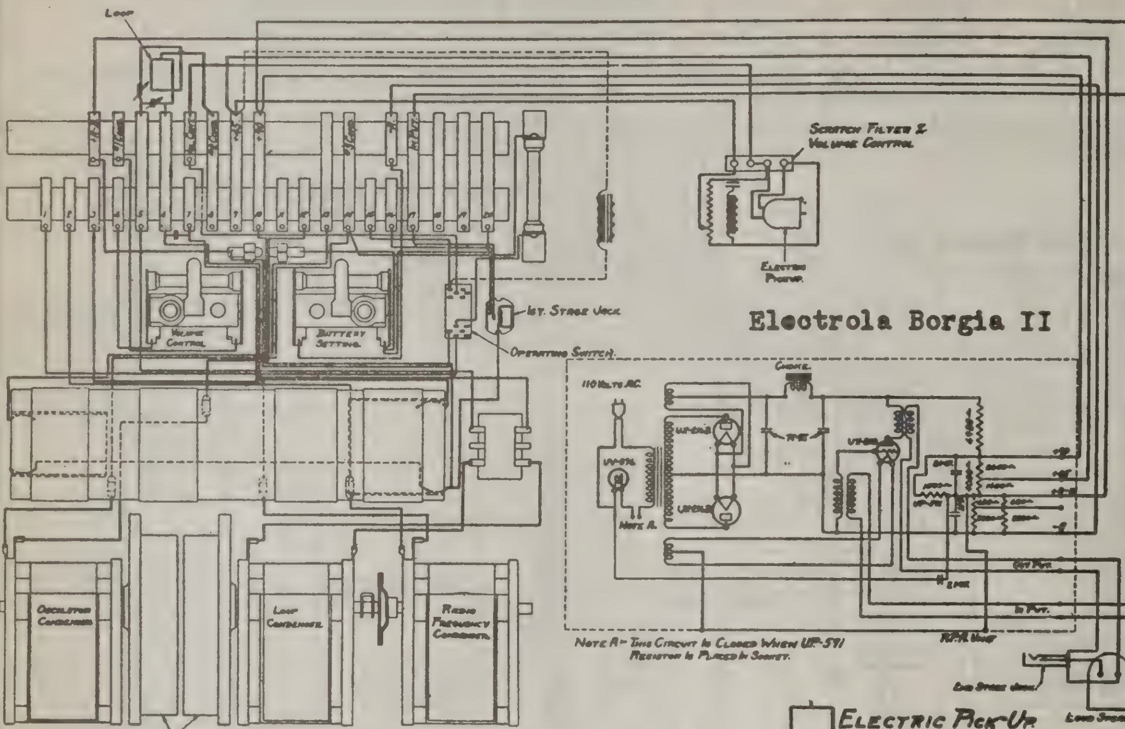
2 AF 1 AF DET 3 RF 2 RF 1 RF RECT
○ ○ ○ ○ ○ ○ ○
'71A '26 '27 '26 '26 '26 '80

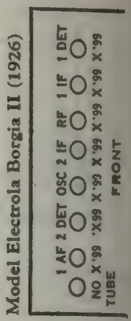
PILOT NO. 40 MAZDA

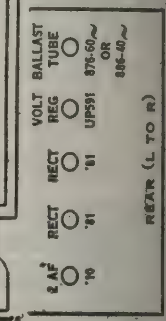
FRONT

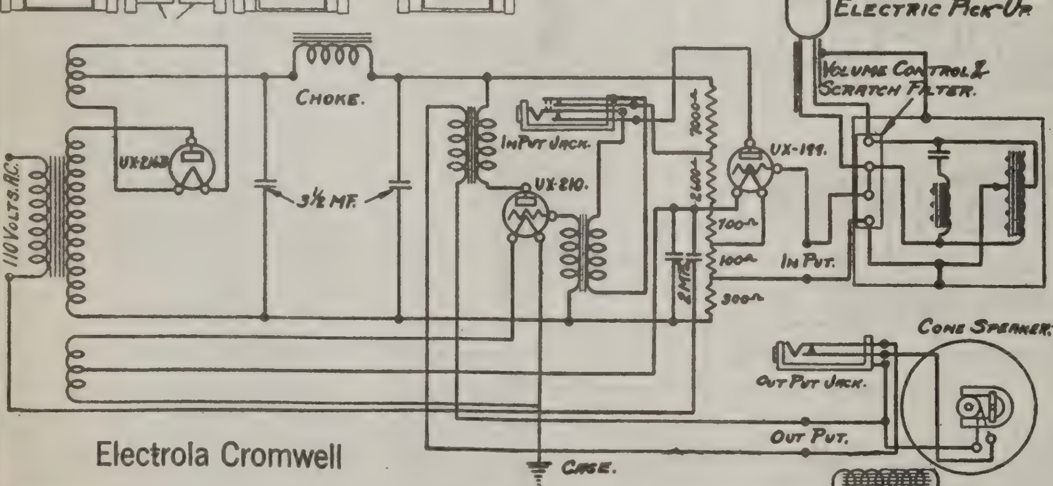
MODEL Victor Borgia II
MODEL Victor Tuscany
MODEL Victor Cromwell

R. C. A. VICTOR CO., INC.

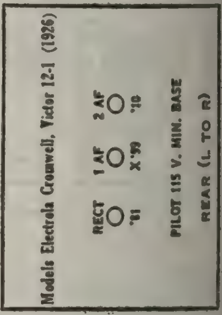

Loop
Scratch Filter & Volume Control
Electric Pickup
Volume Control
Battery Setting
1st. Stage Jack
Operating Switch
Electrola Borgia II
110 Volts A.C.
Choke
UX-216B
UX-216B
UV-876
UX-171
Note A.
Oscillator Condenser
Loop Condenser
Radio Frequency Condenser
Note A- This Circuit Is Closed When UP-591 Resistor Is Placed In Socket.
R.F.R. Unit
Out Put
In Put
2nd Stage Jack
Loud Speaker

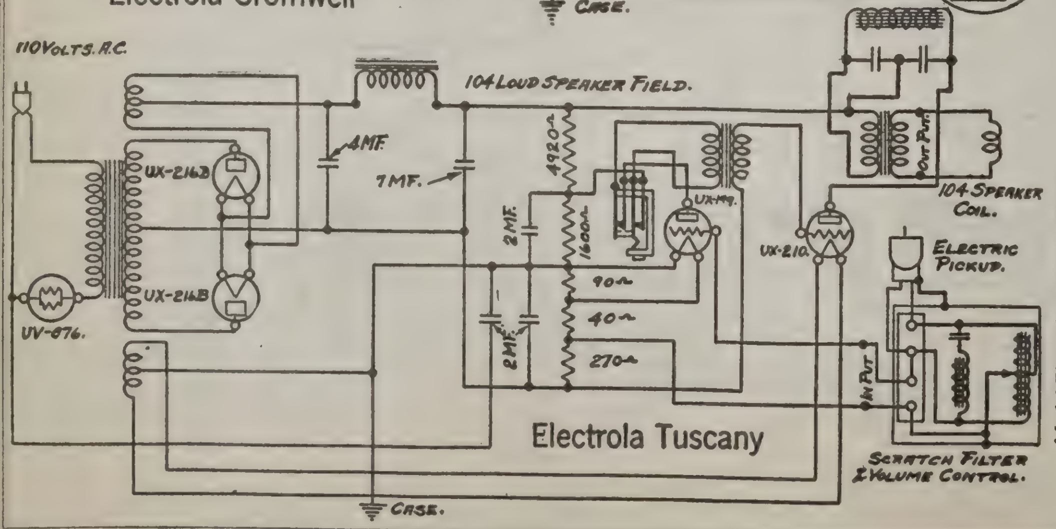

Model Electrola Borgia II (1926)
1 AF
2 DET
OSC
2 IF
RF
1 IF
1 DET
NO TUBE
X'99
X'99
X'99
X'99
X'99
X'99
X'99
FRONT


2 AF
'10
RECT
'81
RECT
'81
VOLT REG
UP591
BALLAST TUBE
876-60~ OR 886-40~
REAR (L TO R)

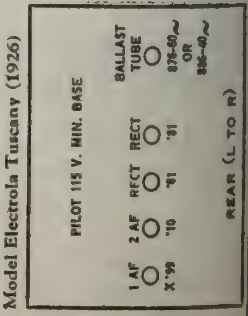

Electric Pick-Up
Volume Control & Scratch Filter.
Choke.
110 Volts A.C.
UX-216B
3½ MF.
In Put Jack.
UX-210.
UX-199.
7000~
2600~
700~
100~
300~
2 MF.
In Put.
Cone Speaker.
Out Put Jack.
Out Put.
Case.

Electrola Cromwell


Models Electrola Cromwell, Victor 12-1 (1926)
RECT
'81
1 AF
X'99
2 AF
'10
PILOT 115 V. MIN. BASE
REAR (L TO R)

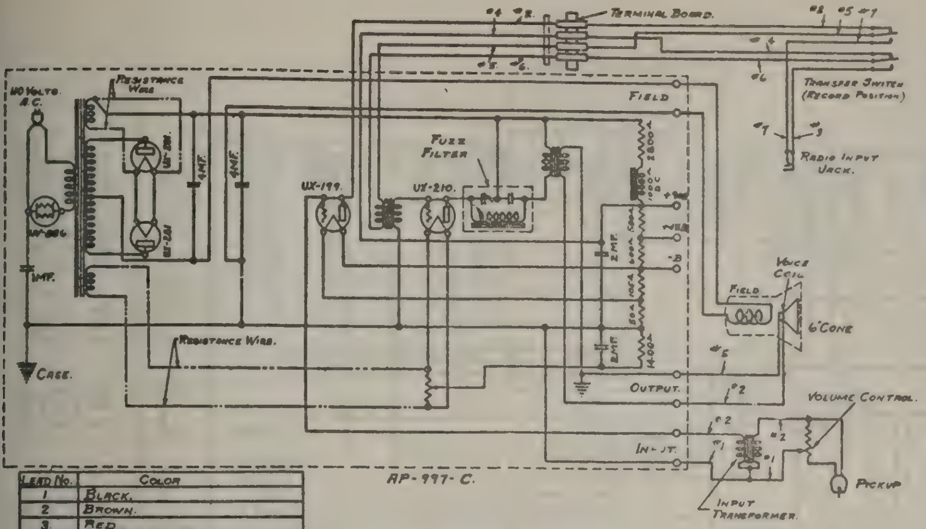

110 Volts A.C.
104 Loud Speaker Field.
4 MF.
7 MF.
UX-216B
UX-216B
UV-876.
4920~
1600~
2 MF.
2 MF.
90~
40~
270~
UX-199.
UX-210.
Out Put
104 Speaker Coil.
Electric Pickup.
In Put
Scratch Filter & Volume Control.
Case.

Electrola Tuscany


Model Electrola Tuscany (1926)
1 AF
X'99
2 AF
'10
RECT
'81
RECT
'81
BALLAST TUBE
876-60~ OR 886-40~
PILOT 115 V. MIN. BASE
REAR (L TO R)

R. C. A. VICTOR CO., INC.

MODEL Victor 12-15
MODEL Victor 12-15-C
MODEL Victor E-35

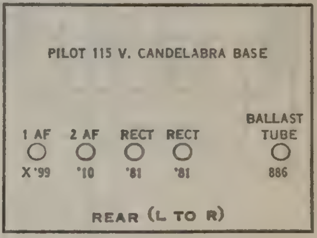


#4 #2.
TERMINAL BOARD.
#8 #5 #7
#4
#5. #6.
#6
TRANSFER SWITCH (RECORD POSITION)
#7 #3
RADIO INPUT JACK.
110 VOLTS. A.C.
RESISTANCE WIRE
UX-281
UX-281
UX-886
1MF.
4MF.
4MF.
FUZE FILTER
UX-199.
UX-210.
FIELD
2800Ω
1000Ω DC
+B
2MF.
500Ω
600Ω
-B
140Ω
50Ω
2MF.
1400Ω
VOICE COIL
FIELD
6" CONE
RESISTANCE WIRE.
CASE.
#5
OUTPUT.
#2
VOLUME CONTROL.
#2
#2
IN-PT.
#1
#1
PICKUP
INPUT TRANSFORMER.
AP-997-C.

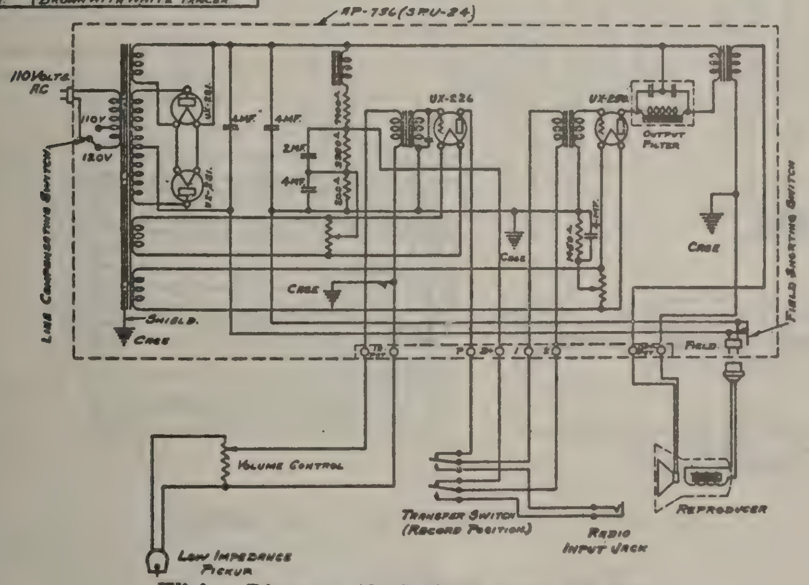
LEAD No.	COLOR
1	BLACK.
2	BROWN.
3.	RED
4.	RED AND MAROON.
5.	BLACK WITH BROWN TRACER.
6	BLACK WITH RED TRACER.
7.	BROWN WITH WHITE TRACER

Wiring Diagram of 12-15

Models Victors 12-15 (1927)



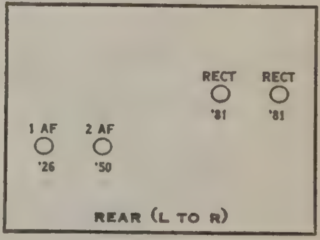
PILOT 115 V. CANDELABRA BASE
1 AF
X'99
2 AF
'10
RECT
'81
RECT
'81
BALLAST TUBE
886
REAR (L TO R)



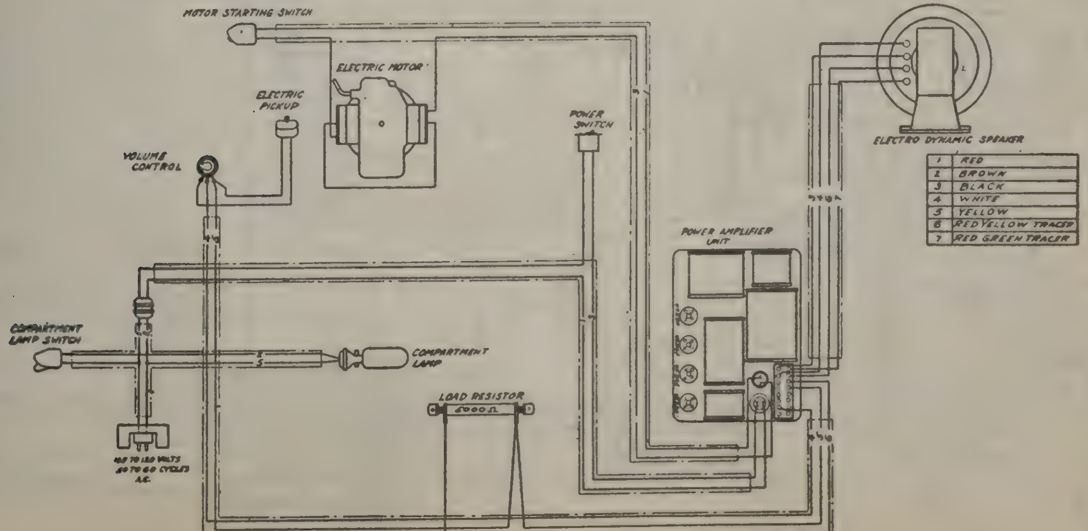
AP-756(SPU-24)
110 VOLTS AC
110V
120V
LINE COMPENSATING SWITCH
UX-281
UX-281
4MF.
4MF.
2MF.
4MF.
UX-226
UX-250
OUTPUT FILTER
CASE
CASE
CASE
SHIELD.
CASE
FIELD SHORTING SWITCH
FIELD.
P
B+
1
2
VOLUME CONTROL
LOW IMPEDANCE PICKUP
TRANSFER SWITCH (RECORD POSITION)
RADIO INPUT JACK
REPRODUCER

Wiring Diagram 12-15 above serial No. 2600

Model Victor 12-15C (1928)



RECT
'81
RECT
'81
1 AF
'26
2 AF
'50
REAR (L TO R)



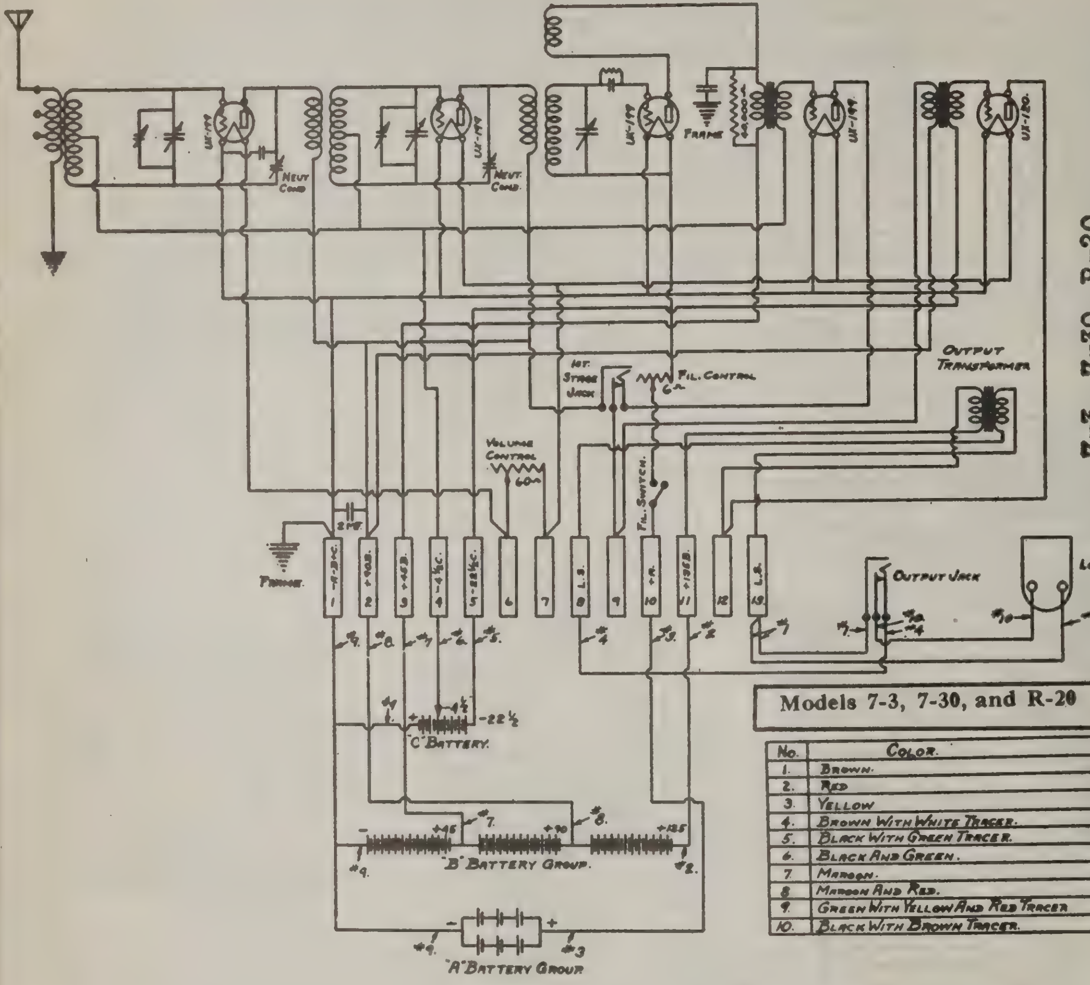
MOTOR STARTING SWITCH
ELECTRIC MOTOR
ELECTRIC PICKUP
VOLUME CONTROL
POWER SWITCH
ELECTRO DYNAMIC SPEAKER
POWER AMPLIFIER UNIT
COMPARTMENT LAMP SWITCH
COMPARTMENT LAMP
LOAD RESISTOR
5000Ω
100 TO 120 VOLTS 50 TO 60 CYCLES A.C.

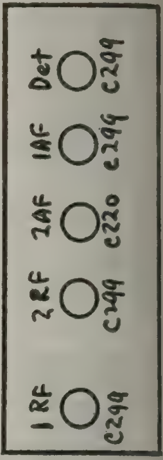
1	RED
2	BROWN
3	BLACK
4	WHITE
5	YELLOW
6	RED YELLOW TRACER
7	RED GREEN TRACER

Cable Wiring Electrola E-35

MODEL Victor 7-3,7-30,R-20
MODEL Victor 7-26

R. C. A. VICTOR CO., INC.

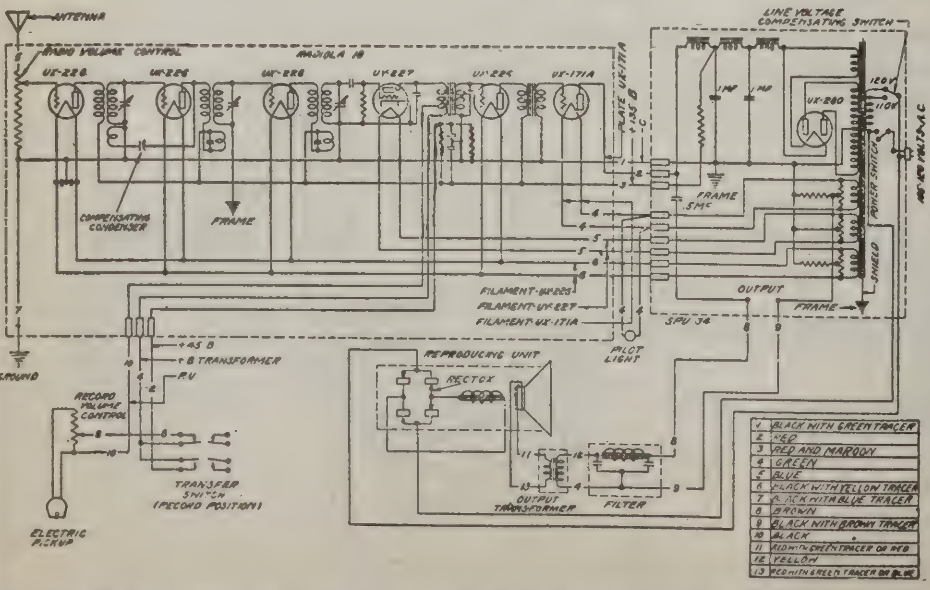

UX-199
NEUT. COND.
UX-199
NEUT. COND.
UX-199
FRAME
UX-199
UX-120
OUTPUT TRANSFORMER
1ST STAGE JACK
FIL. CONTROL 6Ω
VOLUME CONTROL 60Ω
FIL. SWITCH
2 MF.
FRAME
OUTPUT JACK
LOUDSPEAKER UNIT
"C" BATTERY
-4½
-22½
"B" BATTERY GROUP
+45
+90
+135
"A" BATTERY GROUP


7-3 7-30 R-20
1 RF
C299
2 RF
C299
2AF
C220
1AF
C299
Det
C299

Models 7-3, 7-30, and R-20

No.	Color.
1.	Brown.
2.	Red
3.	Yellow
4.	Brown With White Tracer.
5.	Black With Green Tracer.
6.	Black And Green.
7.	Maroon.
8	Maroon And Red.
9.	Green With Yellow And Red Tracer
10.	Black With Brown Tracer.

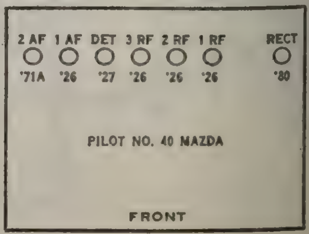
For 7-26 voltage data, see index.


ANTENNA
RADIO VOLUME CONTROL
UX-226
UX-226
UX-226
RADIOLA 18
UY-227
UX-226
UX-171A
COMPENSATING CONDENSER
FRAME
PLATE UX-171A
+135 B
-C
LINE VOLTAGE COMPENSATING SWITCH
1 MF
1 MF
UX-280
120V
110V
POWER SWITCH
110-120 VOLTS A.C.
SHIELD
FRAME
.5MF
FILAMENT-UX226
FILAMENT-UY227
FILAMENT-UX-171A
OUTPUT
FRAME
SPU 34
PILOT LIGHT
GROUND
+45 B
+B TRANSFORMER
R.V.
RECORD VOLUME CONTROL
TRANSFER SWITCH (RECORD POSITION)
ELECTRIC PICKUP
REPRODUCING UNIT
RECTOX
OUTPUT TRANSFORMER
FILTER

1	BLACK WITH GREEN TRACER
2	RED
3	RED AND MAROON
4	GREEN
5	BLUE
6	BLACK WITH YELLOW TRACER
7	BLACK WITH BLUE TRACER
8	BROWN
9	BLACK WITH BROWN TRACER
10	BLACK
11	RED WITH GREEN TRACER OR RED
12	YELLOW
13	RED WITH GREEN TRACER OR BLUE

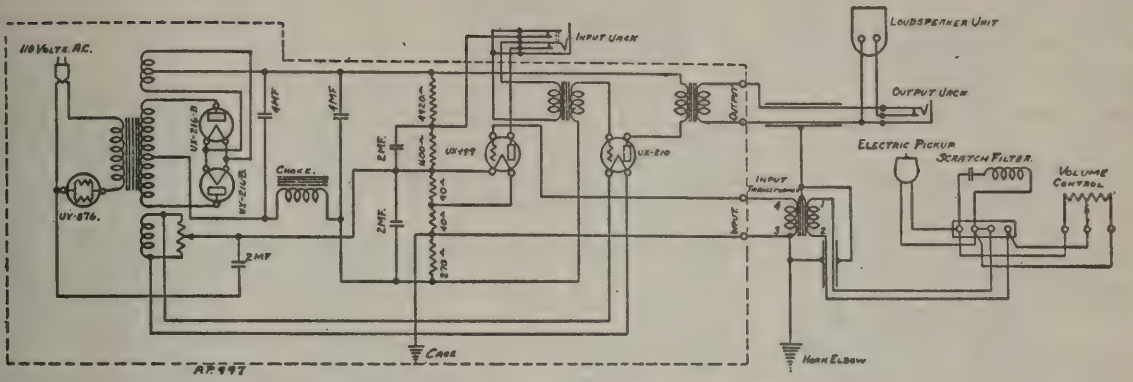
Schematic Wiring Diagram Electrola Radiola 7-26 Above Serial No. 12000

Models Victor Victor 7-26 (1928)

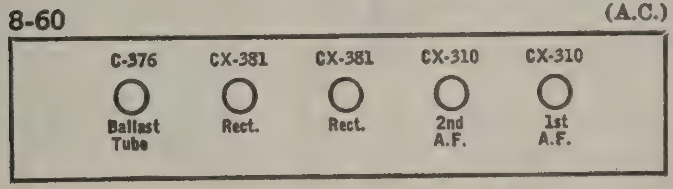

2 AF
'71A
1 AF
'26
DET
'27
3 RF
'26
2 RF
'26
1 RF
'26
RECT
'80
PILOT NO. 40 MAZDA
FRONT

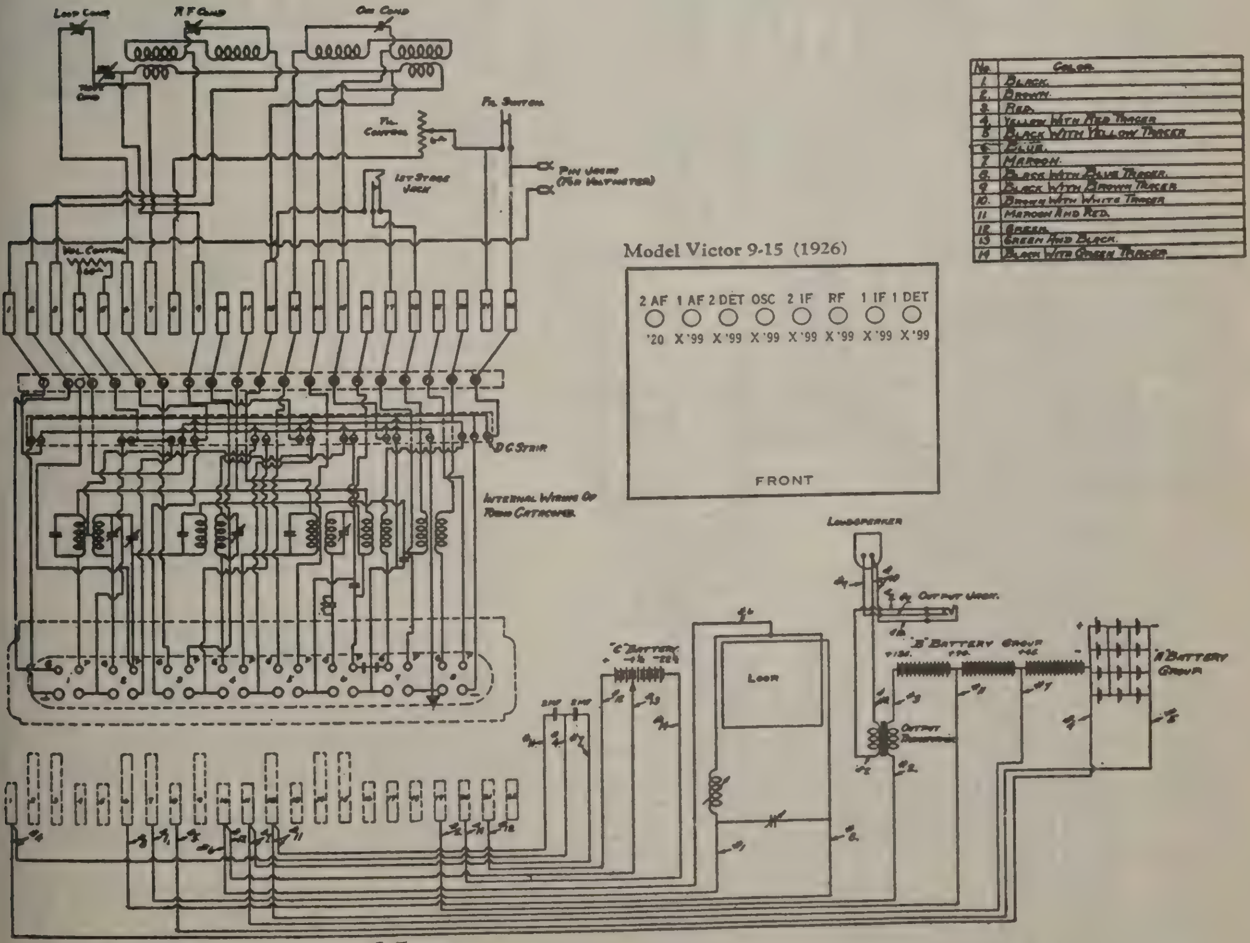
R. C. A. VICTOR CO., INC.

MODEL Victor 8-60
MODEL Victor 9-15


110 Volts A.C.
UV-876.
UX-216-B
UX-216-B
4 MF
4 MF
Choke.
2 MF
2 MF.
2 MF.
4920Ω
600Ω
40Ω
40Ω
270Ω
UX-199
UX-210
Input Jack
Output
Input
Input Transformer
Loudspeaker Unit
Output Jack
Electric Pickup
Scratch Filter
Volume Control
Case
Horn Elbow
AP 447

Wiring Diagram for Electrola 8-60


8-60
(A.C.)
C-376
Ballast Tube
CX-381
Rect.
CX-381
Rect.
CX-310
2nd A.F.
CX-310
1st A.F.


Loop Comp
R F Comp
Osc Comp
Fil. Switch
Fil. Control
Pin Jacks (For Voltmeter)
1st Stage Jack
Vol. Control
D C Strip
Internal Wiring Of Radio Catacomb
Model Victor 9-15 (1926)
2 AF
'20
1 AF
X'99
2 DET
X'99
OSC
X'99
2 IF
X'99
RF
X'99
1 IF
X'99
1 DET
X'99
FRONT
Loudspeaker
Output Jack
"C" Battery
"B" Battery Group
"A" Battery Group
Loop
Output Transformer

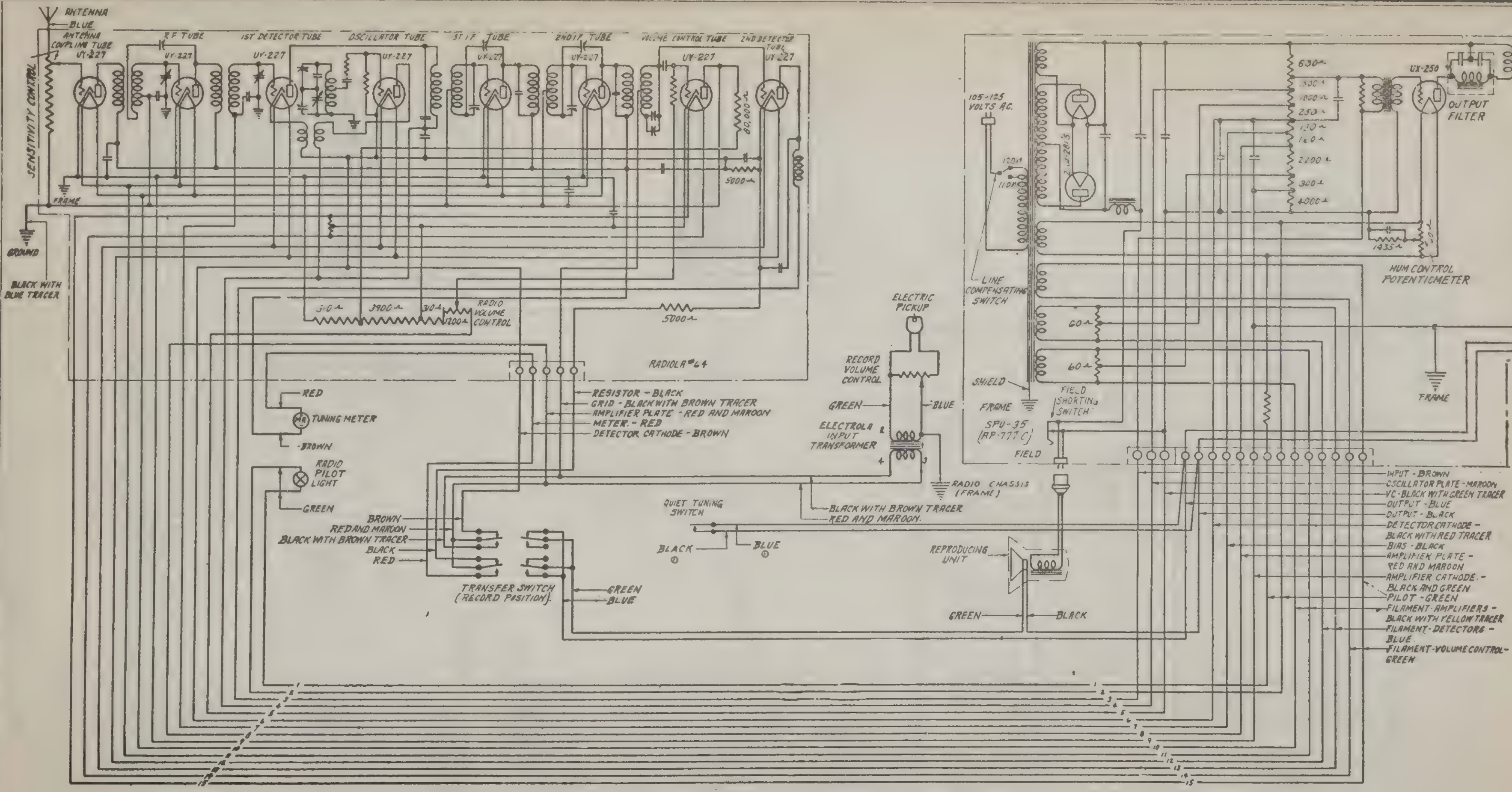
No.	Color.
1.	Black.
2.	Brown.
3.	Red.
4.	Yellow With Red Tracer
5.	Black With Yellow Tracer
6.	Blue.
7.	Maroon.
8.	Black With Blue Tracer.
9.	Black With Brown Tracer
10.	Brown With White Tracer
11	Maroon And Red.
12.	Green.
13	Green And Black.
14	Black With Green Tracer

Note — Numbered Terminals In Broken Lines Same As Those In Full Lines.

Wiring Diagram for 9-15

MODEL Victor 9-18

R. C. A. VICTOR CO., INC.

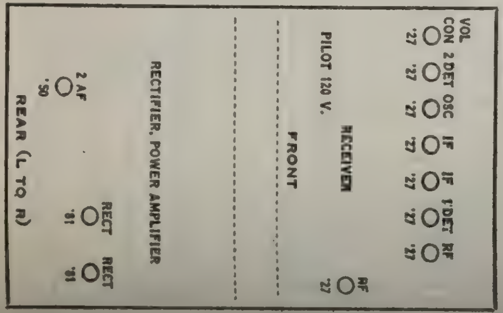

ANTENNA
BLUE
ANTENNA COUPLING TUBE UY-227
RF TUBE UY-227
1ST DETECTOR TUBE UY-227
OSCILLATOR TUBE UY-227
1ST IF TUBE UY-227
2ND IF TUBE UY-227
VOLUME CONTROL TUBE UY-227
2ND DETECTOR TUBE UY-227
SENSITIVITY CONTROL
FRAME
GROUND
BLACK WITH BLUE TRACER
60,000
5000
5000
310
3900
310
200
RADIO VOLUME CONTROL
RADIOLA #64
RESISTOR - BLACK
GRID - BLACK WITH BROWN TRACER
AMPLIFIER PLATE - RED AND MAROON
METER - RED
DETECTOR CATHODE - BROWN
RED
TUNING METER
BROWN
RADIO PILOT LIGHT
GREEN
BROWN
RED AND MAROON
BLACK WITH BROWN TRACER
BLACK
RED
TRANSFER SWITCH (RECORD POSITION)
GREEN
BLUE
QUIET TUNING SWITCH
BLACK
BLUE
ELECTRIC PICKUP
RECORD VOLUME CONTROL
GREEN
BLUE
ELECTROLA INPUT TRANSFORMER
RADIO CHASSIS (FRAME)
BLACK WITH BROWN TRACER
RED AND MAROON
REPRODUCING UNIT
GREEN
BLACK
105-125 VOLTS AC.
120V
110V
UX-281
LINE COMPENSATING SWITCH
SHIELD
FRAME
SPU-35 (AP-777 C)
FIELD
FIELD SHORTING SWITCH
60
60
630
300
1000
250
130
160
2200
300
4000
UX-250
OUTPUT FILTER
1435
HUM CONTROL POTENTIOMETER
FRAME
INPUT - BROWN
OSCILLATOR PLATE - MAROON
VC - BLACK WITH GREEN TRACER
OUTPUT - BLUE
OUTPUT - BLACK
DETECTOR CATHODE - BLACK WITH RED TRACER
BIAS - BLACK
AMPLIFIER PLATE - RED AND MAROON
AMPLIFIER CATHODE - BLACK AND GREEN
PILOT - GREEN
FILAMENT - AMPLIFIERS - BLACK WITH YELLOW TRACER
FILAMENT - DETECTORS - BLUE
FILAMENT - VOLUME CONTROL - GREEN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Schematic Wiring Diagram Electrola Radiola Model 9-18

VICTOR—Model 9-18
Line Voltage 116—120 Volt Tap—Volume Control Full

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET. ETC.	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	227	Ant.Coup.St.	2.5	128	2.4	124	25	13.5	3.4	7.8	4.4
2	227	Tuned R.F.	2.5	128	2.4	124	25	16.0	3.3	7.1	3.8
3	227	Tuned 1stDet	2.5	80	2.4	75	25	16.0	.2	2.9	2.7
4	227	1st. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
5	227	2nd. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
6	227	Oscillator	2.5	80	2.4	75	25	13.5	7.0	7.6	.6
7	227	2nd. Det.	2.5	180	2.4	176	25	13.5	-	-	-
8	227	Volume Cont.	2.5	80	2.4	75	4	-	-	-	-
9	250	. Power	7.5	584	7.2	392	65	-	52	55	3.0
10	281	Rectifier			7.4				50		
11	281	Rectifier			7.4				50		

Models Victors 9-18,

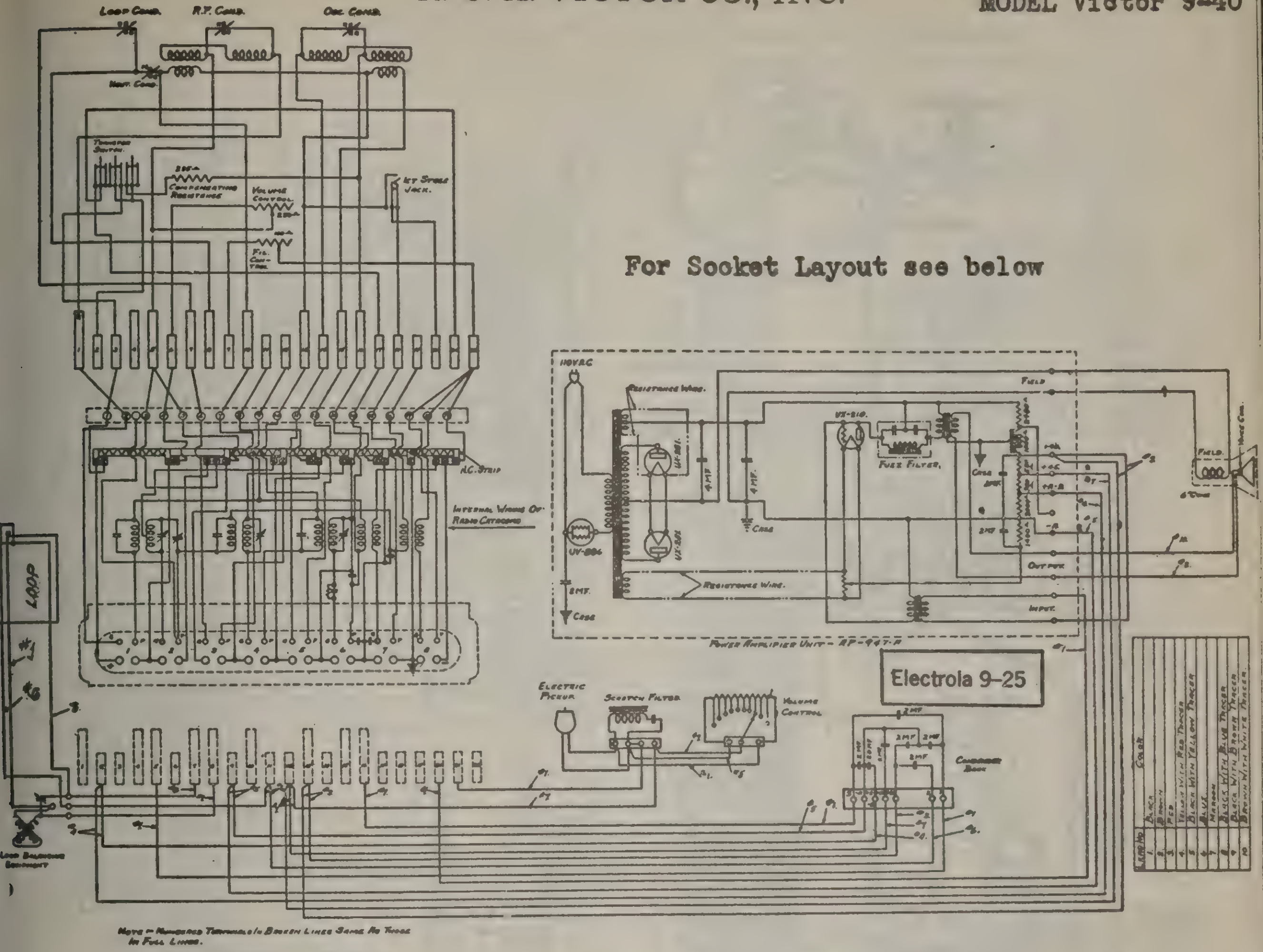

VOL CON
'27
2 DET
'27
OSC
'27
IF
'27
IF
'27
1'DET
'27
RF
'27
RECEIVER
PILOT 120 V.
RF
'27
FRONT
RECTIFIER, POWER AMPLIFIER
2 AF
'50
RECT
'81
RECT
'81
REAR (L TO R)

R. C. A. VICTOR CO., INC.

MODEL Victor 9-25
MODEL Victor 9-40

For Socket Layout see below

Electrola 9-25


Loop Cond.
R.F. Cond.
Osc. Cond.
Neut. Cond.
Transfer Switch
Compensating Resistance
Volume Control
Fil. Control
1st Stage Jack
A.C. Strip
Internal Wiring of Radio Catacomb
Loop
Loop Balancing Condenser
110V AC
Resistance Wire
UX-281
UX-281
UX-210
UV-886
4 MF
4 MF
2 MF
8 MF
Case
Field
Fuse Filter
Choke
Output
Input
Voice Coil
Power Amplifier Unit
Electric Pickup
Scratch Filter
Volume Control
Condenser Box

Note — Numbered Terminals In Broken Lines Same As Those In Full Lines.

Lead No.	Color
1.	Black
2.	Brown
3.	Red
4.	Yellow With Red Tracer
5	Black With Yellow Tracer
6	Blue
7	Maroon
8	Black With Blue Tracer
9	Black With Brown Tracer
10	Brown With White Tracer.

Models Victors 9-25, 9-40,

NO TUBE	1 AF	2 DET	OSC	2 IF	RF	1 IF	1 DET
○	○	○	○	○	○	○	○
	X'99	X'99	X'99	X'99	X'99	X'99	X'99

RECEIVER

PILOT 115 V. CANDELABRA BASE

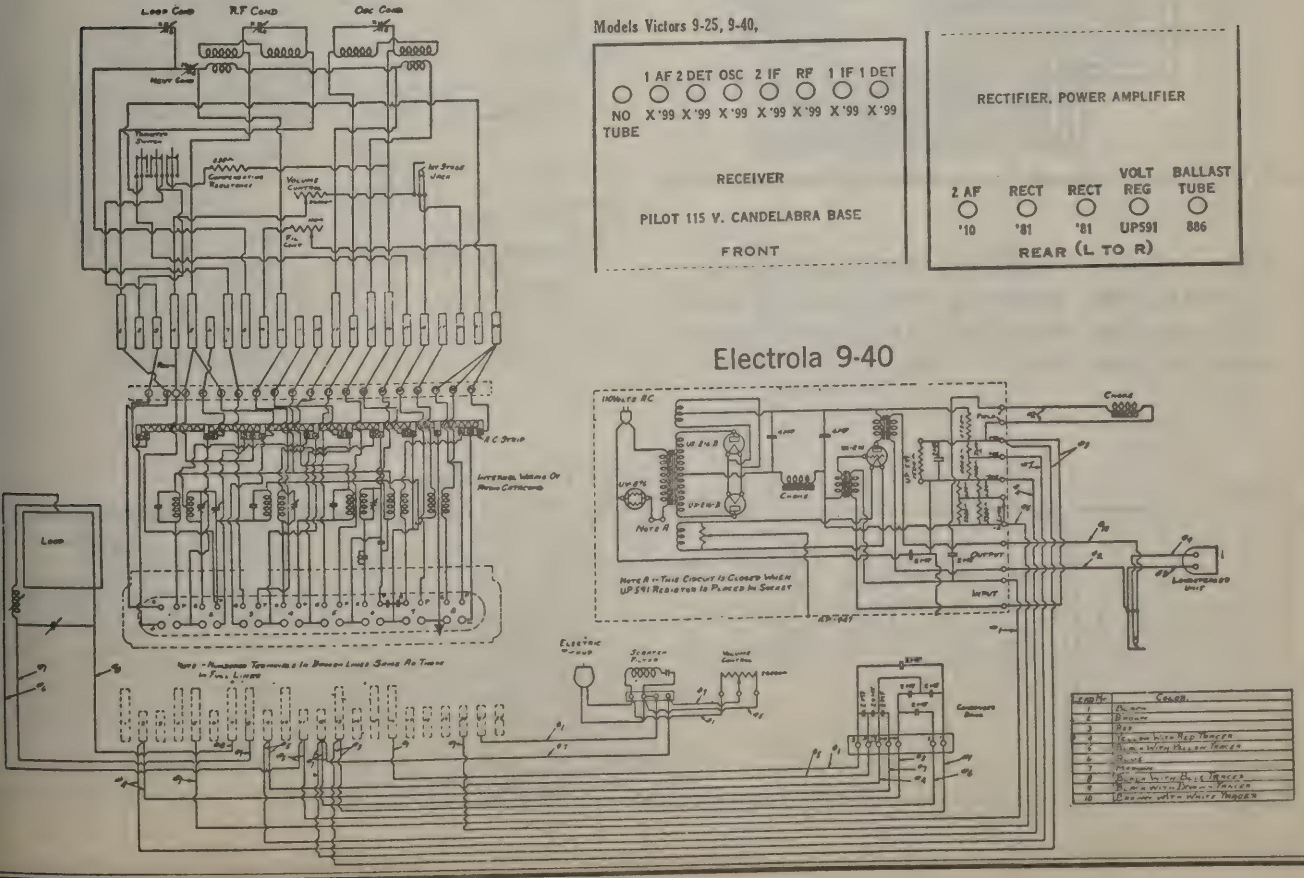
FRONT

RECTIFIER, POWER AMPLIFIER

2 AF	RECT	RECT	VOLT REG	BALLAST TUBE
○	○	○	○	○
'10	'81	'81	UP591	886

REAR (L TO R)

Electrola 9-40


Loop Cond
R.F Cond
Osc Cond
Neut Cond
Transfer Switch
Compensating Resistance
Volume Control
Fil. Cont
1st Stage Jack
A C Strip
Internal Wiring of Radio Catacomb
Loop
110 Volts AC
UX 210
UX 281
UX 281
UP 591
Note A
Choke
Field
Output
Input
Loudspeaker Unit
Electric Pickup
Scratch Filter
Volume Control
Condenser Box

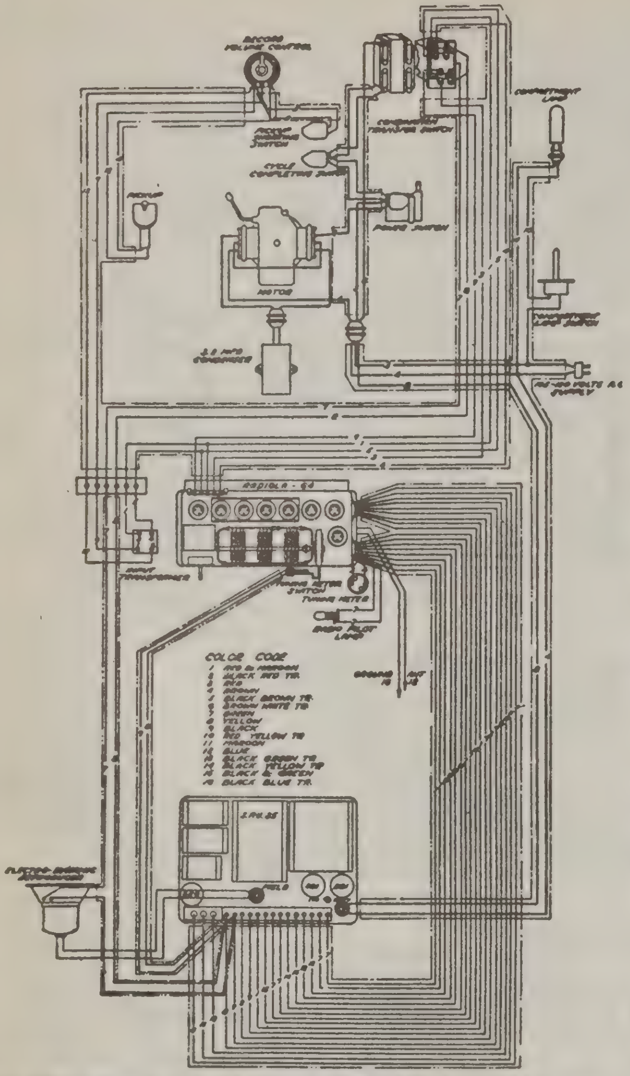
Note A — This Circuit Is Closed When UP591 Resistor Is Placed In Socket

Note — Numbered Terminals In Broken Lines Same As Those In Full Lines

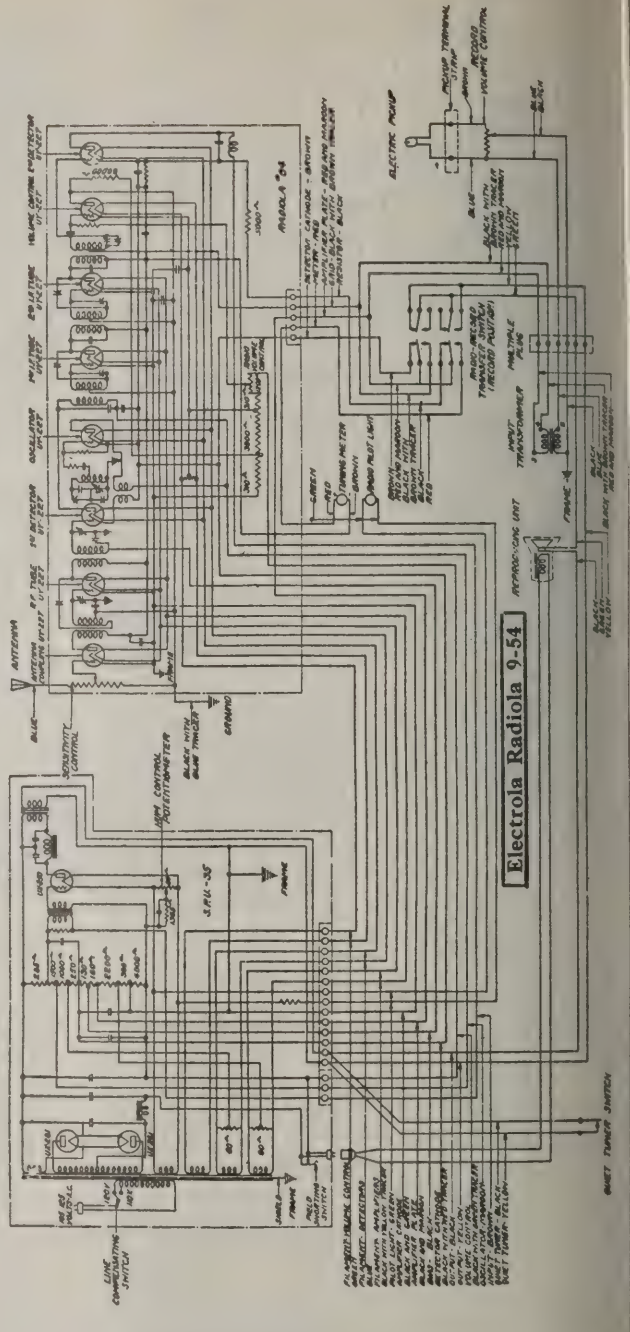
Lead No.	Color.
1	Black
2	Brown
3	Red
4	Yellow With Red Tracer
5	Black With Yellow Tracer
6	Blue
7	Maroon
8	Black With Blue Tracer
9	Black With Brown Tracer
10	Brown With White Tracer

MODEL Victor 9-54

R. C. A. VICTOR CO., INC.

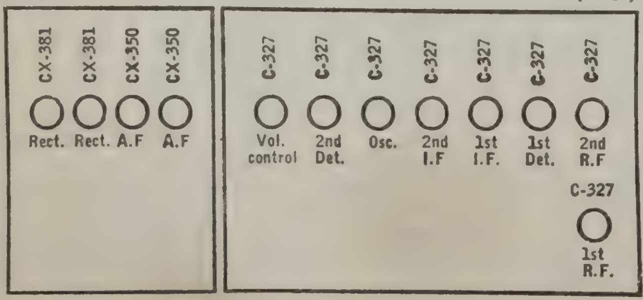

RADIOLA - 64
TUNING METER SWITCH
TUNING METER
RADIO PILOT LAMP
COLOR CODE
1 RED & MAROON
2 BLACK RED TR.
3 RED
4 BROWN
5 BLACK BROWN TR.
6 BROWN WHITE TR.
7 GREEN
8 YELLOW
9 BLACK
10 RED YELLOW TR
11 MAROON
12 BLUE
13 BLACK GREEN TR
14 BLACK YELLOW TR
15 BLACK & GREEN
16 BLACK BLUE TR.
SPU-35
MOTOR

Cable Wiring Diagram Automatic Electrola Radiola 9-54 above Serial No. 6401


Electrola Radiola 9-54
RADIOLA 64
ANTENNA
GROUND
SENSITIVITY CONTROL
ELECTRIC PICKUP
REPRODUCING UNIT
SPU-35

This receiver employs the Radiola 64 chassis. For special information relating to the receiver and power pack chassis, see Radiola 64.

9-54 (A.C.)

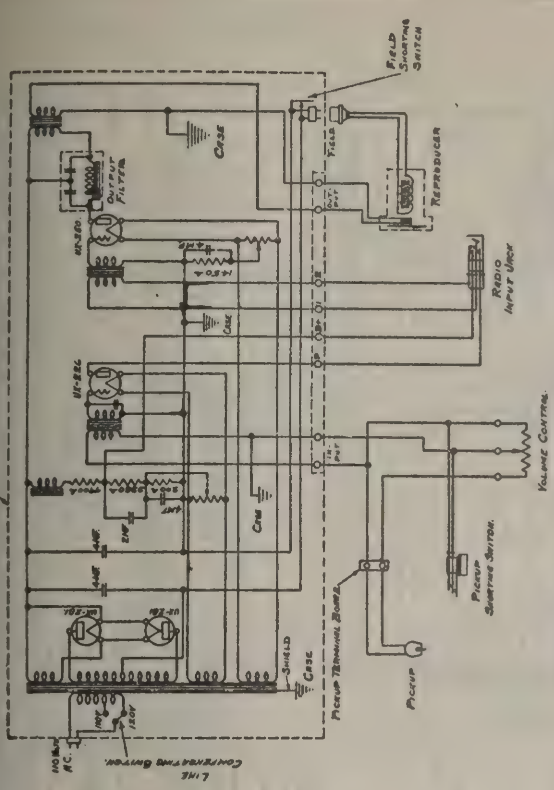

CX-381
CX-381
CX-350
CX-350
Rect.
Rect.
A.F
A.F
C-327
C-327
C-327
C-327
C-327
C-327
C-327
Vol. control
2nd Det.
Osc.
2nd I.F
1st I.F.
1st Det.
2nd R.F
C-327
1st R.F.

VICTOR—Model 9-54
Line Voltage 116—120 Volt Tap—Volume Control Full

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET. ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	227	Ant.Coup.St.	2.5	128	2.4	124	25	13.5	3.4	7.8	4.4
2	227	Tuned R.F.	2.5	128	2.4	124	25	16.0	3.3	7.1	3.8
3	227	Tuned 1stDet	2.5	80	2.4	75	25	16.0	.2	2.9	2.7
4	227	1st. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
5	227	2nd. I.F.	2.5	128	2.4	124	9	13.5	3.4	7.8	4.5
6	227	Oscillator	2.5	80	2.4	75	25	13.5	7.0	7.6	.6
7	227	2nd. Det.	2.5	180	2.4	176	25	13.5	-	-	-
8	227	Volume Cont.	2.5	80	2.4	75	4	-	-	-	-
9	250	Power	7.5	584	7.2	392	65	-	52	55	3.0
10	281	Rectifier			7.4				50		
11	281	Rectifier			7.4				50		

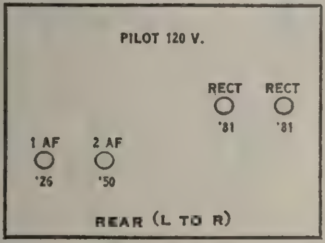
R. C. A. VICTOR CO., INC.

MODEL Victor 10-51A
MODEL Victor 9-55

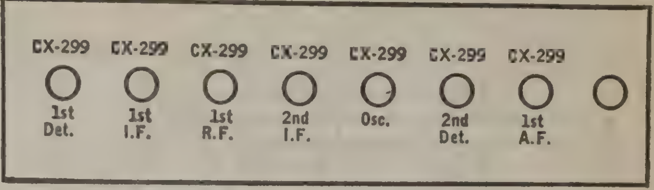

Field Shorting Switch
Case
Field
Reproducer
Output Filter
UX-250
Radio Input Jack
UX-226
Volume Control
Pickup Shorting Switch
Pickup Terminal Board
Pickup
Shield
Case
Compensating Switch
Line
110 V. AC.

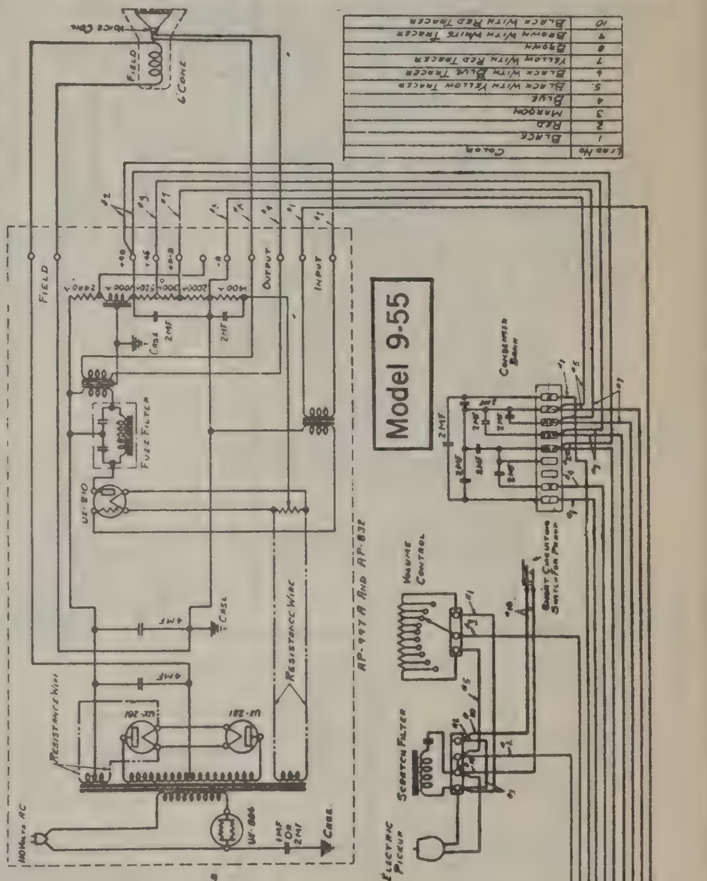
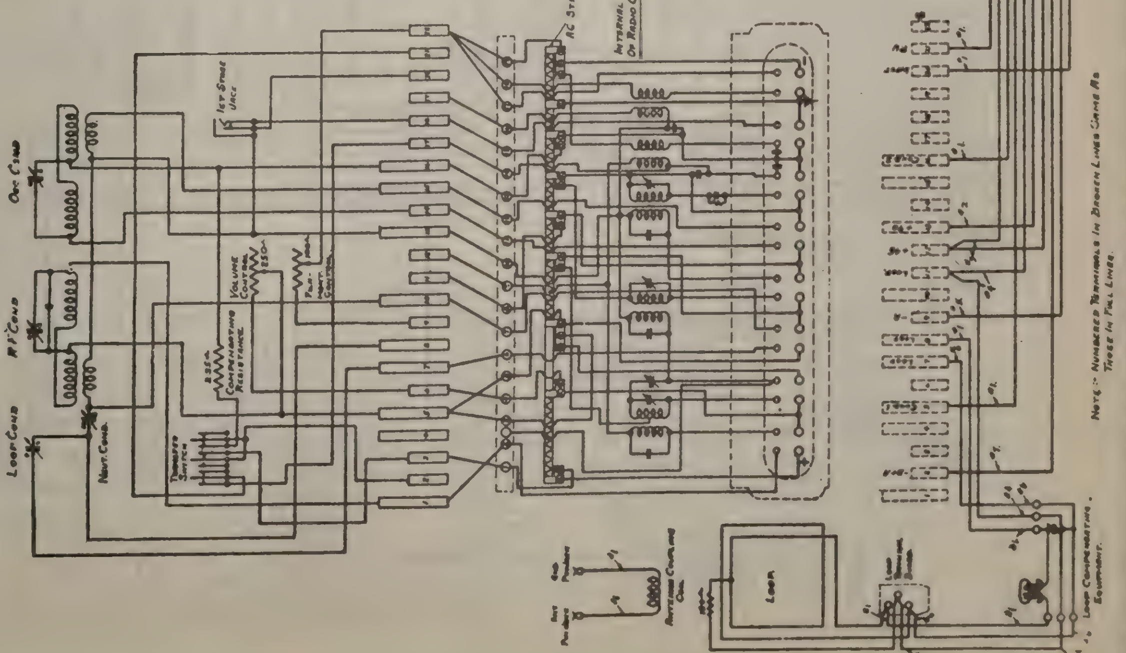
Wiring Diagram Electrola 10-51 above serial No. 800

Models Victor 10-51A, (1928)


PILOT 120 V.
RECT '81
RECT '81
1 AF '26
2 AF '50
REAR (L TO R)

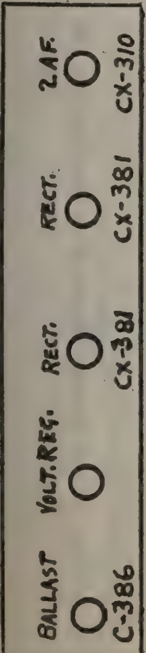
Electrola 9-55 Receiver


CX-299 1st Det.
CX-299 1st I.F.
CX-299 1st R.F.
CX-299 2nd I.F.
CX-299 Osc.
CX-299 2nd Det.
CX-299 1st A.F.



Model 9-55
Voice Coil
Field
L'Cone
Field
Output
Input
Fuzz Filter
UX-210
UX-281
UX-281
UV-886
Case
Resistance Wire
AP-997 A and AP-832
Condenser Bank
Volume Control
Scratch Filter
Electric Pickup
RC Strip
Internal Wiring of Radio Catacomb
1st Stage Jack
Osc Cond
R.F. Cond
Loop Cond
Neut. Cond.
Volume Control
Compensating Resistance
Transfer Switch
Loop
Loop Compensating Equipment
Note: Numbered Terminals in Broken Lines Same as Those in Full Lines.

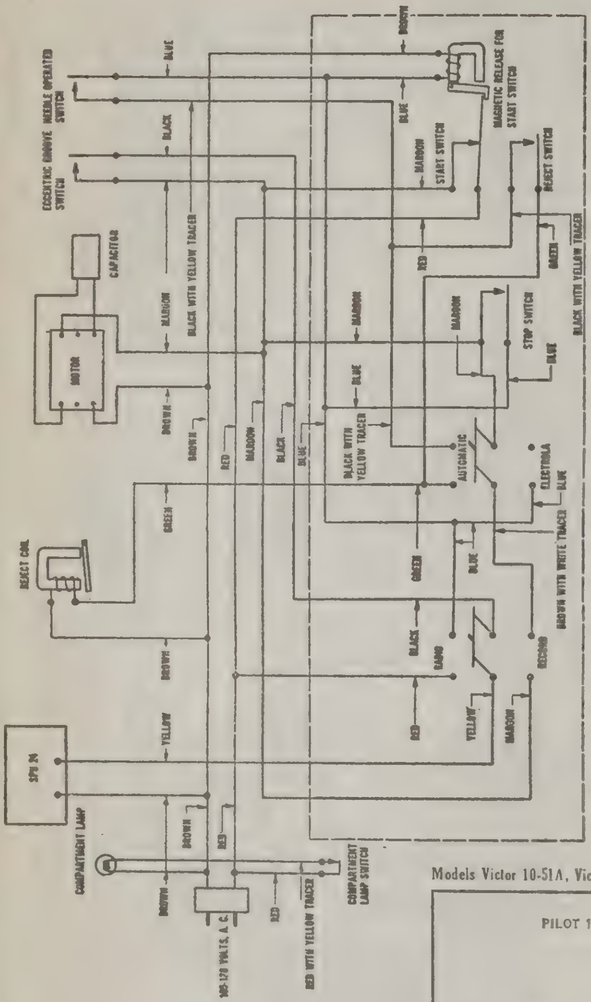
Lead No	Color
1	Black
2	Red
3	Maroon
4	Blue
5.	Black with Yellow Tracer
6	Black with Blue Tracer
7	Yellow with Red Tracer
8	Brown
9	Brown with White Tracer
10	Black with Red Tracer

Electrola 9-55 Power Unit

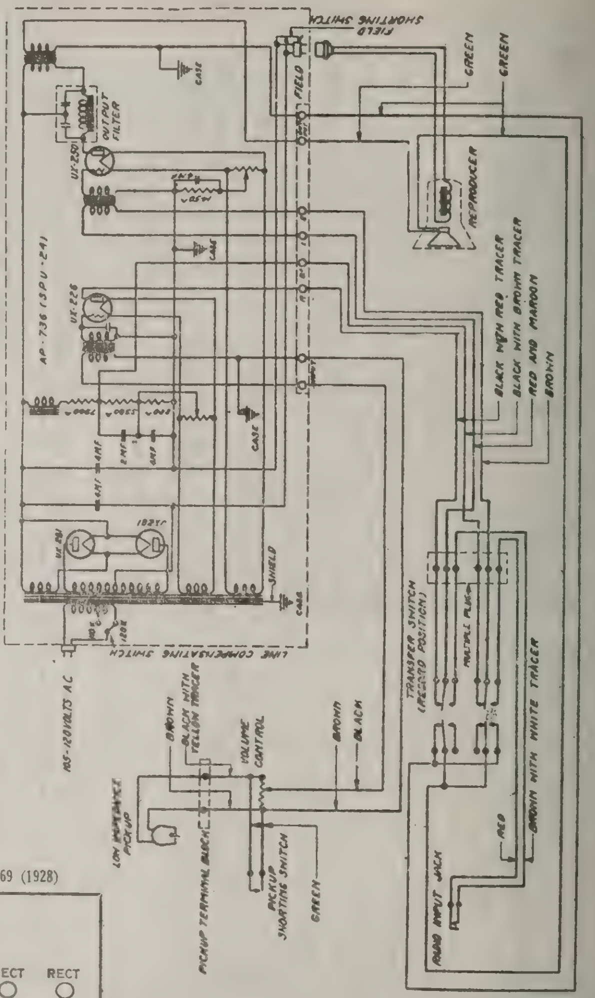

BALLAST C-386
VOLT. REG.
RECT. CX-381
RECT. CX-381
2 A.F. CX-310

MODEL Victor 10-69

R. C. A. VICTOR CO., INC.

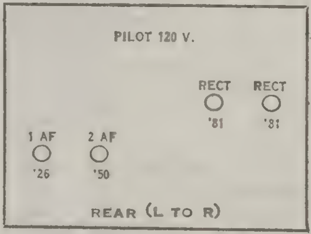

ECCENTRIC GROOVE SWITCH
NEEDLE OPERATED SWITCH
CAPACITOR
MOTOR
REJECT COIL
SPU 24
COMPARTMENT LAMP
105-120 VOLTS, A. C.
COMPARTMENT LAMP SWITCH
MAGNETIC RELEASE FOR START SWITCH
START SWITCH
REJECT SWITCH
STOP SWITCH
AUTOMATIC
ELECTROLA
RADIO
RECORD
BLUE
BLACK
MAROON
BROWN
GREEN
YELLOW
RED
BLACK WITH YELLOW TRACER
BROWN WITH WHITE TRACER
RED WITH YELLOW TRACER

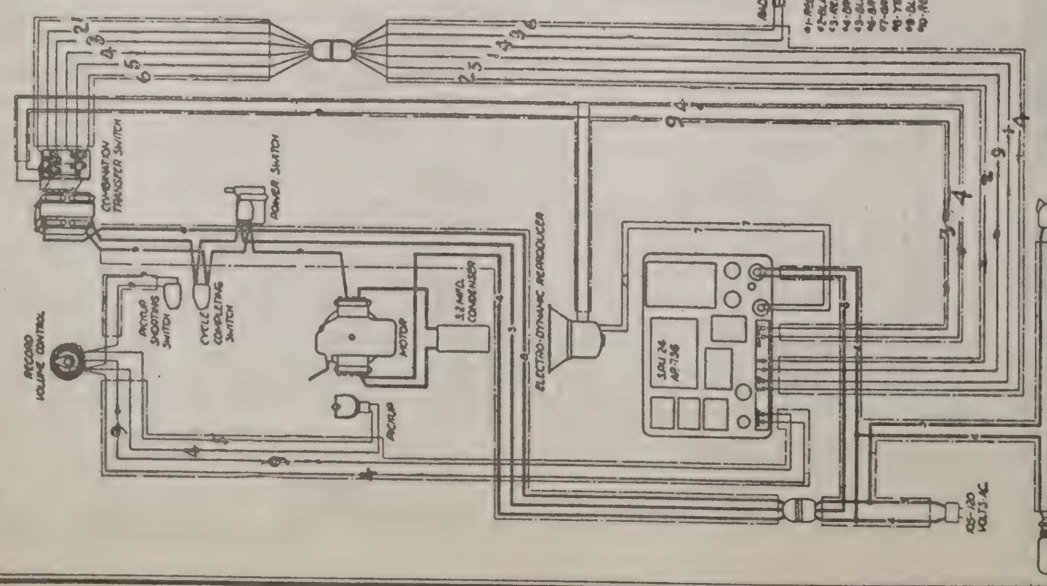
A. C. Power Wiring Diagram Automatic Electrola No. 10-69


FIELD SHORTING SWITCH
FIELD
GREEN
CASE
OUTPUT FILTER
UX-250
REPRODUCER
AP-736 (SPU-24)
UX-226
UX-281
SHIELD
LINE COMPENSATING SWITCH
105-120 VOLTS AC
BLACK WITH RED TRACER
BLACK WITH BROWN TRACER
RED AND MAROON
BROWN
TRANSFER SWITCH (RECORD POSITION)
MULTIPLE PLUG
BLACK WITH WHITE TRACER
BROWN WITH WHITE TRACER
RED
RADIO INPUT JACK
BLACK WITH YELLOW TRACER
VOLUME CONTROL
LOW IMPEDANCE PICKUP
PICKUP TERMINAL BLOCK
PICKUP SHORTING SWITCH
BLACK
GREEN

Schematic Wiring Diagram Automatic Electrola No. 10-69

Models Victor 10-51A, Victor 10-69 (1928)


PILOT 120 V.
RECT
'81
RECT
'81
1 AF
'26
2 AF
'50
REAR (L TO R)

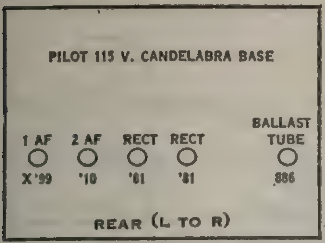

RADIO INPUT JACK
1-RED-MAROON TR
2-BLACK-RED TR
3-RED
4-BROWN
5-BLACK-BROWN TR
6-BROWN-WHITE TR
7-GREEN
8-YELLOW
9-BLACK
10-RED YELLOW TR
COMBINATION TRANSFER SWITCH
POWER SWITCH
RECORD VOLUME CONTROL
PICKUP SHORTING SWITCH
CYCLE COMPLETING SWITCH
MOTOR
1/2 MFD. CONDENSER
ELECTRO-DYNAMIC REPRODUCER
PICKUP
SPU 24 AP 736
COMPARTMENT LAMP SWITCH
COMPARTMENT LAMP
105-120 VOLTS AC

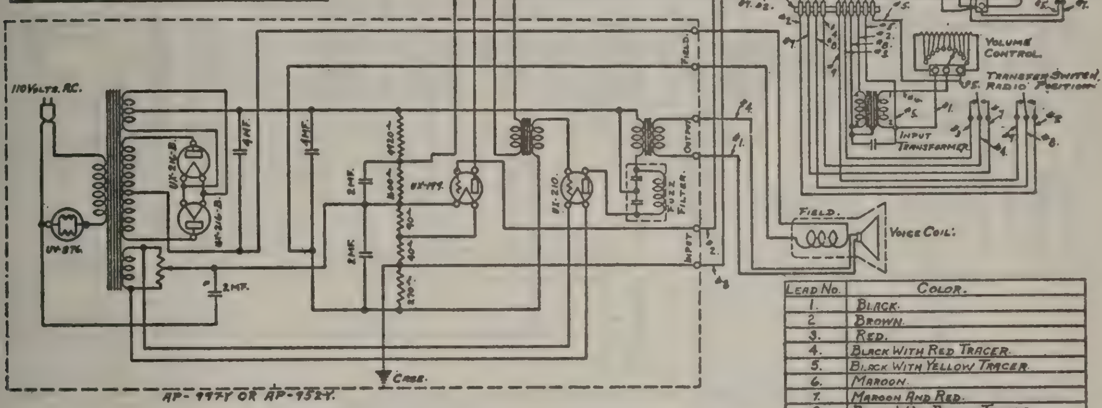
Cable Wiring Diagram Automatic Electrola 10-69, above Serial No. 5001

R. C. A. VICTOR CO., INC.

MODEL Victor 10-70
MODEL Victor 10-70-A
MODEL Victor 12-25

Models Victors 10-51, 10-70, 12-15 .(1927)

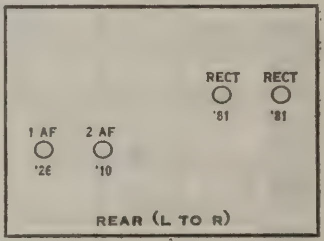

PILOT 115 V. CANDELABRA BASE
1 AF
X'99
2 AF
'10
RECT
'81
RECT
'81
BALLAST TUBE
886
REAR (L TO R)

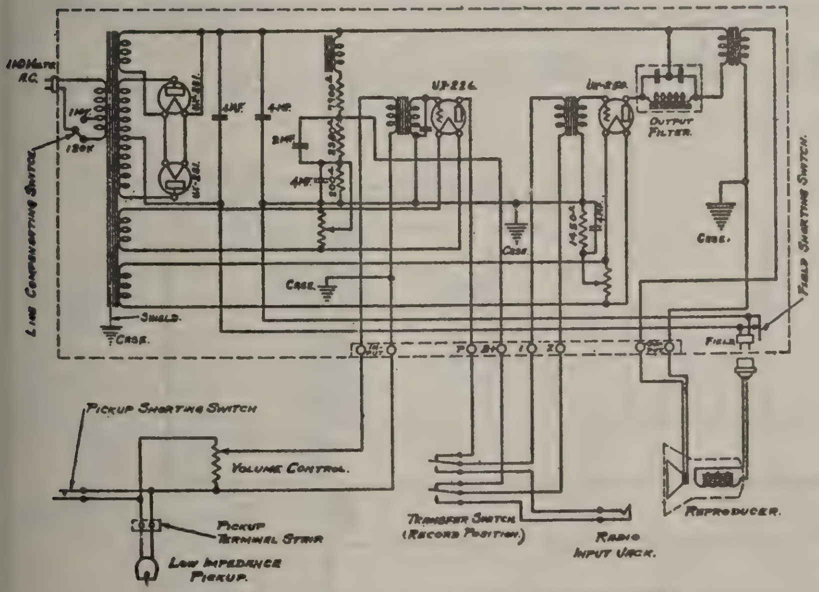

Electric Pickup.
Input Jack For Radio.
Front Panel. Terminal Strip.
Scratch Filter.
Pickup Cutout Switch.
Volume Control.
Transfer Switch, Radio Position.
Input Transformer.
110 Volts. A.C.
UX-216-B.
UX-216-B.
UV-876.
4 MF.
4 MF.
2 MF.
2 MF.
2 MF.
UX-171.
UX-210.
Fuzz Filter.
Field.
Output.
Input.
Field.
Voice Coil:
Case.
AP-997Y OR AP-952Y.

Lead No.	Color.
1.	Black.
2	Brown.
3.	Red.
4.	Black With Red Tracer.
5.	Black With Yellow Tracer.
6.	Maroon.
7.	Maroon And Red.
8.	Black With Brown Tracer.
9.	Brown With White Tracer.

Wiring Diagram—Electrola 10-70

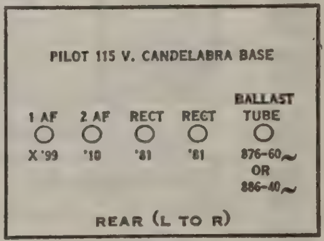
Models Victors 10-70A, (1928)

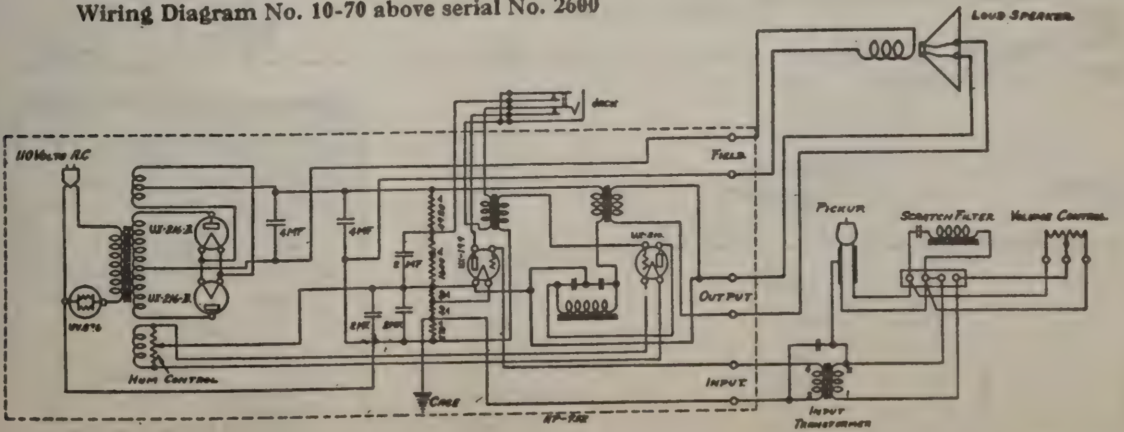

RECT
'81
RECT
'81
1 AF
'26
2 AF
'10
REAR (L TO R)


110 Volts A.C.
Line Compensating Switch
UX-281.
UX-281.
4 MF.
4 MF.
2 MF.
4 MF.
UX-226.
UX-250.
Output Filter.
Case.
Case.
Case.
Shield.
Case.
Field Shorting Switch.
Field
Pickup Shorting Switch
Volume Control.
Pickup Terminal Strip
Low Impedance Pickup.
Transfer Switch (Record Position.)
Radio Input Jack.
Reproducer.

Wiring Diagram No. 10-70 above serial No. 2600

Models Victors 12-25 (1926)

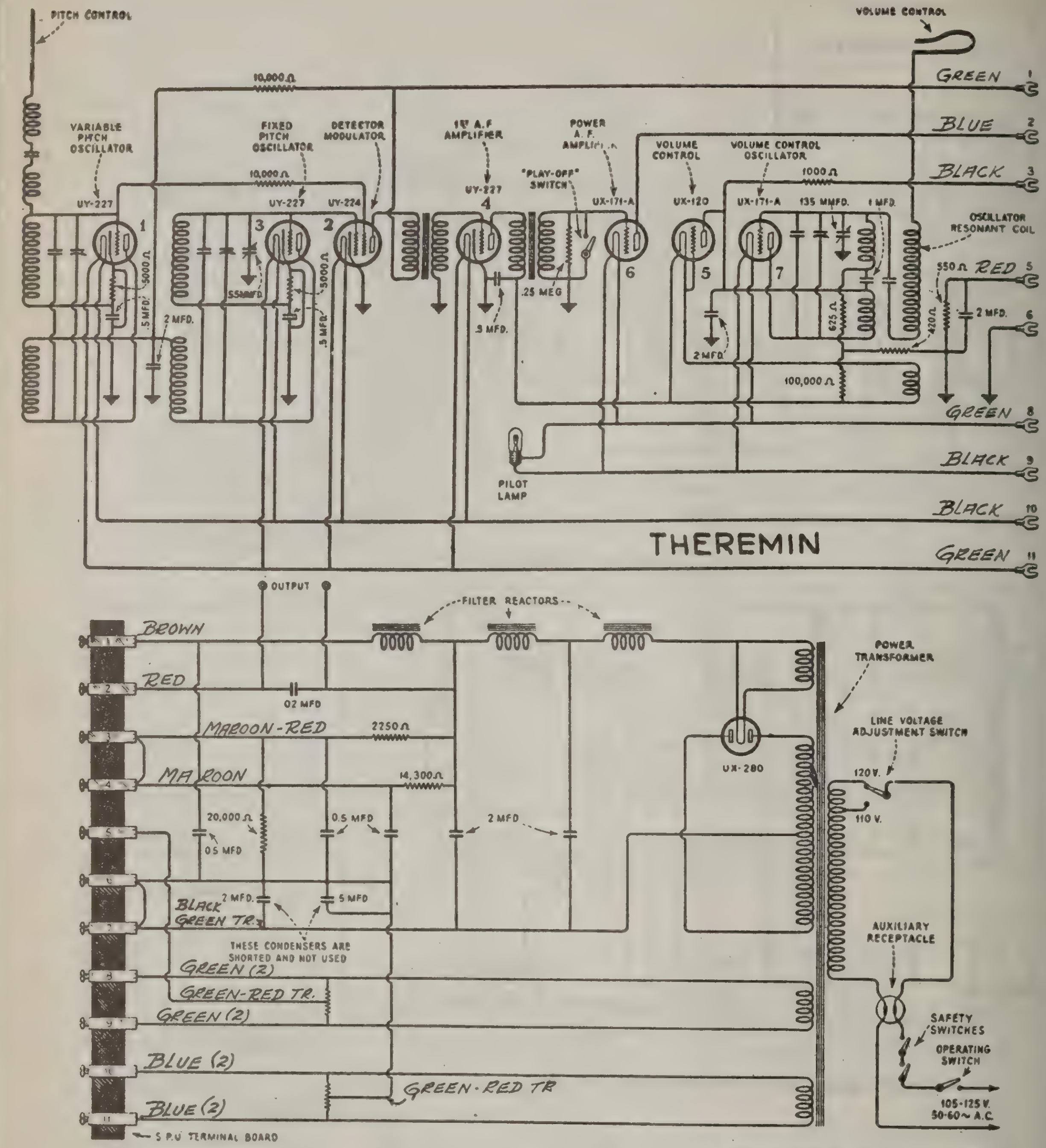

PILOT 115 V. CANDELABRA BASE
1 AF
X'99
2 AF
'10
RECT
'81
RECT
'81
BALLAST TUBE
876-60~
OR
886-40~
REAR (L TO R)


Loud Speaker.
Jack
110 Volts A.C.
UX-216-B
UX-216-B
UV-876
4 MF
4 MF
2 MF
UX-199
UX-210
Field
Output
Input
Hum Control
Case
Pickup
Scratch Filter
Volume Control
Input Transformer

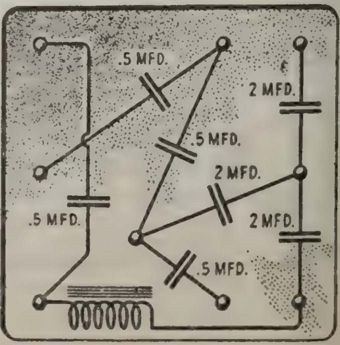
Electrola 12-25

MODEL Theremin

R. C. A. VICTOR CO., INC.


PITCH CONTROL
VOLUME CONTROL
10,000 Ω
VARIABLE PITCH OSCILLATOR
FIXED PITCH OSCILLATOR
DETECTOR MODULATOR
1ST A.F AMPLIFIER
POWER A. F. AMPLIFIER
"PLAY-OFF" SWITCH
VOLUME CONTROL
VOLUME CONTROL OSCILLATOR
OSCILLATOR RESONANT COIL
UY-227
UY-227
UY-224
UY-227
UX-171-A
UX-120
UX-171-A
1
3
2
4
6
5
7
5000 Ω
.5 MFD
2 MFD.
55 MMFD.
5000 Ω
.5 MFD.
.25 MEG
.5 MFD.
1000 Ω
135 MMFD.
1 MFD.
625 Ω
2 MFD.
100,000 Ω
550 Ω
420 Ω
2 MFD.
PILOT LAMP
GREEN 1
BLUE 2
BLACK 3
RED 5
6
GREEN 8
BLACK 9
BLACK 10
GREEN 11
THEREMIN
OUTPUT
FILTER REACTORS
POWER TRANSFORMER
BROWN
RED
.02 MFD
MAROON-RED
2250 Ω
MAROON
14,300 Ω
20,000 Ω
0.5 MFD
0.5 MFD
2 MFD
UX-280
LINE VOLTAGE ADJUSTMENT SWITCH
120 V.
110 V.
BLACK
GREEN TR.
2 MFD.
.5 MFD
THESE CONDENSERS ARE SHORTED AND NOT USED
GREEN (2)
GREEN-RED TR.
GREEN (2)
BLUE (2)
GREEN-RED TR
BLUE (2)
S.P.U. TERMINAL BOARD
AUXILIARY RECEPTACLE
SAFETY SWITCHES
OPERATING SWITCH
105-125 V. 50-60 ~ A.C.
1
2
3
4
5
6
7
8
9
10
11

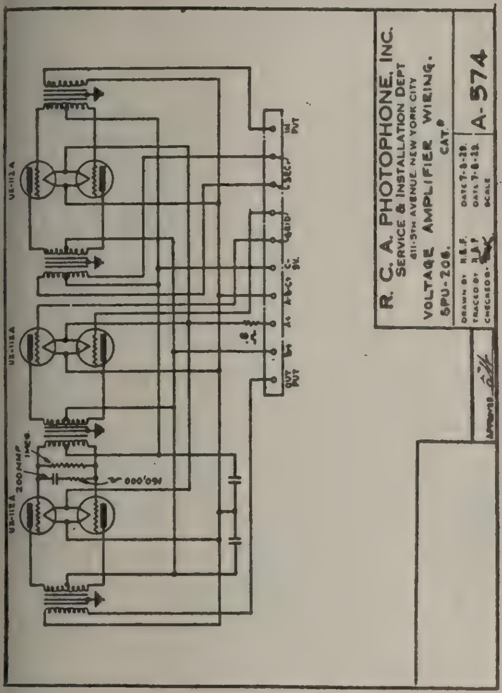
Terminals Nos.	Cable on Tubes Lighted Volts	Cable Off Volts
1 to 6 (D.C.)	190	260
2 to 6	190	260
3 to 6	140	230
5 to 6	29.0	0
8 to 9 (A.C.) rms	2.5	2.8
10 to 11 (A.C.) rms	4.7	5.0

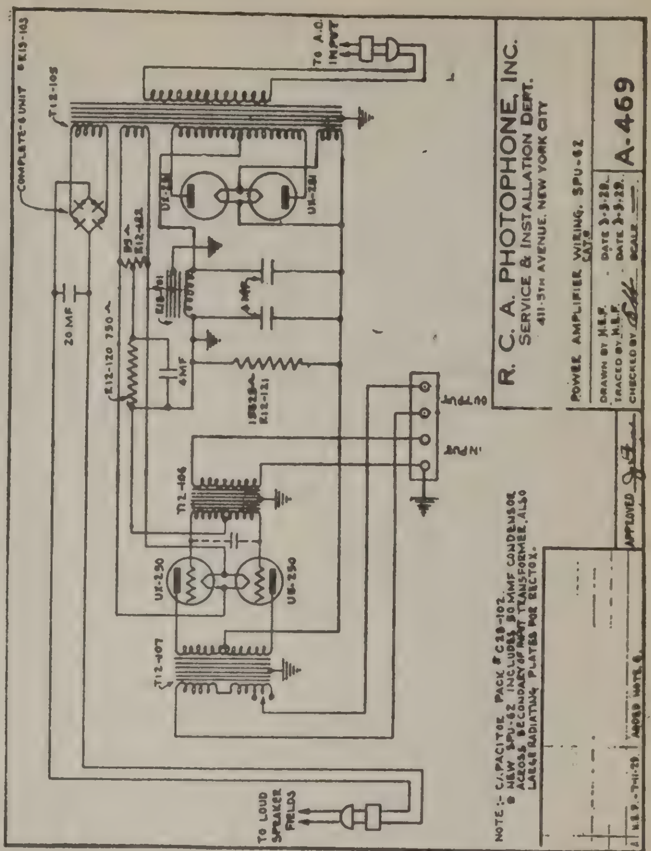

.5 MFD.
2 MFD.
.5 MFD.
2 MFD.
.5 MFD.
2 MFD.
.5 MFD.

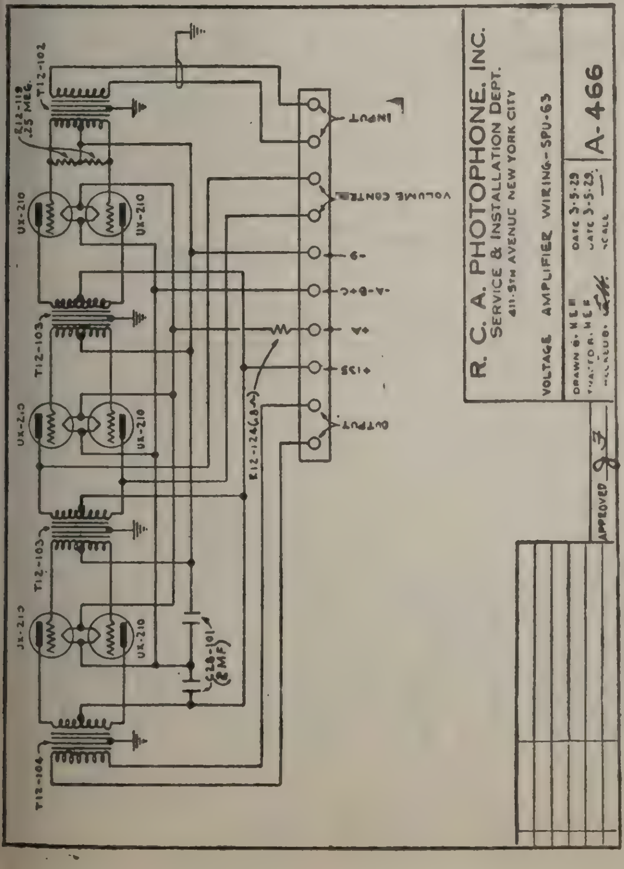
—Internal connections of filter and by-pass condensers, and filter reactor

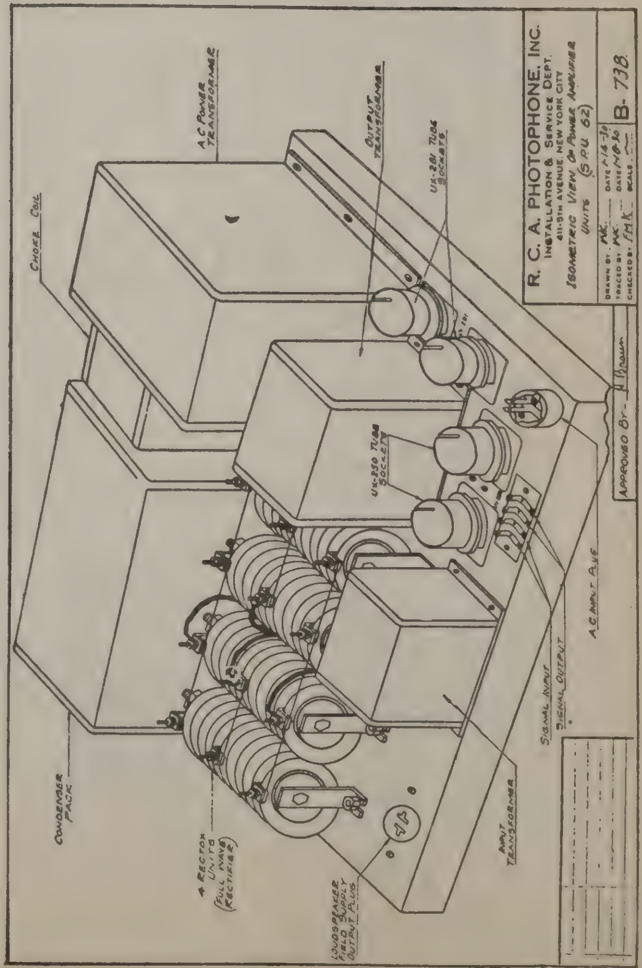
MODEL Photophone SPU 62
Schematic- Chassis
MODEL Photophone SPU 63
MODEL Photophone SPU 206

R. C. A. VICTOR CO., INC.


R. C. A. PHOTOPHONE, INC.
SERVICE & INSTALLATION DEPT
411-5TH AVENUE NEW YORK CITY
VOLTAGE AMPLIFIER WIRING.
SPU-206.
CAT.
A-574
UX-112A
UX-112A
UX-112A
200MMF
160,000
IN PUT
OUT PUT
GRID
APPROVED

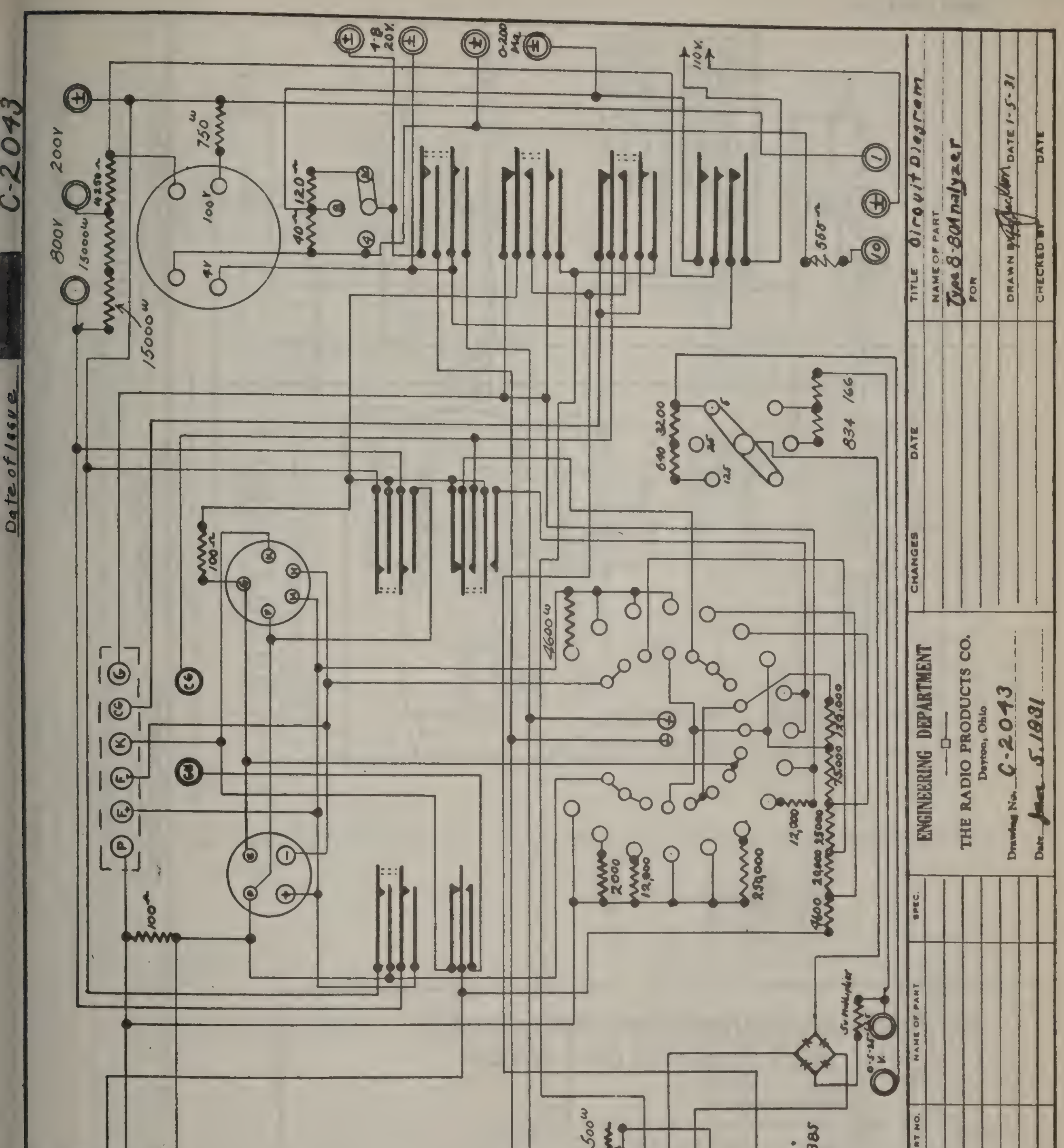

R. C. A. PHOTOPHONE, INC.
SERVICE & INSTALLATION DEPT.
411-5TH AVENUE, NEW YORK CITY
POWER AMPLIFIER WIRING. SPU-62
A-469
TO A.C. INPUT
COMPLETE-6 UNIT
T12-105
UX-281
UX-281
20 MF
E12-120 750 Ω
4 MF
T12-406
UX-250
UX-250
T12-407
OUTPUT
INPUT
TO LOUD SPEAKER FIELDS
NOTE:- CAPACITOR PACK # C18-102.
NEW SPU-62 INCLUDES 80 MMF CONDENSOR ACROSS SECONDARY OF INPUT TRANSFORMER, ALSO LARGE RADIATING PLATES FOR RECTOX.
APPROVED


R. C. A. PHOTOPHONE, INC.
SERVICE & INSTALLATION DEPT.
411-5TH AVENUE NEW YORK CITY
VOLTAGE AMPLIFIER WIRING.- SPU-63
A-466
DATE 3-5-29
INPUT
VOLUME CONTROL
OUTPUT
+135
T12-102
E12-119 .25 MEG.
UX-210
UX-210
T12-103
UX-210
UX-210
T12-103
UX-210
UX-210
T12-104
C18-101 (2 MF)
E12-124(8.4Ω)
APPROVED


R. C. A. PHOTOPHONE, INC.
INSTALLATION & SERVICE DEPT.
411-5TH AVENUE, NEW YORK CITY
ISOMETRIC VIEW OF POWER AMPLIFIER UNITS (SPU 62)
B-738
A.C POWER TRANSFORMER
OUTPUT TRANSFORMER
UX-281 TUBE SOCKETS
CHOKE COIL
UX-250 TUBE SOCKETS
A.C. INPUT PLUG
SIGNAL INPUT
SIGNAL OUTPUT
CONDENSER PACK
4 RECTOX UNITS (FULL WAVE RECTIFIER)
LOUDSPEAKER FIELD SUPPLY OUTPUT PLUG
INPUT TRANSFORMER
APPROVED BY

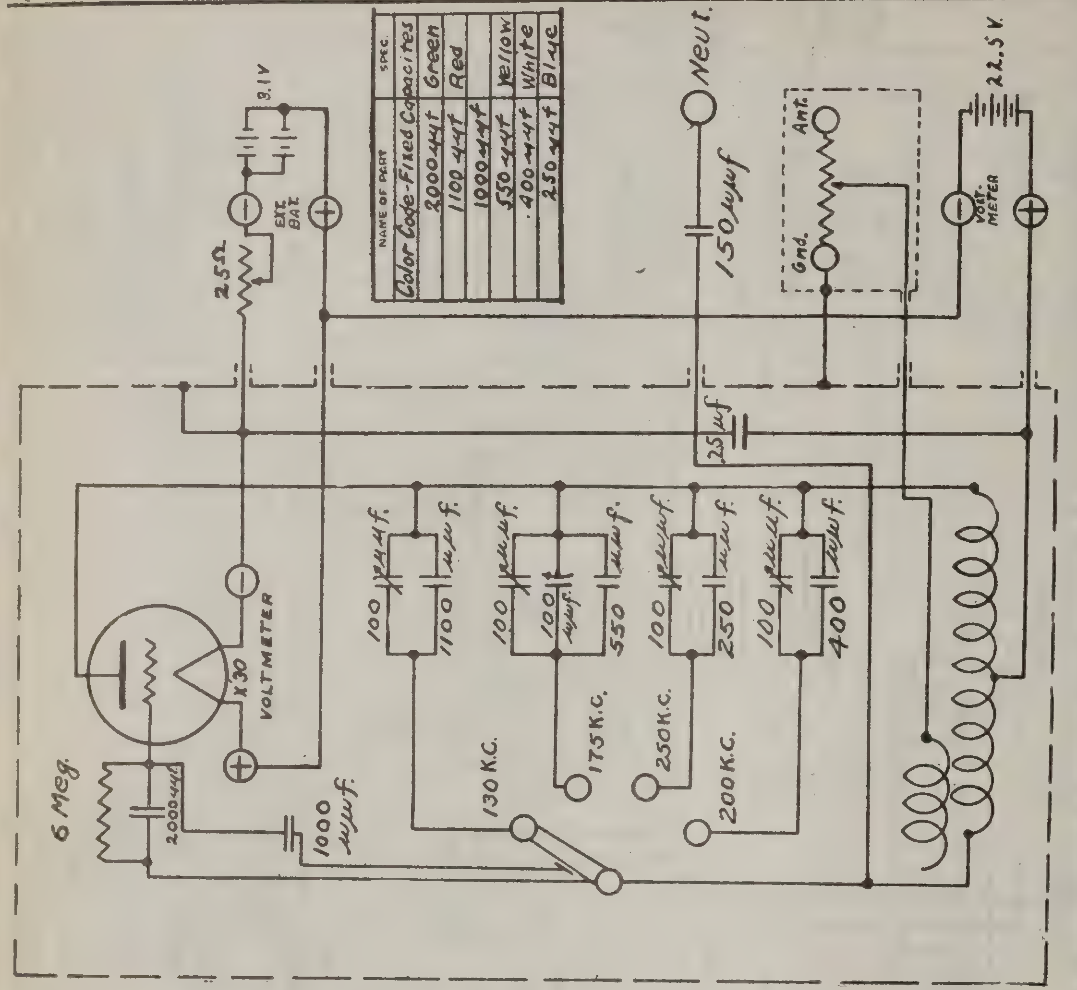
RADIO PRODUCTS CO.

MODEL Dayrad 8-80


C-2043
Date of Issue
800V
200V
15000Ω
4250Ω
15000Ω
750Ω
100V
4V
120Ω
40Ω
1-8
20V
0-200
Ma
110V
1
10
555Ω
3200
640
125
834
166
100Ω
CG
3
G
CG
K
F
F
P
4600Ω
15,000
75,000
12,000
25,000
20,000
2000
12,000
250,000
9400
100Ω
0-5-25V
Selector Switch
1.2.5
2.5.0
3.0.0
5-25-125
Ma.
50,000Ω
4600Ω
25,000
350Ω
125Ω
500Ω
385
3430
30
23
5
TITLE Circuit Diagram
NAME OF PART Type 8-80 Analyzer
FOR
DRAWN BY
DATE 1-5-31
CHECKED BY
DATE
CHANGES
DATE
ENGINEERING DEPARTMENT
THE RADIO PRODUCTS CO.
Dayton, Ohio
Drawing No. C-2043
Date Jan 5. 1931
SPEC.
NAME OF PART
PART NO.
SPEC.
NAME OF PART
PART NO.

MODEL Dayrad 21
Output Meter
MODEL 330 mmf
Oscillator

RADIO PRODUCTS CO.



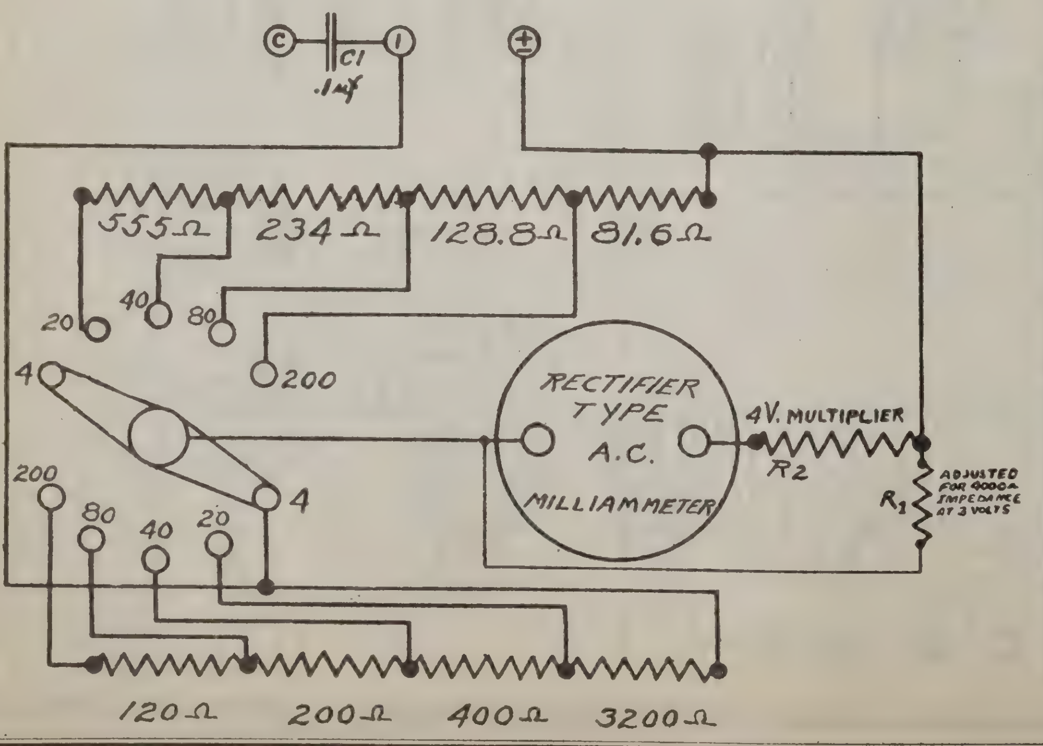
3.1 V
EXT. BAT.
2.5Ω
Neut.
150 μμf
22.5 V.
VOLT METER
Ant.
Gnd.
.25 μf
100 μμf.
1100 μμf.
100 μμf.
100 μμf.
550 μμf.
100 μμf.
250 μμf.
100 μμf.
400 μμf.
130 K.C.
175 K.C.
250 K.C.
200 K.C.
X30
VOLTMETER
6 Meg.
2000 μμf
1000 μμf.

NAME OF PART	SPEC.
Color Code-Fixed Capacites	
2000 μμf	Green
1100 μμf	Red
1000 μμf	
550 μμf	Yellow
.400 μμf	White
250 μμf	Blue

TITLE Circuit Diagram
NAME OF PART Type 330 M.F. Oscillator
FOR
DRAWN BY DATE 4-10-31
CHECKED BY DATE

CHANGES	DATE
From Serial No.	
For Previous Nos. See C-2039	

ENGINEERING DEPARTMENT
— □ —
THE RADIO PRODUCTS CO.
Dayton, Ohio
Drawing No. C-2047
Date April 10, 1931



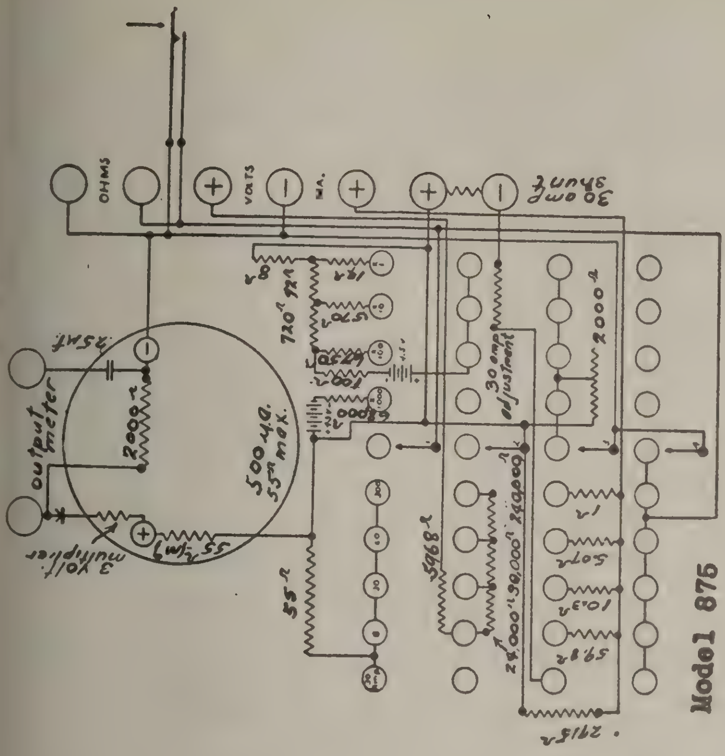
C
C1
.1μf
−
+
555Ω
234Ω
128.8Ω
81.6Ω
20
40
80
200
4
4
200
80
40
20
RECTIFIER TYPE A.C. MILLIAMMETER
4V. MULTIPLIER
R2
R1
ADJUSTED FOR 4000Ω IMPEDANCE AT 3 VOLTS
120Ω
200Ω
400Ω
3200Ω

TITLE Circuit Diagram
NAME OF PART Output Meter
Type-21
FOR
DRAWN BY R.A.M. DATE 12-2-30
CHECKED BY DATE

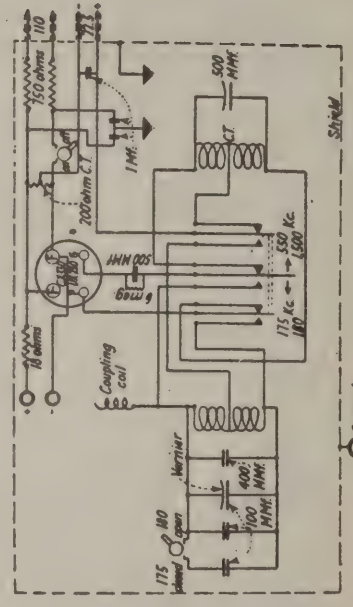
NAME OF PART	SPEC

RADIO PRODUCTS CO.

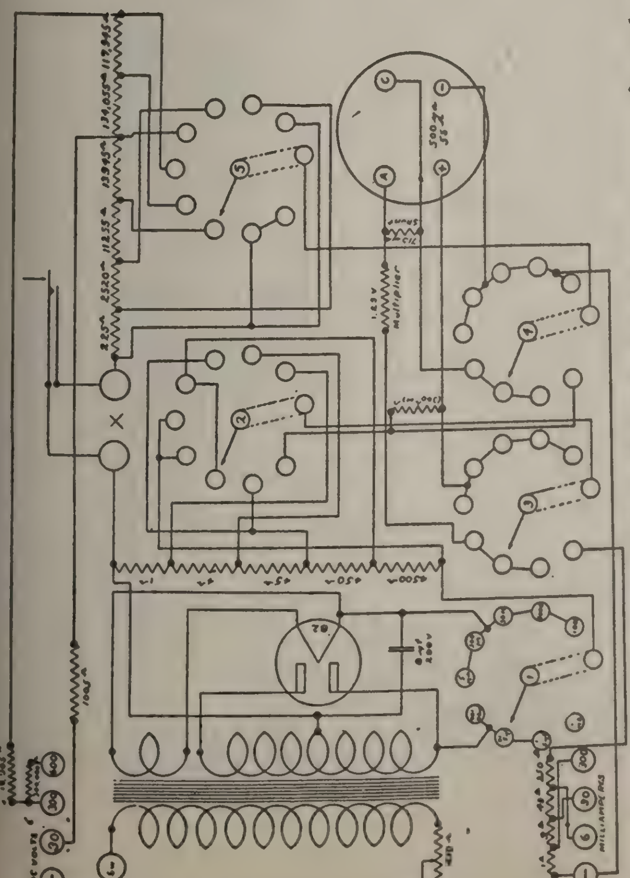
MODEL Dayrad 180
MODEL Dayrad HR
MODEL Dayrad 870
MODEL Dayrad 875


OHMS
VOLTS
M.A.
30 amp shunt
output meter
.25 mf
2000 Ω
500 μa. 55 Ω max.
3 volt multiplier
55 Ω
720 Ω
97 Ω
12 Ω
30 amp adjustment
2000 Ω
5968 Ω
240,000 Ω
90,000 Ω
24,000 Ω
1 Ω
50 Ω
10.3 Ω
59.8 Ω
2915 Ω

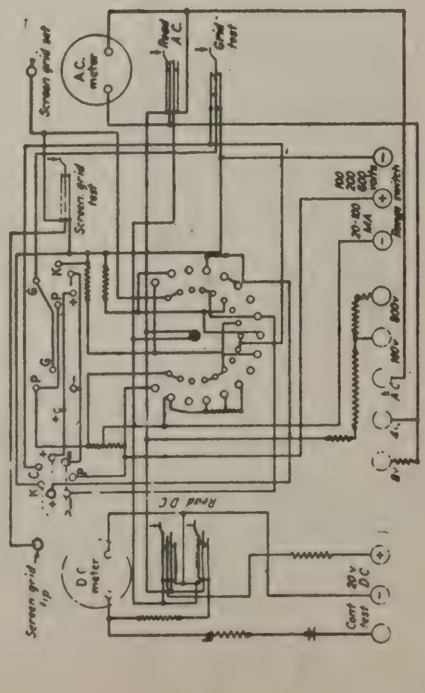
Model 875


110
750 ohms
500 MMF
C.T.
1 MF
200 ohm C.T.
500 MMF
6 meg
18 ohms
Coupling coil
550 Kc
1500 Kc
175 Kc
180
Vernier
400 MMF
100 MMF
175
180
open
Shield
Ground

DayRad (Type 180)


DC VOLTS
20
200
800
1000 Ω
225 Ω
2520 Ω
11255 Ω
139455 Ω
134,055 Ω
117,945 Ω
500 μa 55 Ω
1.25 V multiplier
80
8 mf 200 V
MILLIAMPERES
6
20
200
420 Ω

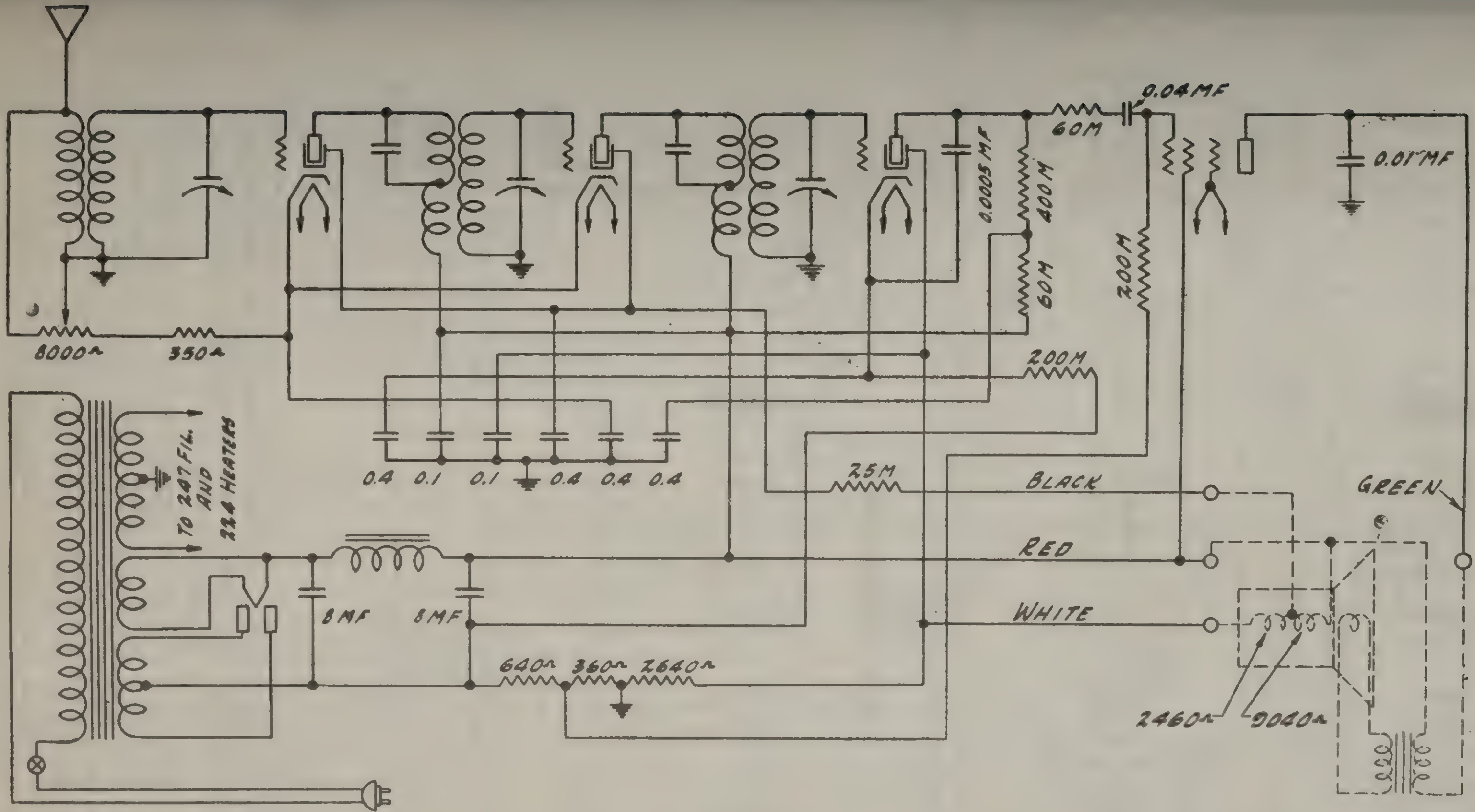
Schematic diagram of the Dayrad Type 870 Test Meter, which operates from the 110-volt, 60-cycle line. All values are given


A.C. meter
Screen grid set
Read A.C.
Grid test
Screen grid test
20-120 MA
100
200
800 volts
Range switch
800V
160V
AC
Read DC
DC meter
Screen grid cap
Cont test
20 v DC

Dayrad HR

RADIOTROPE

MODEL 74-R (2nd Type)

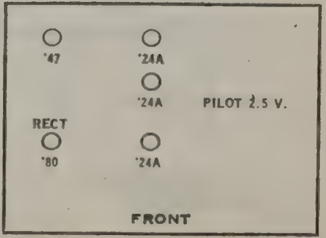

0.04MF
60M
0.01MF
0.0005MF
400M
60M
200M
200M
8000Ω
350Ω
25M
BLACK
GREEN
RED
WHITE
0.4
0.1
0.1
0.4
0.4
0.4
TO 247 FIL. AND 224 HEATERS
8MF
8MF
640Ω
360Ω
2640Ω
2460Ω
9040Ω

Volume Control at maximum. Line Voltage 115

Tube	"A"	"B"	"C"	Screen	Cathode	Plt. Crn't
1st RF	2.2	250	2.	55.*	2.	2.1 ma
2nd RF	2.2	250	2.	55.*	2.	2.1
Det	2.2	130	2.8	40.*	2.8	.25
AF	2.3	238	18.**	250.		27.
Rect	4.65					28 per anode

* Reading with 250000 ohm meter. Reading will be less with lower meters

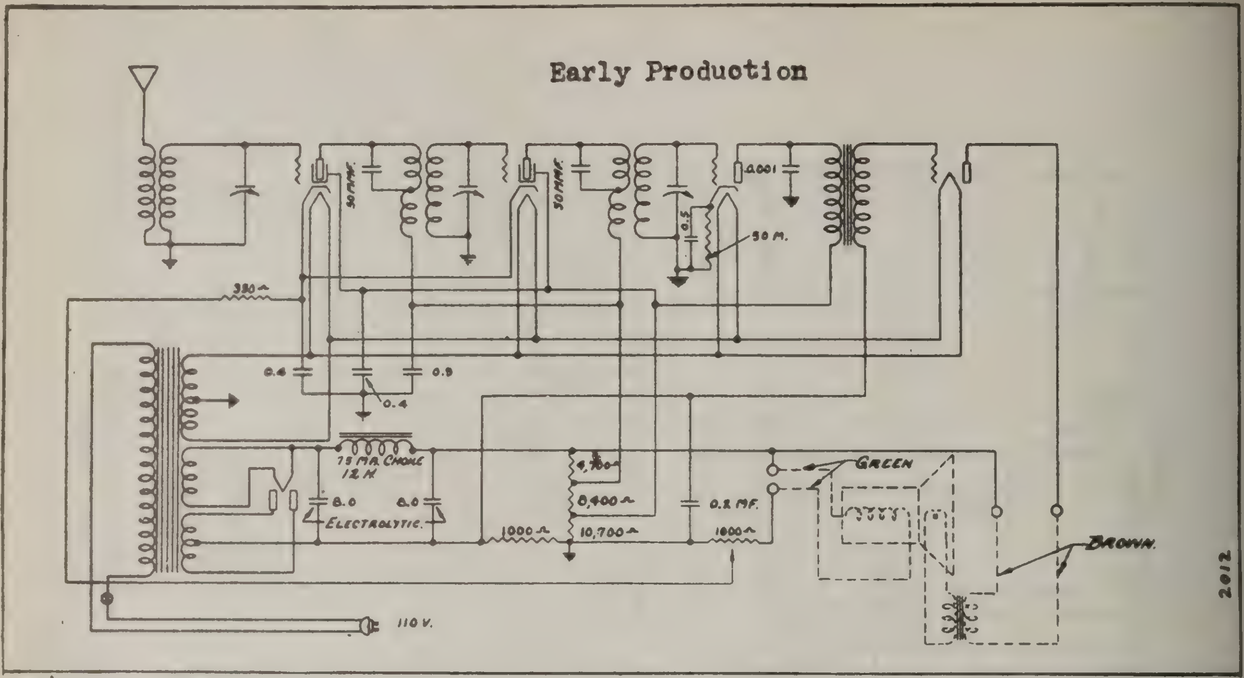
**This voltage read across 360 ohm section of shunt resistance.


'47
'24A
'24A
PILOT 2.5 V.
RECT
'80
'24A
FRONT

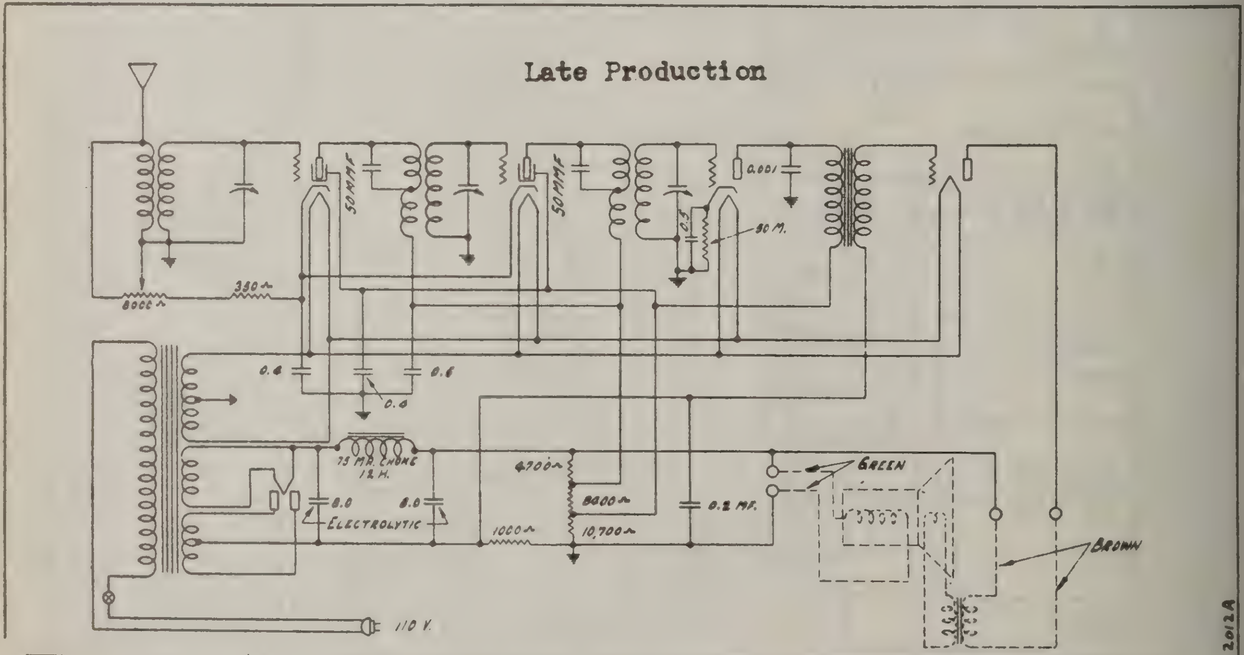
MODEL 27-R

RADIOTROPE

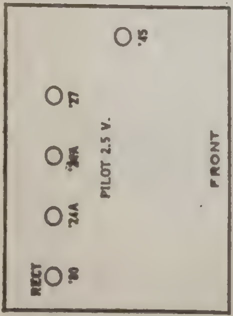
Early Production


50 MMF.
50 MMF.
0.001
0.5
50 M.
330 Ω
0.4
0.4
0.9
75 MA. CHOKE
12 H.
8.0
8.0
ELECTROLYTIC.
4,700 Ω
8,400 Ω
10,700 Ω
1000 Ω
0.2 MF.
1000 Ω
GREEN
BROWN
110 V.
2012

Late Production


50 MMF
50 MMF
0.001
0.5
50 M.
8000 Ω
350 Ω
0.6
0.6
0.6
75 MA. CHOKE
12 H.
8.0
8.0
ELECTROLYTIC
4700 Ω
8600 Ω
10,700 Ω
1000 Ω
0.2 MF.
GREEN
BROWN
110 V.
2012A

Model 27 Series (1929)

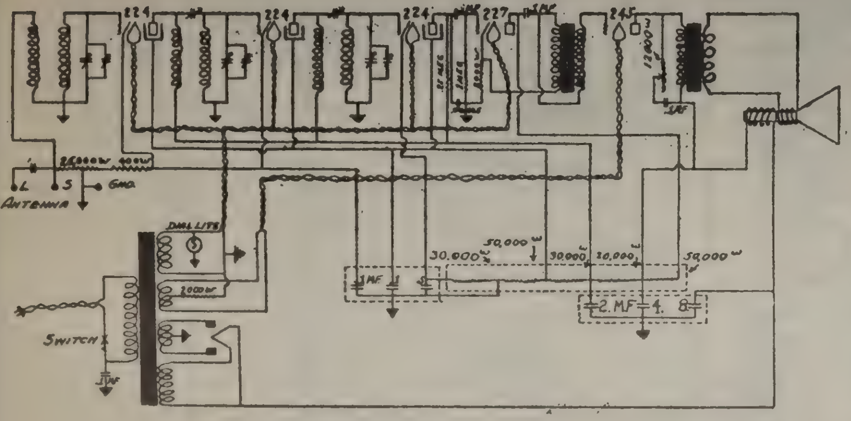

'45
'27
'24A
'24A
'80
RECT
PILOT 2.5 V.
FRONT

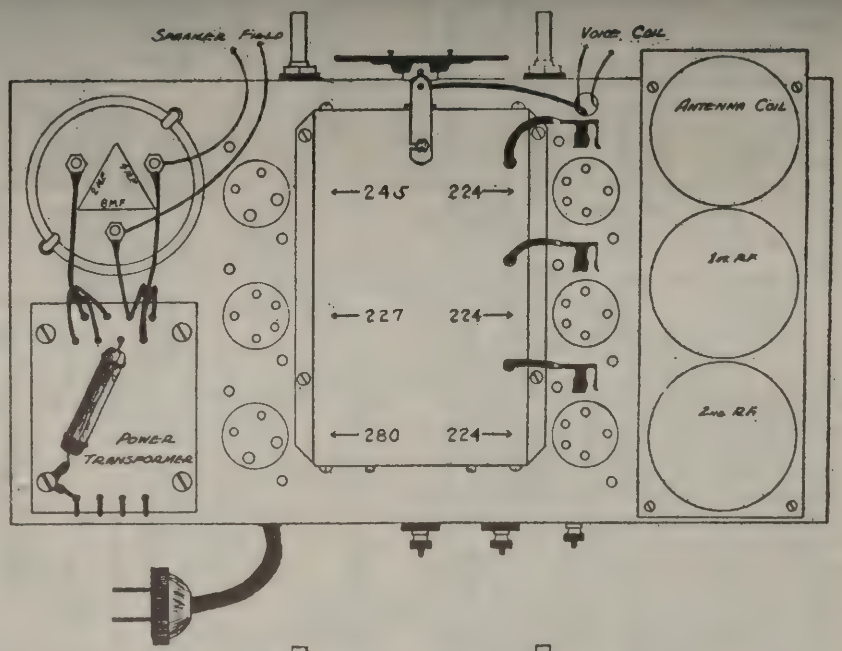
VOLTAGES AT SOCKETS — VOLUME CONTROL AT MAXIMUM — LINE VOLTAGE, 115 — PLUG IN SOCKET OF RECEIVER — TUBE IN TEST SET

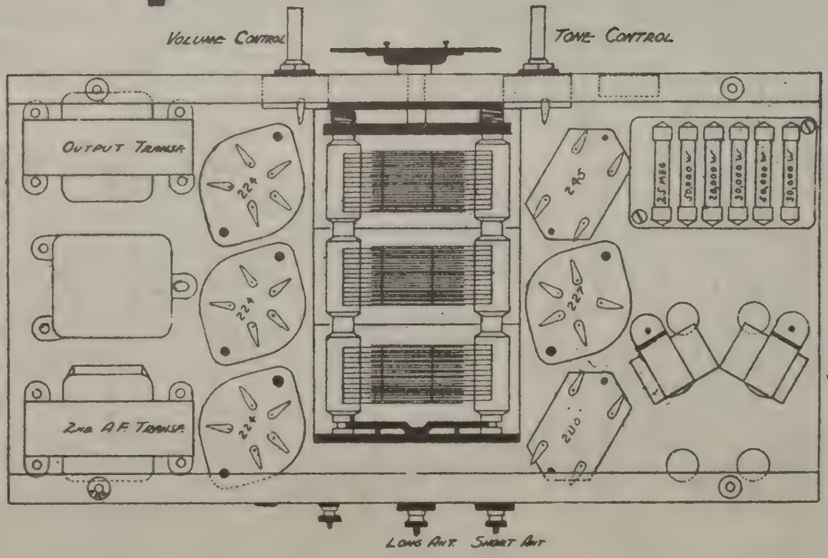
Type of Tube	*Position of Tube*	*Function*	*"A" Volts*	*"B" Volts*	*Control Grid "C" Volts*	*Screen Volts*	*Screen Current MA*	*Cathode Volts*	*Plate MA*	*Grid Test MA*
224	1	1st Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
224	2	2nd Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
227	3	Detector	2.25	70	8.5			8.5	.1	.2
245	4	Audio	2.35	238	44.				19.	22.
280	5	Rectifier	4.8						26.5 per Plate	

REMLER COMPANY, LTD.

MODEL 14


224
224
224
227
245
1MF
1MF
25 MEG
1 MEG
2000W
12000W
1MF
25000W
400W
L
S
GND
ANTENNA
DIAL LITE
2000W
SWITCH
1MF
50,000W
30,000W
30,000W
20,000W
50,000W
1MF
2.MF
4.
8


SPEAKER FIELD
VOICE COIL
ANTENNA COIL
1ST R.F.
2ND R.F.
245
227
280
224
224
224
POWER TRANSFORMER


VOLUME CONTROL
TONE CONTROL
OUTPUT TRANSF.
2ND A.F. TRANSF.
224
224
224
245
227
280
2.5 MEG
50,000W
20,000W
30,000W
20,000W
30,000W
LONG ANT.
SHORT ANT.

WIRE COLOR CODE

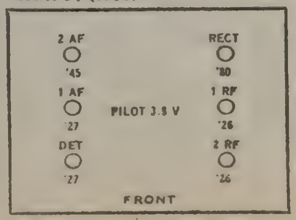
RED - FILAMENT RECTIFIER - KATHODE A.F. - PLATE R.F. - PLATE POWER TUBE - SPEAKER FIELD
BLUE - FILAMENT POWER TUBE - PLATE DETECTOR - +B R.F.
GREEN - KATHODE DETECTOR - GRID POWER TUBE
BROWN - FILAMENT R.F. TUBES AND DETECTOR
BLACK - FILAMENT 1ST. A.F. TUBE - DETECTOR KATHODE - SPEAKER VOICE COIL
YELLOW - SHIELD GRID - PLATE 1ST. A.F. - PLATE RECTIFIER

VOLTAGE TABLE

LINE 115 V. 60 CYCLES

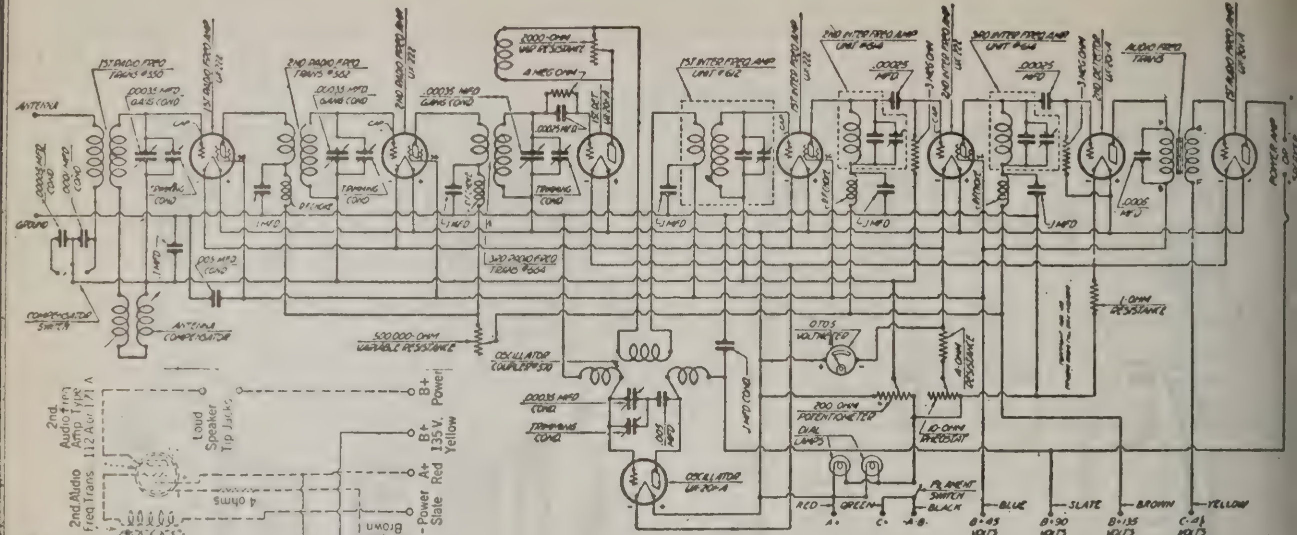
TUBE	POSITION	FIL V.	GRID V.	PLATE V.	SG VOLTS
224	1ST R.F.	2.3	3-9	160-185	85-125
224	2ND R.F.	2.3	3-9	160-185	85-125
224	DET.	2.3	48-8	75-115	85-125
227	1ST A.F.	2.3	7	110	
245	POWER	2.4	47	235	
280	RECTIFIER	4.9		400	

Model 14 (1930)

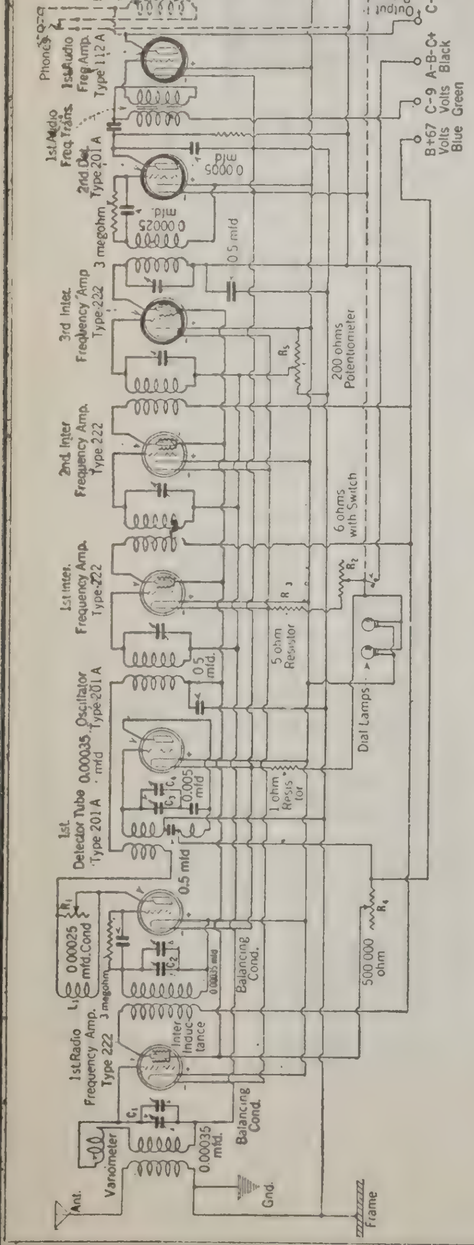

2 AF
'45
1 AF
'27
DET
'27
PILOT 3.8 V
RECT
'80
1 RF
'26
2 RF
'26
FRONT

REMLER COMPANY, LTD.

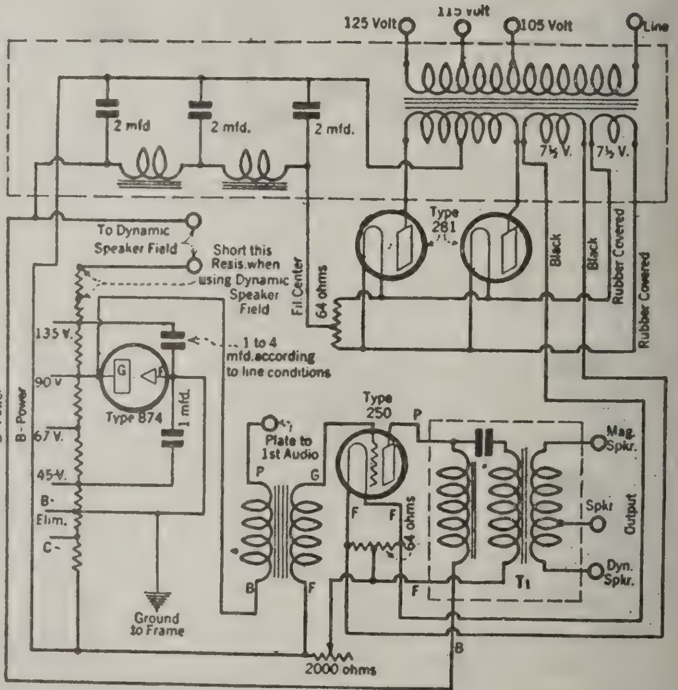
MODEL Best "115 KC"
MODEL Remler "29"


ANTENNA
GROUND
1ST RADIO FREQ TRANS #550
.00035 MFD GANG COND
1ST RADIO FREQ AMP UX 222
2ND RADIO FREQ TRANS #552
2ND RADIO FREQ AMP UX 222
1ST DET UX 201-A
2000-OHM VAR RESISTANCE
4 MEG OHM
3RD RADIO FREQ TRANS #554
1ST INTER FREQ AMP UNIT #612
1ST INTER FREQ AMP UX 222
2ND INTER FREQ AMP UNIT #614
2ND INTER FREQ AMP UX 222
3RD INTER FREQ AMP UNIT #614
3 MEG OHM
2ND DETECTOR UX 201-A
AUDIO FREQ TRANS
1ST AUDIO FREQ AMP UX 201-A
POWER AMP
COMPENSATOR SWITCH
ANTENNA COMPENSATOR
500,000-OHM VARIABLE RESISTANCE
OSCILLATOR COUPLER #570
OSCILLATOR UX 201-A
0-7.5 VOLTMETER
200 OHM POTENTIOMETER
DIAL LAMPS
10-OHM RHEOSTAT
8-OHM RESISTANCE
1-OHM RESISTANCE
FILAMENT SWITCH
RED
GREEN
BLACK
BLUE
SLATE
BROWN
YELLOW
A+
C+
-A-B
B+45 VOLTS
B+90 VOLTS
B+135 VOLTS
C-4½ VOLTS

Model Best "115 KC"


B+ Power
B+ 135 V. Yellow
A+ Red
C- Power Slate
Output Brown
A-B-C+ Black
C-9 Volts Green
B+67 Volts Blue
2nd Audio Amp Type 112 A or 171 A
Loud Speaker Tip Jacks
2nd Audio Freq Trans
4 ohms
Phones
1st Audio Freq Amp. Type 112 A
1st Audio Freq Trans
2nd Det. Type 201 A
0.0005 mfd
3 megohm
0.00025 mfd.
0.5 mfd
3rd Inter. Frequency Amp Type 222
R5
200 ohms Potentiometer
2nd Inter Frequency Amp. Type 222
6 ohms with Switch
R2
1st Inter. Frequency Amp. Type 222
R3
5 ohm Resistor
0.5 mfd.
Dial Lamps
Oscillator Type 201 A
1st Detector Tube Type 201 A
0.00035 mfd
C3
C4
0.005 mfd
1 ohm Resistor
0.5 mfd
R1
0.00025 mfd. Cond
3 megohm
L1
C2
Balancing Cond.
500 000 ohm
R4
1st Radio Frequency Amp. Type 222
Inter Inductance
C1
Variometer
0.00035 mfd.
Balancing Cond.
Ant.
Gnd.
Frame

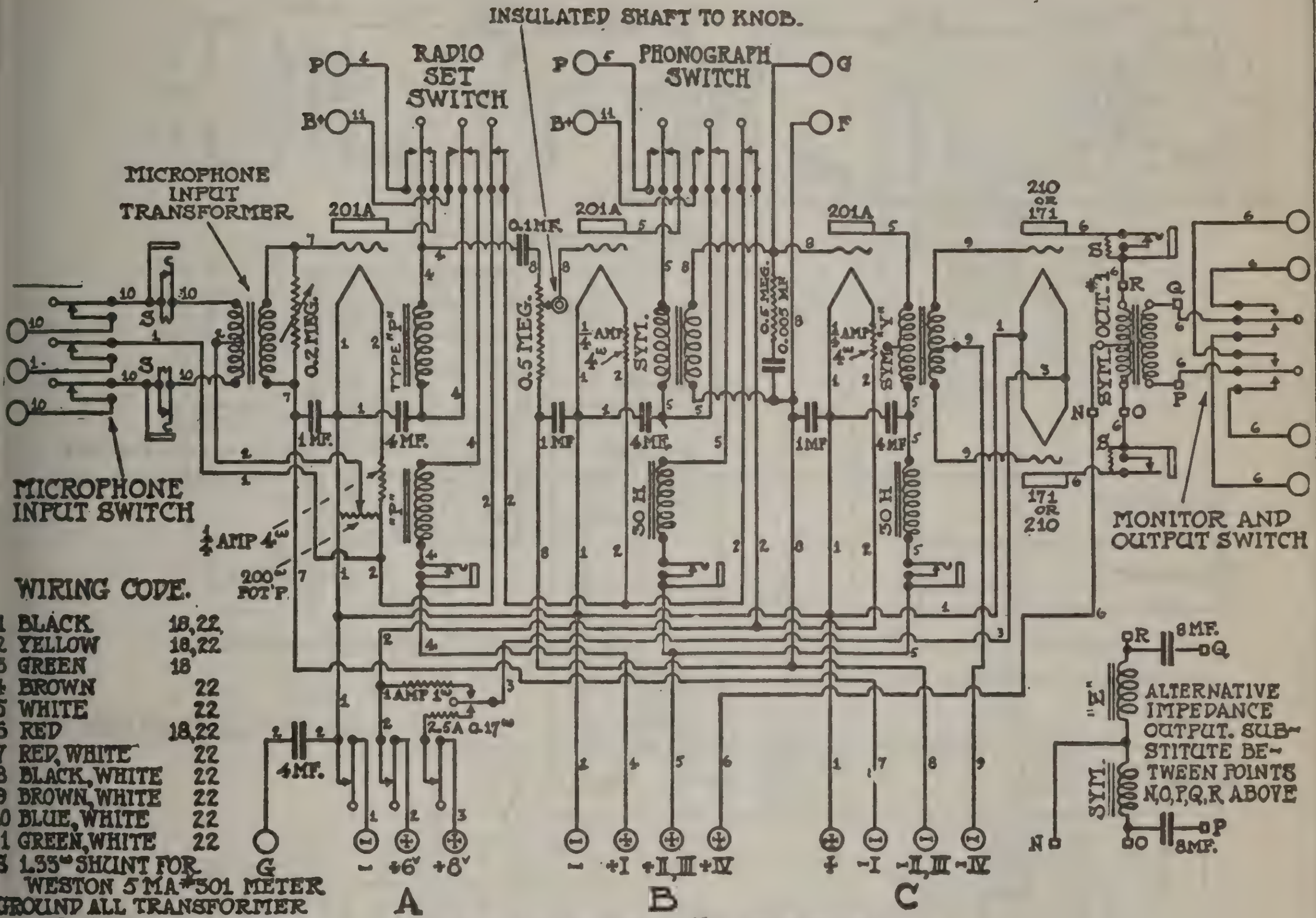
Model Remler "29" Receiver


125 Volt
115 volt
105 Volt
Line
2 mfd
2 mfd.
2 mfd.
7½ V.
7½ V.
Type 281
To Dynamic Speaker Field
Short this Resis. when using Dynamic Speaker Field
Fil. Center
64 ohms
Black
Black
Rubber Covered
Rubber Covered
135 V.
90 V
67 V.
45 V.
B- Elim.
C-
B-Power
B-Power
G
Type 874
1 mfd.
...1 to 4 mfd. according to line conditions
Type 250
Plate to 1st Audio
P
G
P
B
F
F
F
64 ohms
F
T1
Mag. Spkr.
Spkr
Output
Dyn. Spkr.
Ground to Frame
2000 ohms
B

Model Remler "29" Power Pack

MODEL S-100
MODEL PAM-19
MODEL Amplifier

SAMSON ELECTRIC CO.

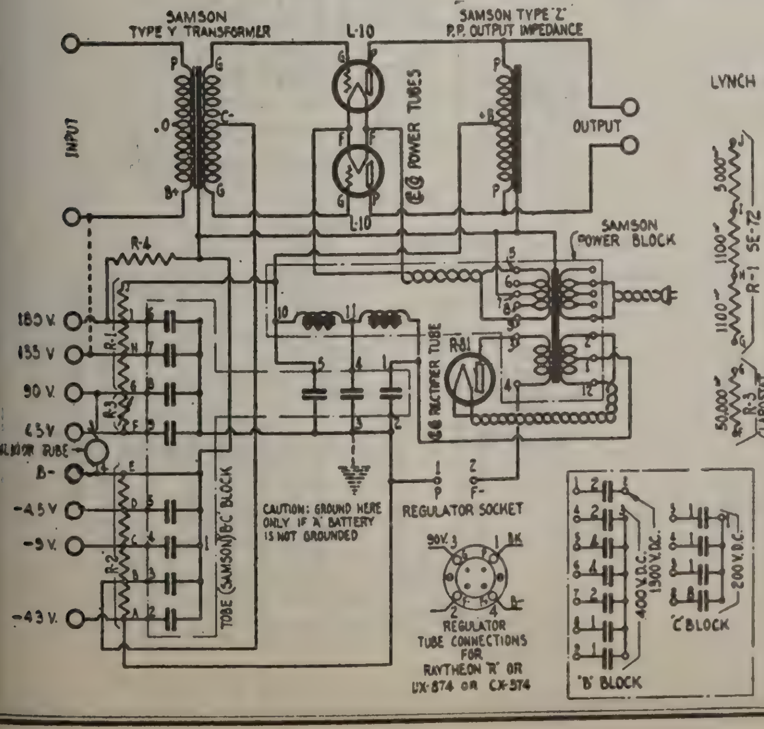

INSULATED SHAFT TO KNOB.
RADIO SET SWITCH
PHONOGRAPH SWITCH
MICROPHONE INPUT TRANSFORMER
201A
210 OR 171
171 OR 210
TYPE "P"
SYM.
0.2 MEG.
0.5 MEG.
0.5 MEG. 0.005 MF
0.1 MF.
1 MF.
4 MF.
30 H
1/4 AMP 4Ω
1/2 AMP 4Ω
200Ω POT'P.
1 AMP 1Ω
2.5A 0.17Ω
OUT. 1
MICROPHONE INPUT SWITCH
MONITOR AND OUTPUT SWITCH
ALTERNATIVE IMPEDANCE OUTPUT. SUBSTITUTE BETWEEN POINTS N,O,P,Q,R ABOVE
8MF.
"Z"
G
− +6V +8V
A
− +I +II,III +IV
B
+ −I −II,III −IV
C

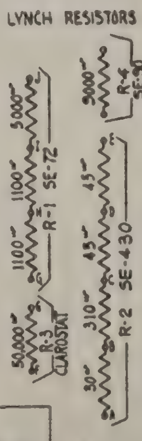
WIRING CODE.

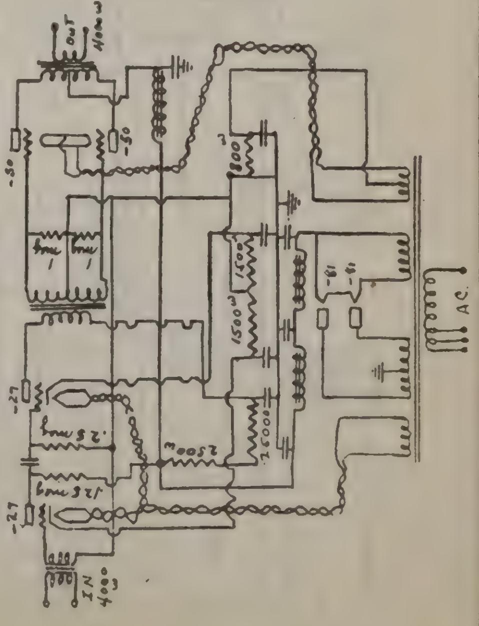
1	BLACK	18,22
2	YELLOW	18,22
3	GREEN	18
4	BROWN	22
5	WHITE	22
6	RED	18,22
7	RED, WHITE	22
8	BLACK, WHITE	22
9	BROWN, WHITE	22
10	BLUE, WHITE	22
11	GREEN, WHITE	22

S 1.35Ω SHUNT FOR WESTON 5 MA #301 METER
GROUND ALL TRANSFORMER AND IMPEDANCE CASES.

GROUP ADDRESS SYSTEM
SAMSON S-100 AMPLIFIER

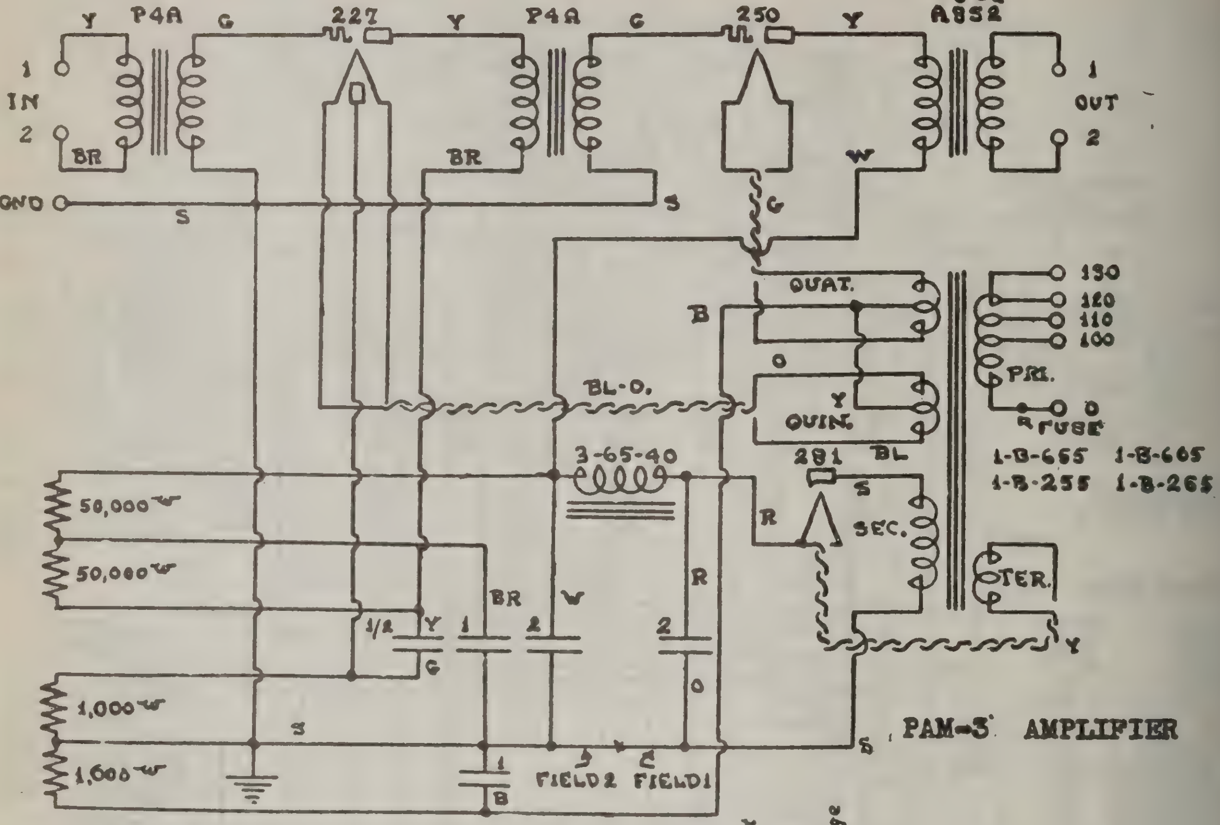

SAMSON TYPE Y TRANSFORMER
L-10
SAMSON TYPE "Z" P.P. OUTPUT IMPEDANCE
INPUT
OUTPUT
EG POWER TUBES
SAMSON POWER BLOCK
R-4
R-1
R-2
180 V.
135 V
90 V.
45 V
REGULATOR TUBE
B−
−4.5 V
−9 V.
−43 V.
TOBE (SAMSON) BC BLOCK
RECTIFIER TUBE
CAUTION: GROUND HERE ONLY IF "A" BATTERY IS NOT GROUNDED
REGULATOR SOCKET
REGULATOR TUBE CONNECTIONS FOR RAYTHEON "R" OR UX-874 OR CX-374
90V.
BK
400 V.D.C.
1300 V.D.C.
200 V.D.C.
'B' BLOCK
'C' BLOCK


LYNCH RESISTORS
5000Ω
1100Ω
1100Ω
R-1 SE-72
3000Ω
R-4 SE-30
45Ω
45Ω
R-2 SE-430
50,000Ω
R-3 CLAROSTAT
310Ω
310Ω
30Ω
30Ω

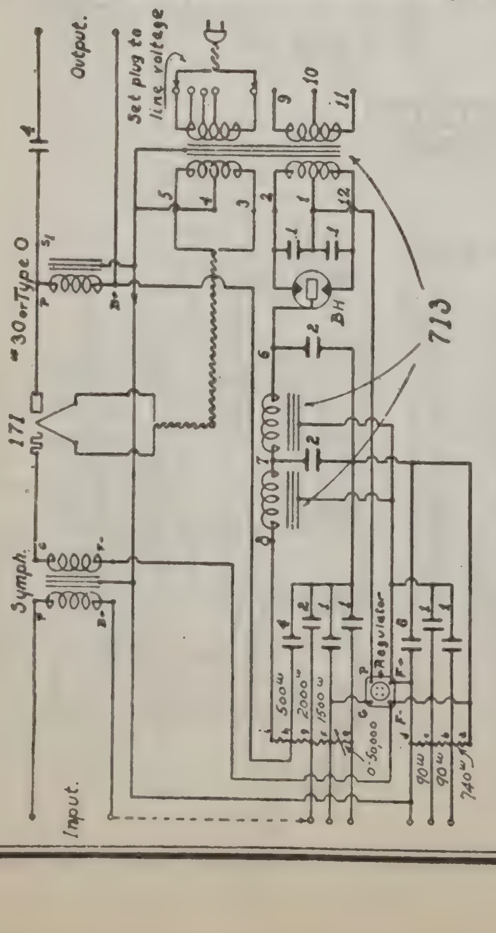

AC
1500Ω
1500Ω
2500Ω
2500Ω
800
-27
-27

MODEL PABC-2
MODEL PABC-3
MODEL PAM-3

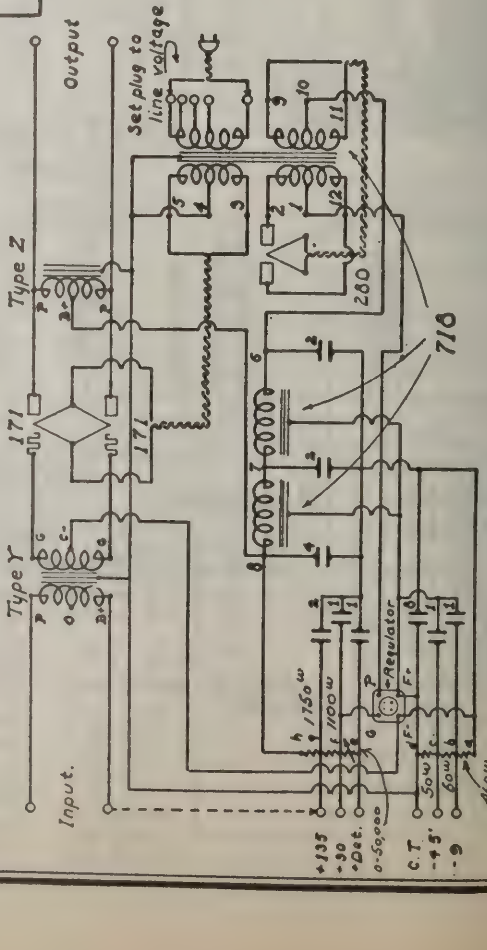
SAMSON ELECTRIC CO.


Y
P4A
G
227
Y
P4A
G
250
Y
M852
A852
1
IN
2
BR
BR
1
OUT
2
GND
S
S
W
G
QUAT.
B
O
BL-O.
Y
QUIN.
130
120
110
100
PRI.
0
R
FUSE
1-B-655
1-B-665
1-B-255
1-B-265
3-65-40
281
BL
S
SEC.
R
50,000 ω
50,000 ω
R
TER.
BR
W
1/2
Y
1
2
2
G
O
Y
1,000 ω
S
1,600 ω
1
B
FIELD 2
FIELD 1
S

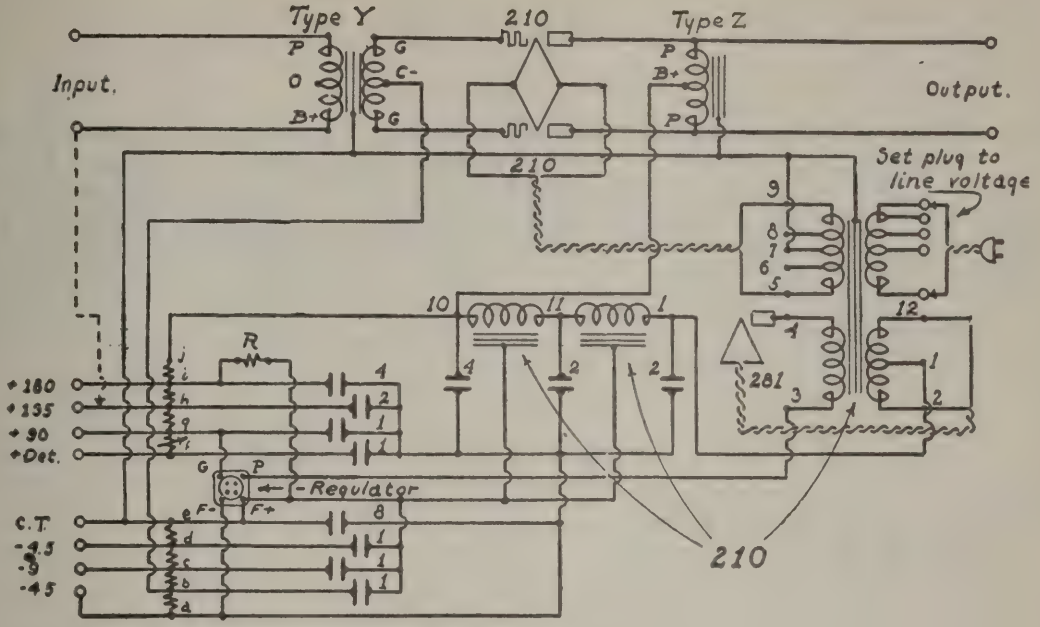
PAM-3 AMPLIFIER


Output.
Set plug to line voltage
#30 or Type O
171
Symph.
Input.
713
BH
500 ω
2000 ω
1500 ω
0-50,000
Regulator
90 ω
90 ω
740 ω

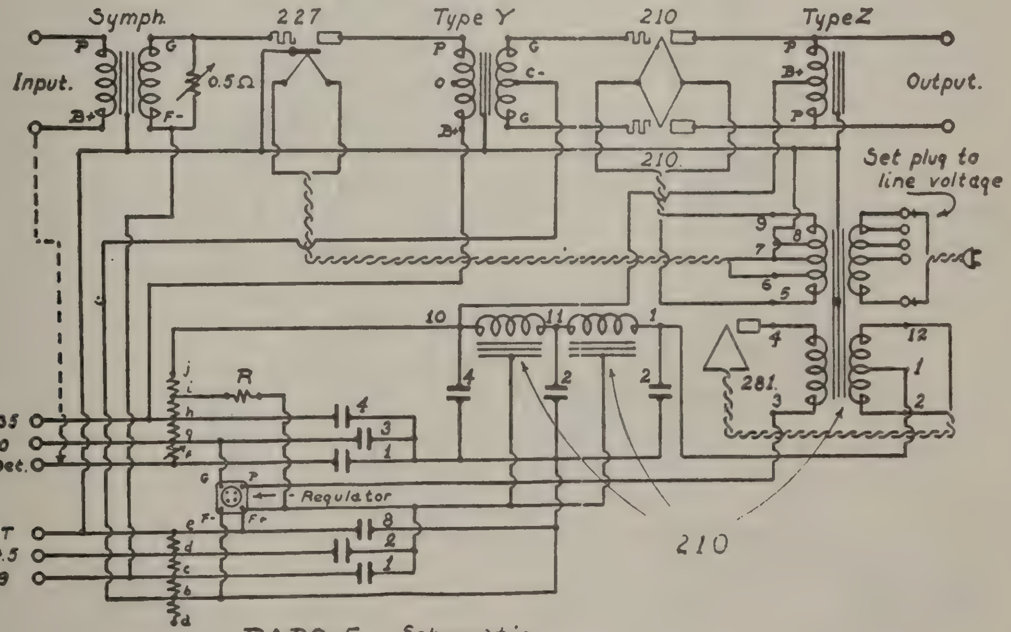
PABC-2 Schematic.


Output
Set plug to line voltage
Type Z
171
171
Type Y
280
718
Input.
1750 ω
1100 ω
Regulator
0-50,000
50 ω
50 ω
60 ω
460 ω
+135
-30
+Det.
C.T.
-4.5
-9

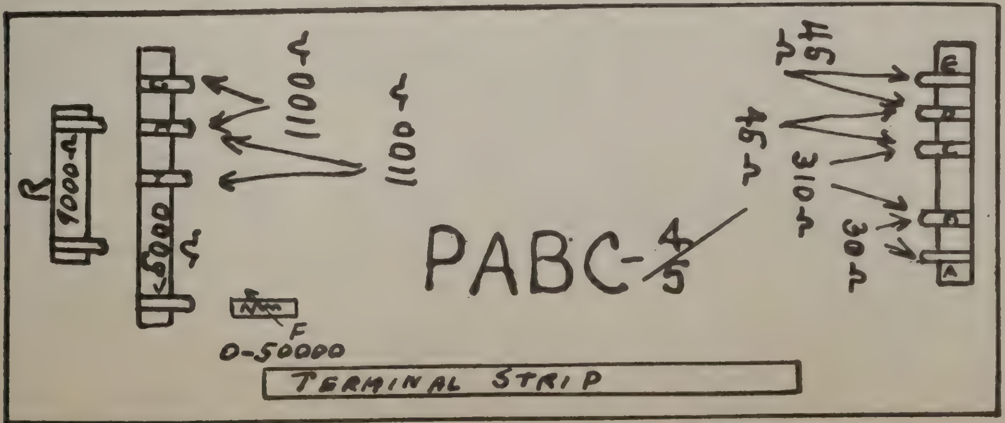
PABC-3 Schematic.


Type Y
210
Type Z
P
O
B+
G
C-
Input.
Output.
Set plug to line voltage
9
8
7
6
5
10
11
1
12
4
2
R
281
3
+180
+135
+90
+Det.
G
P
F-
F+
Regulator
C.T.
-4.5
-9
-45
j
i
h
g
f
e
d
c
b
a
210

PABC-4 Schematic.


Symph.
227
Type Y
210
Type Z
P
B+
G
F-
0.5Ω
C-
O
Input.
Output.
Set plug to line voltage
9
8
7
6
5
10
11
1
12
4
2
3
R
281
+135
+90
+Det.
G
P
F-
F+
Regulator
C T
-4.5
-9
j
i
h
g
f
e
d
c
b
a
210

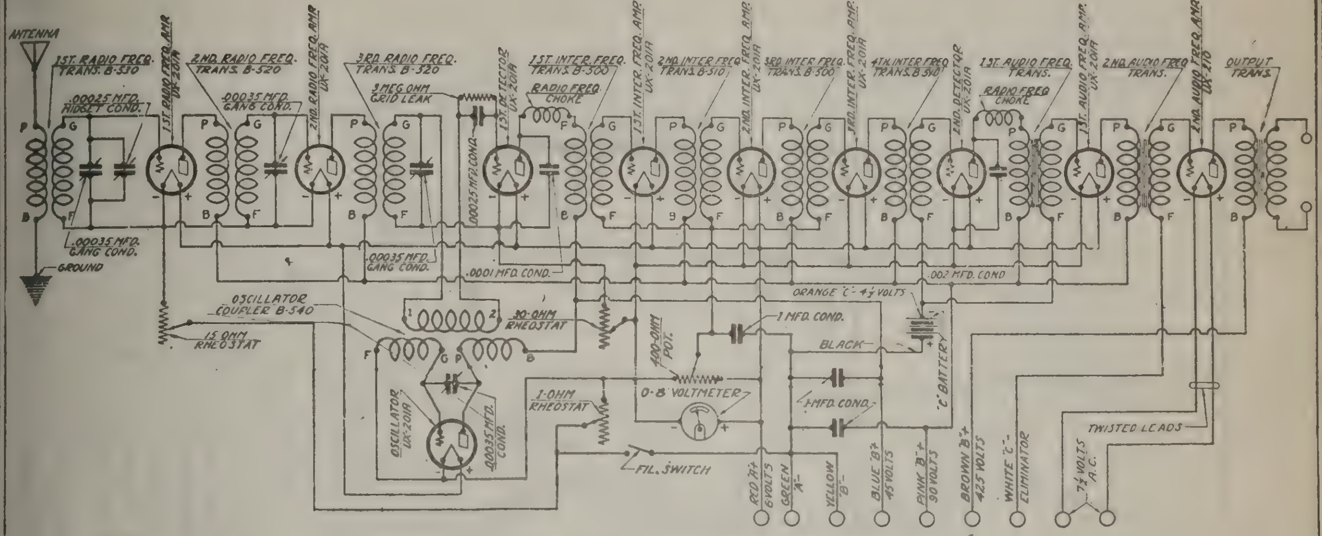
PABC-5 Schematic

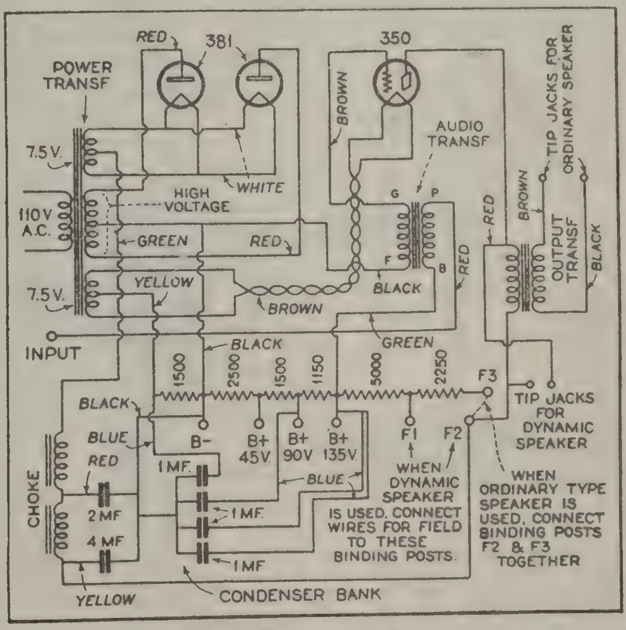

R
1000 Ω
5000 Ω
1100 Ω
1100 Ω
F
0-50000
PABC-4/5
45 Ω
45 Ω
310 Ω
30 Ω
E
D
C
B
A
TERMINAL STRIP

SCOTT TRANSFORMER CO.

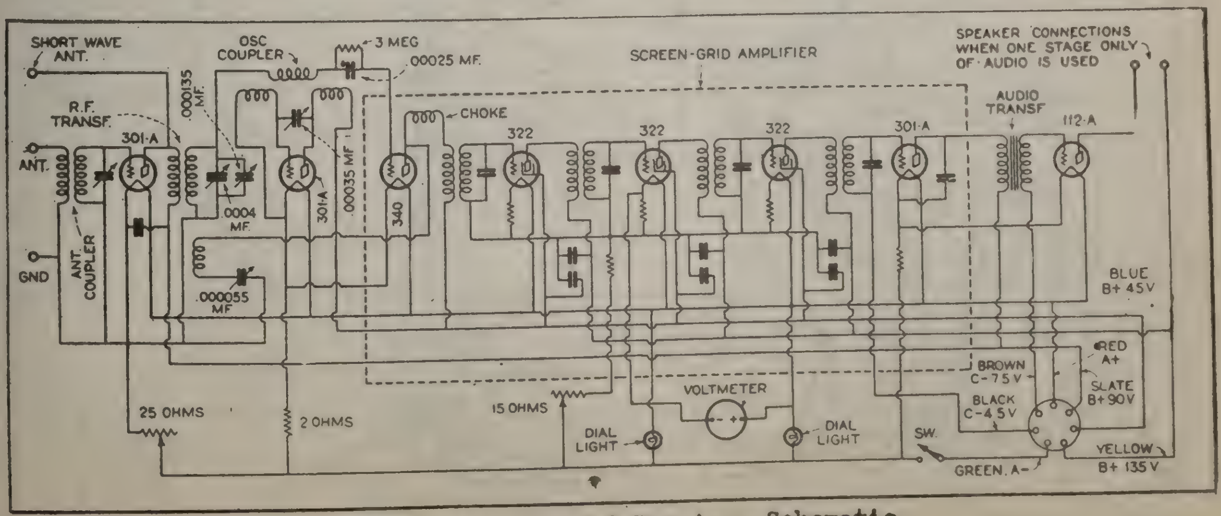
MODEL "World Record" 10
MODEL Shield Grid "9"

Model World Record 10


ANTENNA
1ST. RADIO FREQ. TRANS. B-530
.00025 MFD. MIDGET COND.
1ST. RADIO FREQ. AMP. UX-201A
2ND. RADIO FREQ. TRANS. B-520
.00035 MFD. GANG COND.
2ND. RADIO FREQ. AMP. UX-201A
3RD. RADIO FREQ. TRANS. B-320
3 MEG OHM GRID LEAK
.00025 MFD. COND.
1ST. DETECTOR UX-201A
RADIO FREQ. CHOKE
1ST. INTER. FREQ. TRANS. B-500
1ST. INTER. FREQ. AMP. UX-201A
2ND. INTER FREQ TRANS. B-510
2ND. INTER. FREQ. AMP. UX-201A
3RD. INTER FREQ. TRANS. B-500
3RD. INTER. FREQ. AMP. UX-201A
4TH. INTER FREQ TRANS. B 540
2ND. DETECTOR UX-201A
RADIO FREQ CHOKE
1ST. AUDIO FREQ. TRANS.
1ST. AUDIO FREQ. AMP. UX-201A
2ND. AUDIO FREQ TRANS.
2ND. AUDIO FREQ. AMP. UX-210
OUTPUT TRANS.
P
G
B
F
.00035 MFD. GANG COND.
GROUND
.00035 MFD. GANG COND.
.0001 MFD. COND.
.002 MFD. COND
ORANGE 'C' - 4½ VOLTS
OSCILLATOR COUPLER B-540
15 OHM RHEOSTAT
30-OHM RHEOSTAT
1
2
400-OHM POT.
1 MFD. COND.
BLACK
'C' BATTERY
0-8 VOLTMETER
1 MFD. COND.
1-OHM RHEOSTAT
OSCILLATOR UX-201A
.00035 MFD. COND.
FIL. SWITCH
RED 'A'+ 6 VOLTS
GREEN 'A'-
YELLOW 'B'-
BLUE 'B'+ 45 VOLTS
PINK 'B'+ 90 VOLTS
BROWN 'B'+ 425 VOLTS
WHITE 'C'- ELIMINATOR
7½ VOLTS A.C.
TWISTED LEADS


RED
381
350
POWER TRANSF
7.5 V.
110 V A.C.
7.5 V.
HIGH VOLTAGE
WHITE
GREEN
RED
YELLOW
BROWN
BROWN
AUDIO TRANSF
G
P
F
B
BLACK
RED
RED
BROWN
OUTPUT TRANSF
BLACK
TIP JACKS FOR ORDINARY SPEAKER
INPUT
BLACK
GREEN
1500
2500
1500
1150
5000
2250
F3
TIP JACKS FOR DYNAMIC SPEAKER
BLACK
BLUE
RED
CHOKE
2 MF
4 MF
YELLOW
B-
B+ 45V
B+ 90V
B+ 135V
1 MF.
BLUE
1 MF.
1 MF
F1
F2
WHEN DYNAMIC SPEAKER IS USED, CONNECT WIRES FOR FIELD TO THESE BINDING POSTS.
WHEN ORDINARY TYPE SPEAKER IS USED, CONNECT BINDING POSTS F2 & F3 TOGETHER
CONDENSER BANK

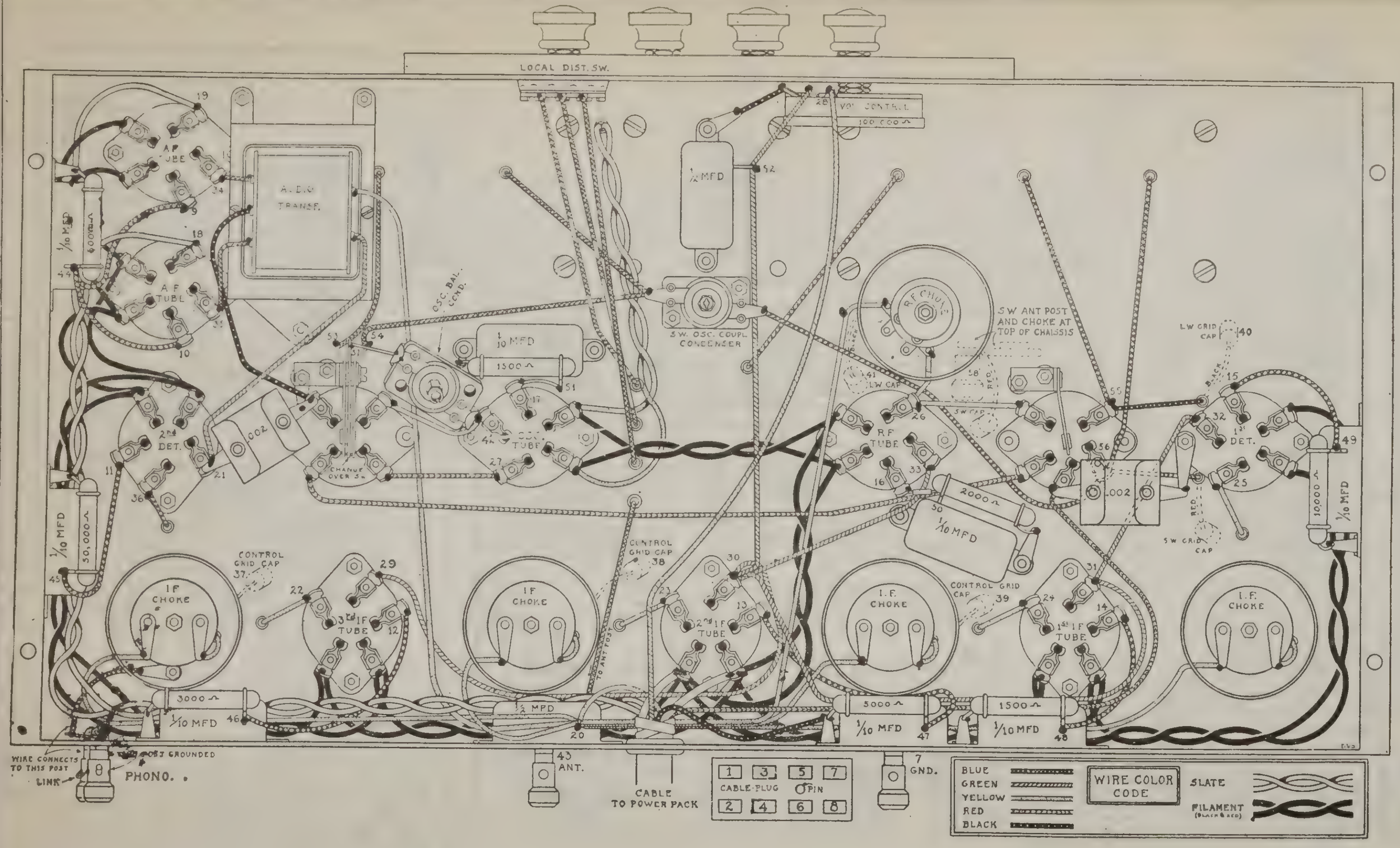
Model Shield Grid 9
Power Pack


SHORT WAVE ANT.
OSC COUPLER
3 MEG
.00025 MF.
SCREEN-GRID AMPLIFIER
SPEAKER CONNECTIONS WHEN ONE STAGE ONLY OF AUDIO IS USED
R.F. TRANSF.
.000135 MF.
ANT.
301-A
.0004 MF.
301-A
.00035 MF
340
CHOKE
322
322
322
301-A
AUDIO TRANSF
112-A
GND
ANT. COUPLER
.000055 MF
BLUE B+ 45V
RED A+
BROWN C-7.5V
SLATE B+90V
BLACK C-4.5V
YELLOW B+ 135V
GREEN. A-
SW.
25 OHMS
2 OHMS
15 OHMS
VOLTMETER
DIAL LIGHT
DIAL LIGHT

Model Shield Grid 9 Receiver Schematic

MODEL "All Wave" Super Receiver Chassis

SCOTT TRANSFORMER CO.


LOCAL DIST. SW.
VOL. CONTROL
100,000 Ω
28
½ MFD
52
AUDIO TRANSF.
A.F. TUBE
A.F. TUBE
19
18
34
35
10
9
1/10 MFD
6000 Ω
44
2nd DET.
11
21
36
.002
CHANGE OVER SW.
53
54
57
OSC. BAL. COND.
1/10 MFD
1500 Ω
51
17
42
27
OSC. TUBE
S.W. OSC. COUPL. CONDENSER
R.F. CHOKE
S.W. ANT POST AND CHOKE AT TOP OF CHASSIS
LW CAP
58
26
R.F. TUBE
16
33
SW CAP
2000 Ω
50
1/10 MFD
55
56
.002
LW GRID CAP
40
15
32
1st DET.
25
SW GRID CAP
49
10000 Ω
1/10 MFD
1/10 MFD
30,000 Ω
45
CONTROL GRID CAP
37
IF CHOKE
22
29
3rd IF TUBE
12
IF CHOKE
CONTROL GRID CAP
38
TO ANT POST
23
30
2nd IF TUBE
13
I.F. CHOKE
CONTROL GRID CAP
39
24
31
1st IF TUBE
14
I.F. CHOKE
3000 Ω
1/10 MFD
46
½ MFD
20
5000 Ω
1/10 MFD
47
1500 Ω
1/10 MFD
48
WIRE CONNECTS TO THIS POST
LINK
POST GROUNDED
PHONO.
43
ANT.
CABLE TO POWER PACK
1
3
5
7
CABLE-PLUG
PIN
2
4
6
8
7
GND.
BLUE
GREEN
YELLOW
RED
BLACK
WIRE COLOR CODE
SLATE
FILAMENT (BLACK & RED)

HOW TO DISTINGUISH OSCILLATOR FROM R. F. COIL

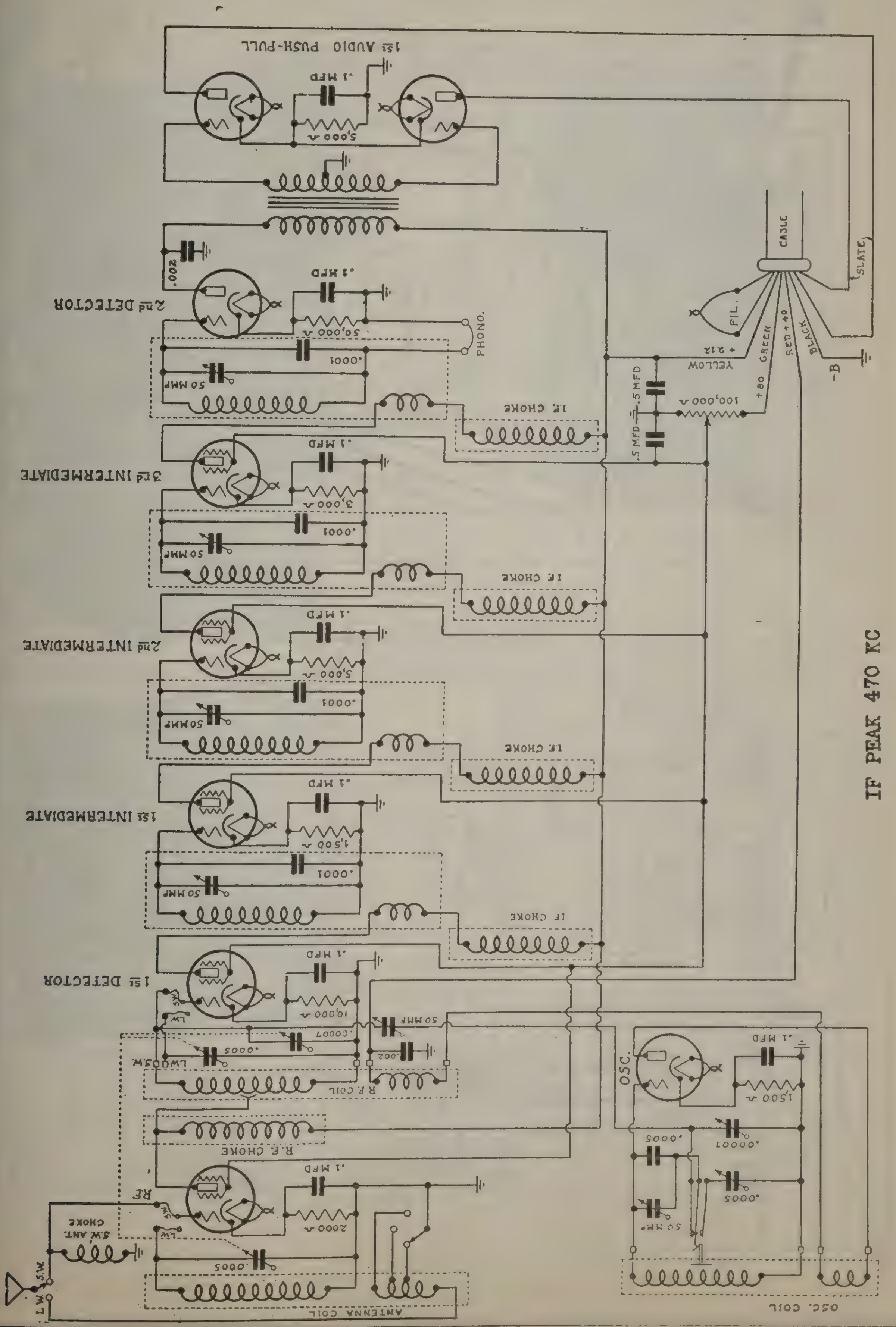
	Oscillator Coil	R. F. Coil
15-21 Meters	Two Enamel Wire Windings	One Enamel Wire Winding
21-27 Meters	Two Enamel Wire Windings	One Enamel Wire Winding
27-38 Meters	Two Enamel Wire Windings	One Enamel Wire Winding
38-84 Meters	Two Enamel Wire Windings	One Enamel, One Silk Winding
84-184 Meters	Two Enamel Wire Windings	One Enamel, One Silk Winding

NOTE:—When tuning short wave stations the short wave coils **must be left exposed** (the aluminum covers **should not be replaced**). Be sure that both oscillator and R. F. coils are for the same wave length band:

The tube on the extreme right of the chassis is the first detector

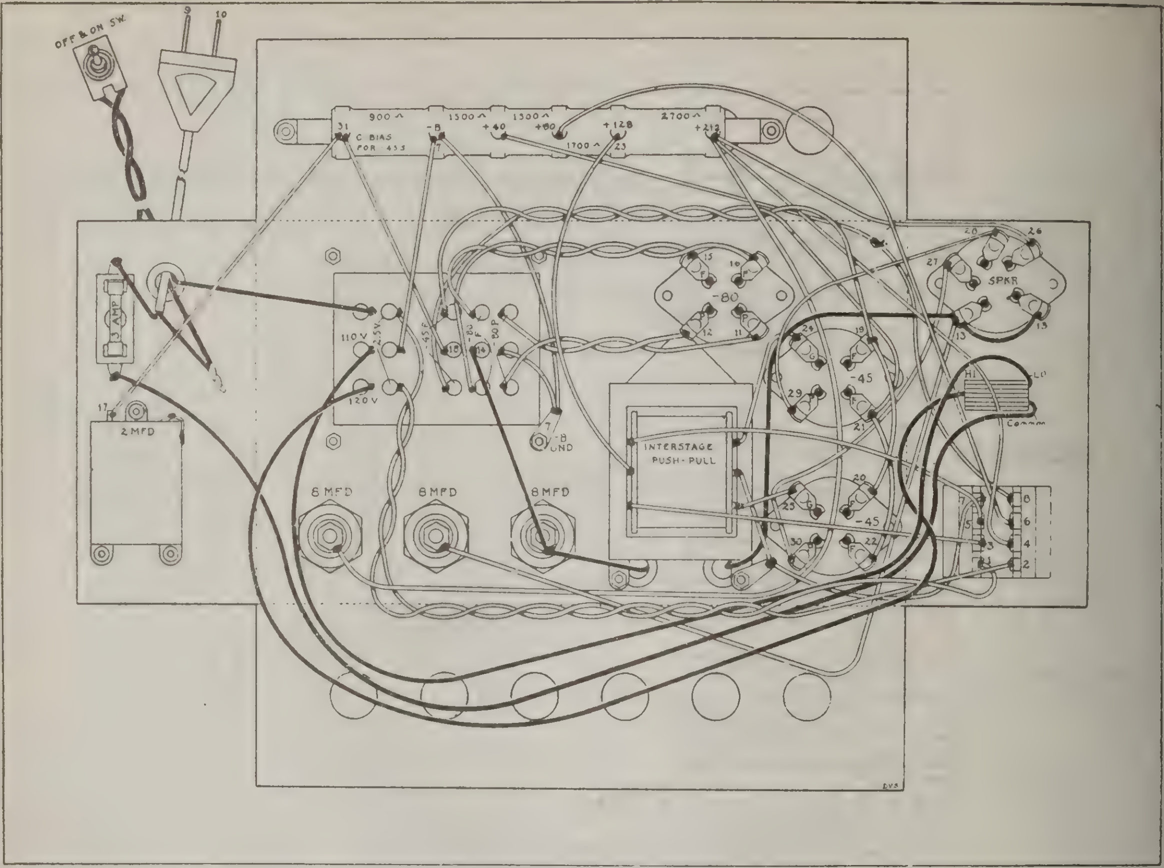
SCOTT TRANSFORMER CO.

MODEL "All Wave" Super Receiver Schematic

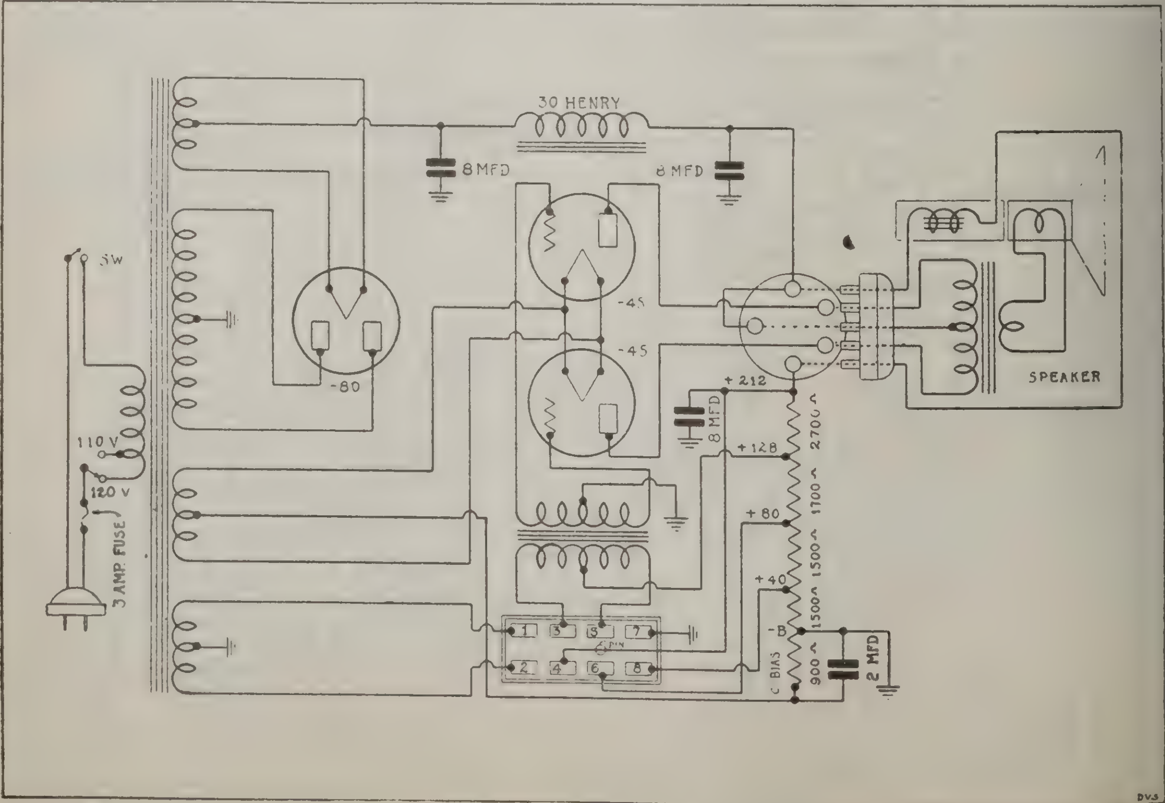

1st AUDIO PUSH-PULL
.1 MFD
5,000 Ω
.002
2nd DETECTOR
.1 MFD
50,000 Ω
PHONO.
.0001
50 MMF
I.F. CHOKE
3rd INTERMEDIATE
.1 MFD
3,000 Ω
.0001
50 MMF
I.F. CHOKE
2nd INTERMEDIATE
.1 MFD
5,000 Ω
.0001
50 MMF
I.F. CHOKE
1st INTERMEDIATE
.1 MFD
1,500 Ω
.0001
50 MMF
IF CHOKE
1st DETECTOR
.1 MFD
10,000 Ω
SW
LW
.00001
50 MMF
.0005
LW
SW
.002
R.F. COIL
R.F. CHOKE
RF
.1 MFD
2000 Ω
SW
LW
S.W. ANT. CHOKE
.0005
ANTENNA COIL
L.W.
S.W.
OSC.
.1 MFD
1,500 Ω
.00001
.0005
.0005
50 MMF
OSC. COIL
CABLE
SLATE
FIL.
+ 212
YELLOW
GREEN
RED +40
BLACK
-B
+80
100,000 Ω
.5 MFD
.5 MFD
IF PEAK 470 KC

SCOTT TRANSFORMER CO.

MODEL "All Wave" Supe
145 Power Pack
Schematic- Chassis


OFF & ON SW.
9
10
31
C BIAS FOR 45'S
900 ^
-B
7
1500 ^
+40
1300 ^
+80
1700 ^
+128
23
2700 ^
+212
3 AMP
110 V
2.5 V
120 V
45 F
80 F
80 P
18
14
-B GND
17
2 MFD
8 MFD
8 MFD
8 MFD
15
16
-80
12
11
INTERSTAGE PUSH-PULL
24
19
-45
29
21
20
25
-45
30
22
28
26
27
SPKR
13
13
HI
LO
Common
8
6
4
2
7
5
3
1
DVS

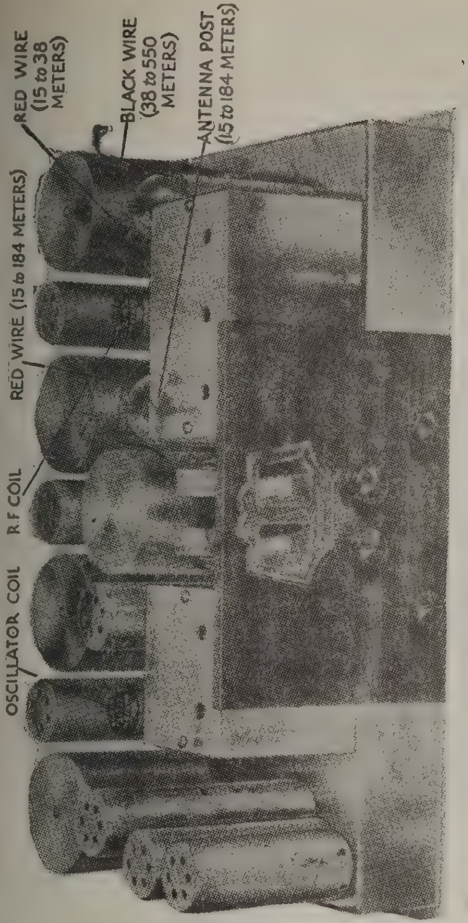
Wiring Diagram of 145 Power Pack


30 HENRY
8 MFD
8 MFD
SW
-80
-45
-45
110 V
120 V
3 AMP. FUSE
+212
8 MFD
2700 ^
+128
1700 ^
+80
1500 ^
+40
1500 ^
-B
C BIAS
900 ^
2 MFD
SPEAKER
1
3
5
7
2
4
6
8
DVS

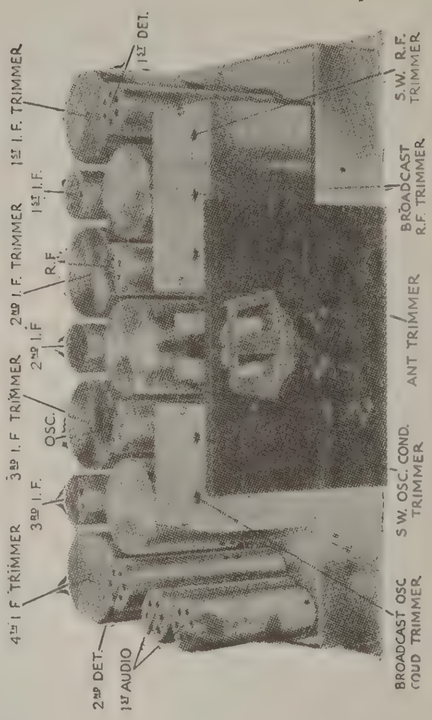
Schematic Diagram of 145 Power Pack

SCOTT TRANSFORMER CO.

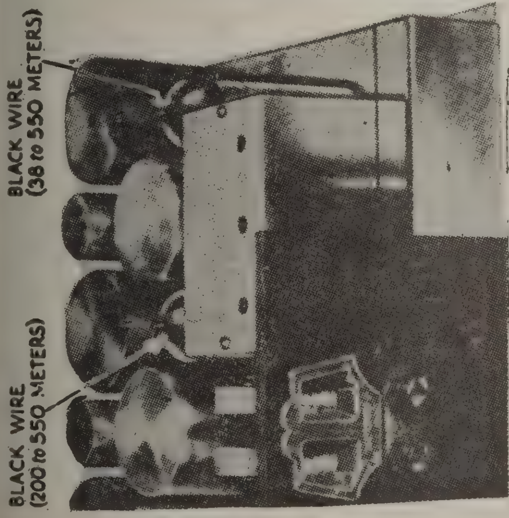
MODEL "All Wave" Super
150 Power Pack
Trimmer Locations
Control Box


RED WIRE (15 to 38 METERS)
BLACK WIRE (38 to 550 METERS)
ANTENNA POST (15 to 184 METERS)
RED WIRE (15 to 184 METERS)
RED WIRE
R.F. COIL
OSCILLATOR COIL

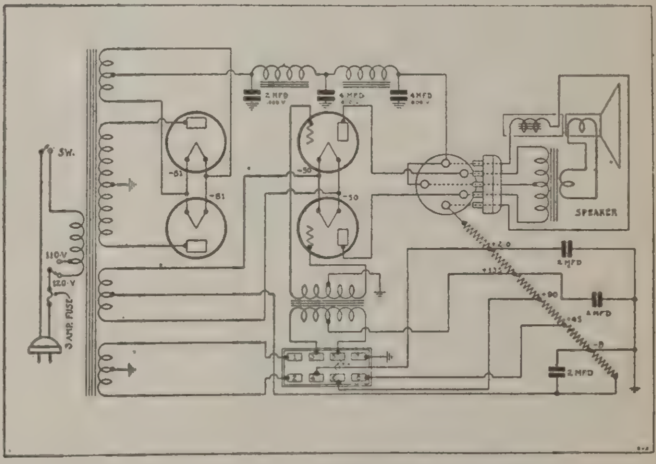
View of Screen Grid Cap Connections for Short Wave Reception


1ST DET.
S.W. R.F. TRIMMER
1ST I.F. TRIMMER
1ST I.F.
BROADCAST R.F. TRIMMER
2ND I.F. TRIMMER
R.F.
2ND I.F.
ANT TRIMMER
3RD I.F. TRIMMER
OSC.
S.W. OSC. COND. TRIMMER
3RD I.F.
4TH I.F. TRIMMER
BROADCAST OSC COND TRIMMER
2ND DET.
1ST AUDIO

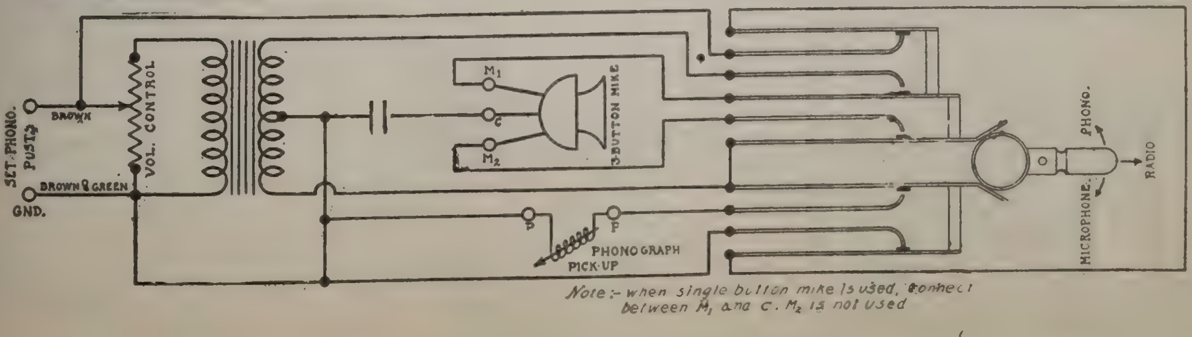
Location of Tubes and Trimmer Condensers


BLACK WIRE (38 to 550 METERS)
BLACK WIRE (38 to 550 METERS)
BLACK WIRE (200 to 550 METERS)

Screen Grid Connections for Broadcast Reception


SW.
110 V
120 V
3 AMP. FUSE
2 MFD
4 MFD
4 MFD
-81
-81
-50
-50
SPEAKER
2 MFD
4 MFD
2 MFD

Schematic Diagram for 150 Power Pack


SET-PHONO. POSTS
BROWN
BROWN & GREEN
GND.
VOL. CONTROL
M1
C
M2
3 BUTTON MIKE
P
P
PHONOGRAPH PICK-UP
PHONO.
RADIO
MICROPHONE

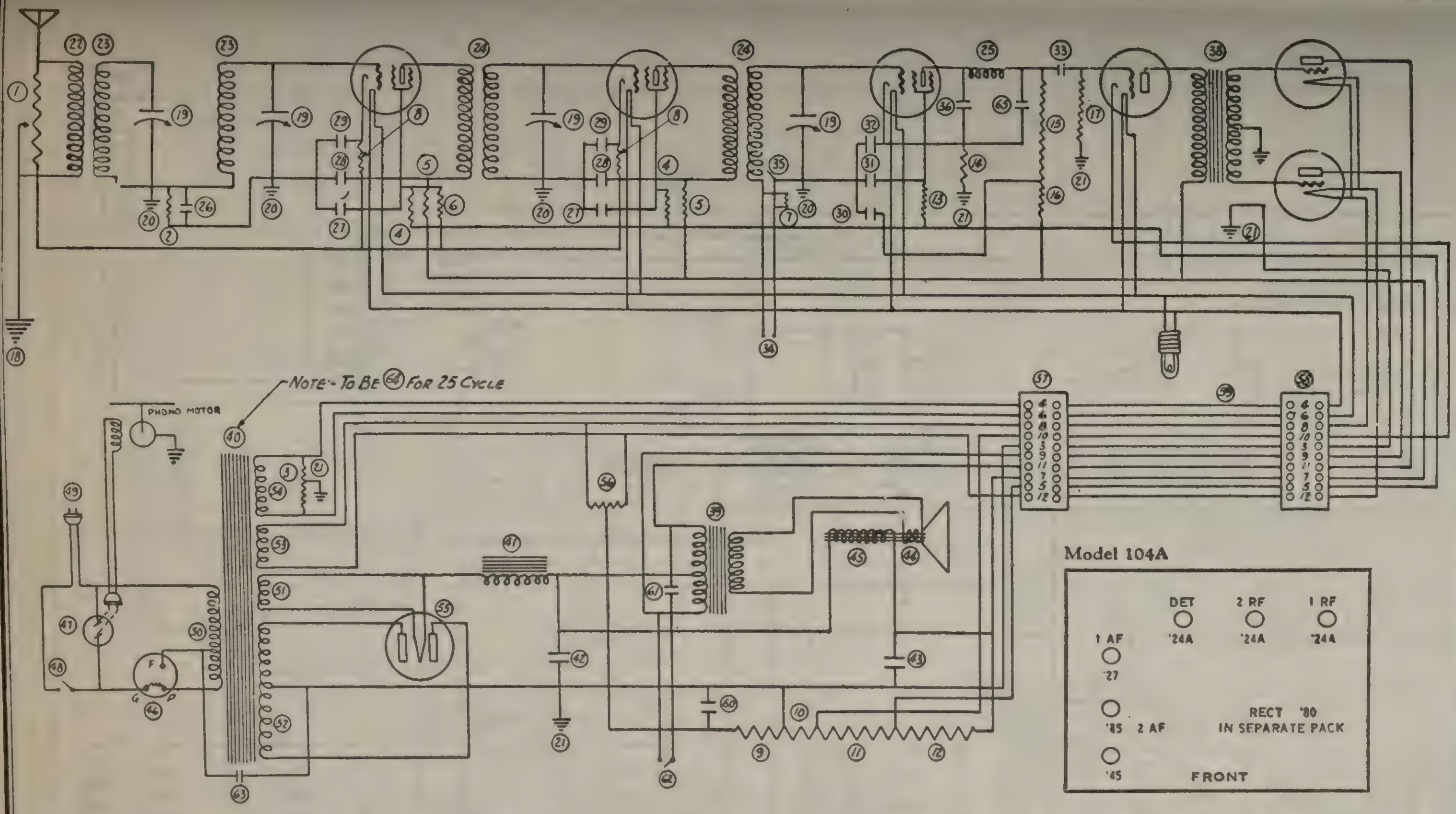
Note:- when single button mike is used, connect between M_1 and C. M_2 is not used

Schematic Diagram of Scott Control Box

SENTINEL RADIO CORP.

SENTINEL—Models 11-12-15-16
Line Voltage 115—Volume Control Full On

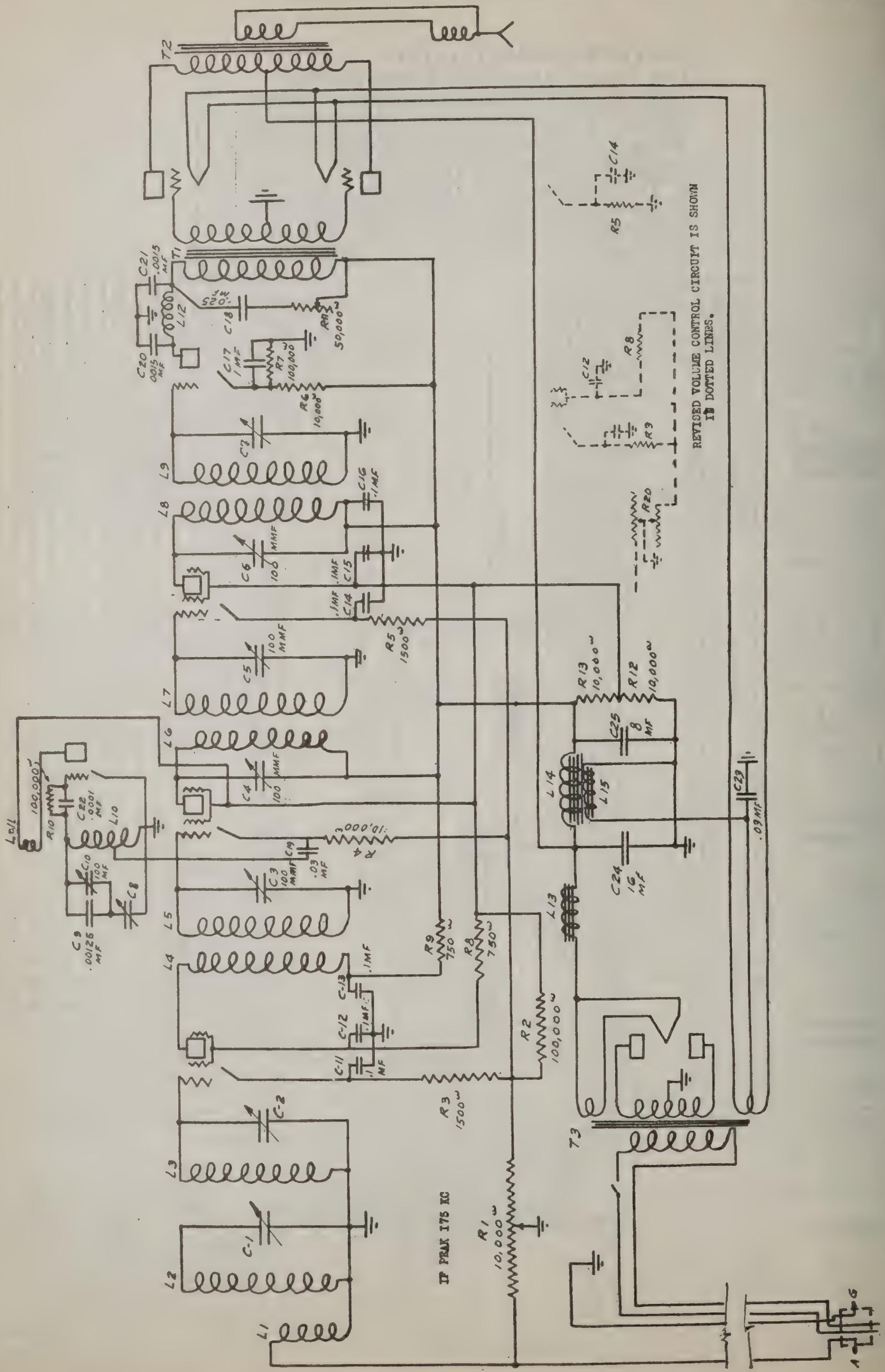
TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR ④ HEATER	PLATE OR ⑤ ANODE	CONTROL GRID—SPACE ⑥ GD+	NORMAL GRID—SCREEN ⑦ GD+	CATHODE TO ⑧ HEATER	SCREEN GD L. H. '80 ⑨ PLATE	PLATE R. H. '80 ⑩ PLATE	TUBE TEST ⑪	PLATE CURRENT ⑫ CHANGE	⑬
1	224	1 R.F.	2.36	176	2.2	87	-	-	3			
2	224	2 R.F.	2.36	176	2.2	87	-	-	3			
3	224	Det.	2.37	62.5*	4.5	10*	-	-	.25			
4	227	1 A.F.	2.4	157	-	12.5	-	-	4.75			
5	245	PP-AF	2.5	235	-	46	-	-	32.5			
6	245	PP-AF	2.5	235	-	46	-	-	32.5			
7	280	Rect.	5.0	-	-	-	-	55	55			



(NO)	DESCRIPTION	R	I	E	W	(NO)	DESCRIPTION	(NO)	DESCRIPTION	(NO)	DESCRIPTION
①	VOLUME CONTROL	10 M	8(MAX)	∞	0.001	⑱	SET EXTERNAL GROUND	㉟	PHONOGRAPH SWITCH	(52)	HIGH VOLTAGE WINDING
②	COUPLING RESISTOR	750	0	0	0	⑳	ROTOR BRUSH GROUND	㊱	DETECTOR R.F. BY PASS .0001mf. MICA	(53)	245 FILAMENT WINDING
③	CENTERTAP RESISTOR	20	125	25	.315	㉑	CHASSIS GROUND	㊲	245 BIAS BYPASS COND .025mf. 200	(54)	224 FILAMENT WINDING
④	SCREEN FILTER RESISTANCE	750	1	75	.0007	⑲	TUNING CONDENSER	㊳	INPUT PUSH PULL TRANS.	(55)	RECTIFIER TUBE TYPE 280
⑤	PLATE FILTER RESISTANCE	750	4	3.	.012	㉒	PRIMARY COIL 690 mh's	㊴	OUTPUT PUSHPULL TRANS.	(56)	CENTER TAP 245 FILAMENT
⑥	BIAS RESISTOR	100 M	1	93	.09	㉓	BAND PASS INDUCTANCES	㊵	POWER TRANSFORMER	(57)	JONES PLUG AND RECEPTICAL
⑦	PICKUP LOAD RESISTANCE	2500	0	0	0	㉔	R F TRANSFORMERS	㊶	POWER CHOKE 200 ~	(58)	CABLE TERMINAL STRIP
⑧	CATHODE BIAS RESISTANCE	750	4	3	012	㉕	R F CHOKE 8 m.h	㊷	15 MFD ELECTROLYTIC CONDENSER	(59)	18½" CABLE 10 CONDUCTOR
⑨	245 BIAS RESISTANCE	775	62	50	3 1	㉖	COUPLING CONDENSER 025mfd.	㊸	5 MFD. ELECTROLYTIC CONDENSER	(60)	.025 PAPER CONDENSER 300V.
⑩	AUDIO BIAS RESISTANCE	275	44	125	.55	㉗	SCREEN FILTER COND. 1mfd: 200	㊹	VOICE COIL	(61)	.1mfd PAPER COND 1000 V
⑪	SCREEN RESISTANCE	1850	46	80.5	3.6	㉘	PLATE FILTER COND 1mfd - 300 V	㊺	FIELD 2000 ~ ±5%	(62)	TONE CONTROL SWITCH
⑫	FIELD LOAD RESISTANCE	2100	46	93	4 3	㉙	CATHODE BY PASS COND 1mfd 200V.	㊻	BALLAST LAMP SOCKET	(63)	.005 BY PASS COND.
⑬	SCREEN BLEEDER RESISTANCE	15 MM	.055	110	.006	㉚	DETECTOR FILTER COND .5mfd 300 V	㊼	PHONO-MOTOR OUTLET	(64)	POWER TRANS. 4296-A FOR 25 CYCLE
⑭	DETECTOR BIAS RESISTANCE	5 M	.38	1.9	.0007	㉛	SCREEN FILTER COND. .25mfd. - 200 V.	㊽	LINE SWITCH	(65)	DETECTOR R.F. BYPASS .0001mfd.
⑮	PLATE LOAD RESISTANCE	300 M	.32	96	.03	㉜	CATHODE BY-PASS .1mfd - 200 V.	㊾	PLUG AND 8' CORD (BELDEN)	○	
⑯	DETECTOR FILTER RESISTANCE	50 M	.32	16	.005	㉝	COUPLING COND. .005mfd - MICA	㊿	POWER PRIMARY .82 amp @ 115V	○	
⑰	GRID RESISTANCE	1 M.M.	0	0	0	㉞	PICKUP JACK	(51)	280 FIL 2 amp. 5V.	○	

MODEL 106-B
With Changes

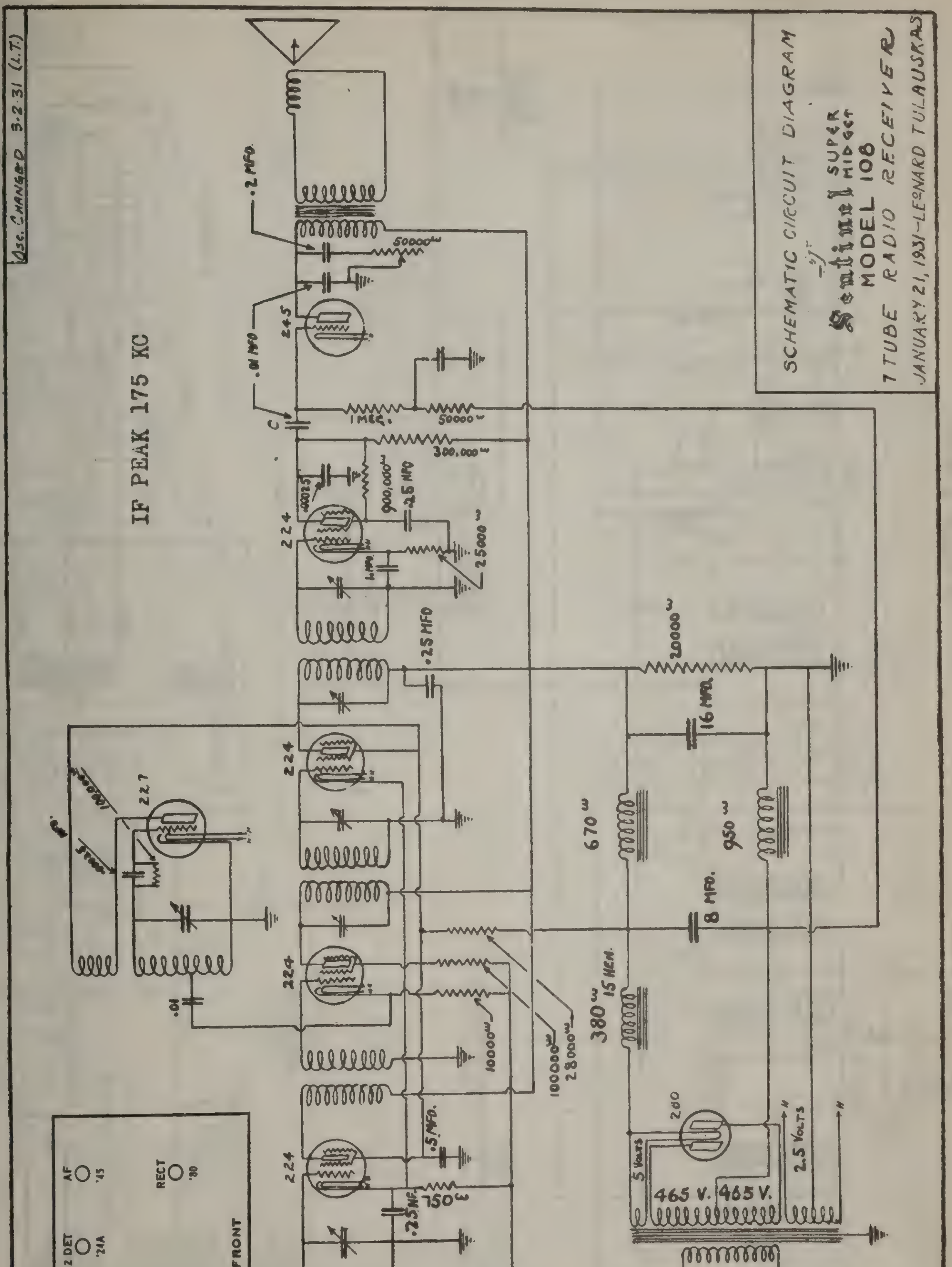
SENTINEL RADIO CORP.


T2
T1
C21 .0015 MF
C20 .0015 MF
L12
C18 .025 MF
R11 50,000Ω
C17 1 MF
R7 100,000Ω
R6 10,000Ω
C7
L9
L8
C16 .1 MF
C6 100 MMF
C15 .1 MF
C14 .1 MF
R5 1500Ω
C5 100 MMF
L7
L6
C4 100 MMF
L10
L11
R10 100,000Ω
C22 .0001 MF
C10 100 MF
C8
C9 .00125 MF
C3 100 MMF
C19 .03 MF
R4 10,000Ω
L5
L4
C-13 .1 MF
C-12 .1 MF
C-11 .1 MF
R9 750Ω
R8 750Ω
R2 100,000Ω
R3 1500Ω
C-2
L3
C-1
L2
L1
R1 10,000Ω
R13 10,000Ω
R12 10,000Ω
C25 8 MF
L14
L15
C23 .09 MF
C24 16 MF
L13
T3
G
A
C14
R5
C12
R8
R3
R20

REVISED VOLUME CONTROL CIRCUIT IS SHOWN IN DOTTED LINES.

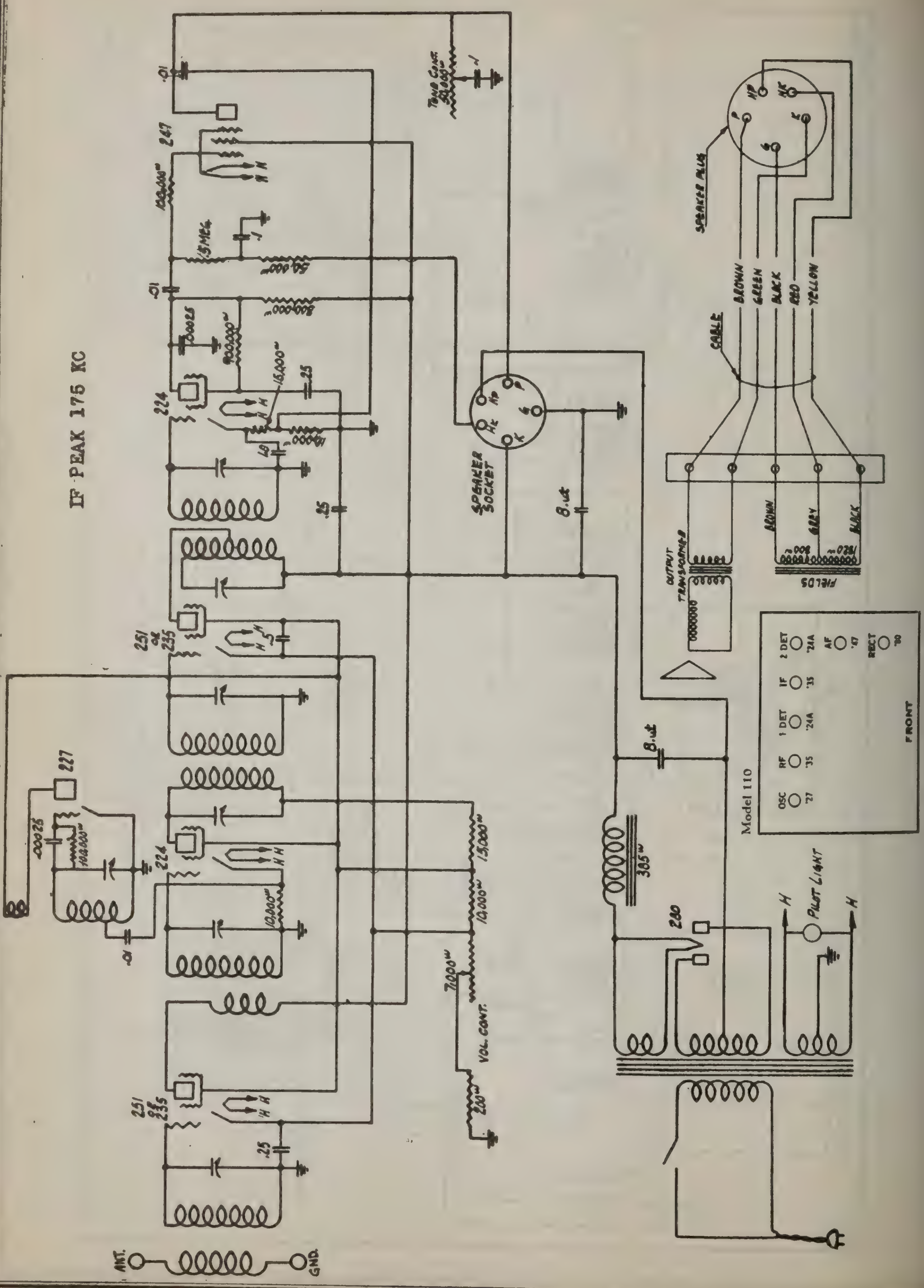
IF PEAK 175 KC

SENTINEL RADIO CORP.


Osc. CHANGED 3-2-31 (L.T.)
SCHEMATIC CIRCUIT DIAGRAM
"of"
Sentinel SUPER MIDGET
MODEL 108
7 TUBE RADIO RECEIVER
JANUARY 21, 1931 - LEONARD TULAUSKAS
IF PEAK 175 KC
.2 MFD
50000Ω
245
.01 MFD
C
1 MEG.
50000Ω
300,000Ω
.00025
900,000Ω
.25 MFD
224
1 MFD
25000Ω
.25 MFD
20000Ω
16 MFD.
224
227
670Ω
950Ω
8 MFD.
380Ω
15 HEN.
224
.01
10000Ω
100000Ω
28000Ω
280
5 Volts
465 V.
465 V.
2.5 Volts
224
.5 MFD.
750Ω
.25 MF
100000Ω
115 V.
60 ~
Model 108
IF '24A
1 DET '24A
RF '24A
OSC '27
2 DET '24A
AF '45
RECT '80
FRONT

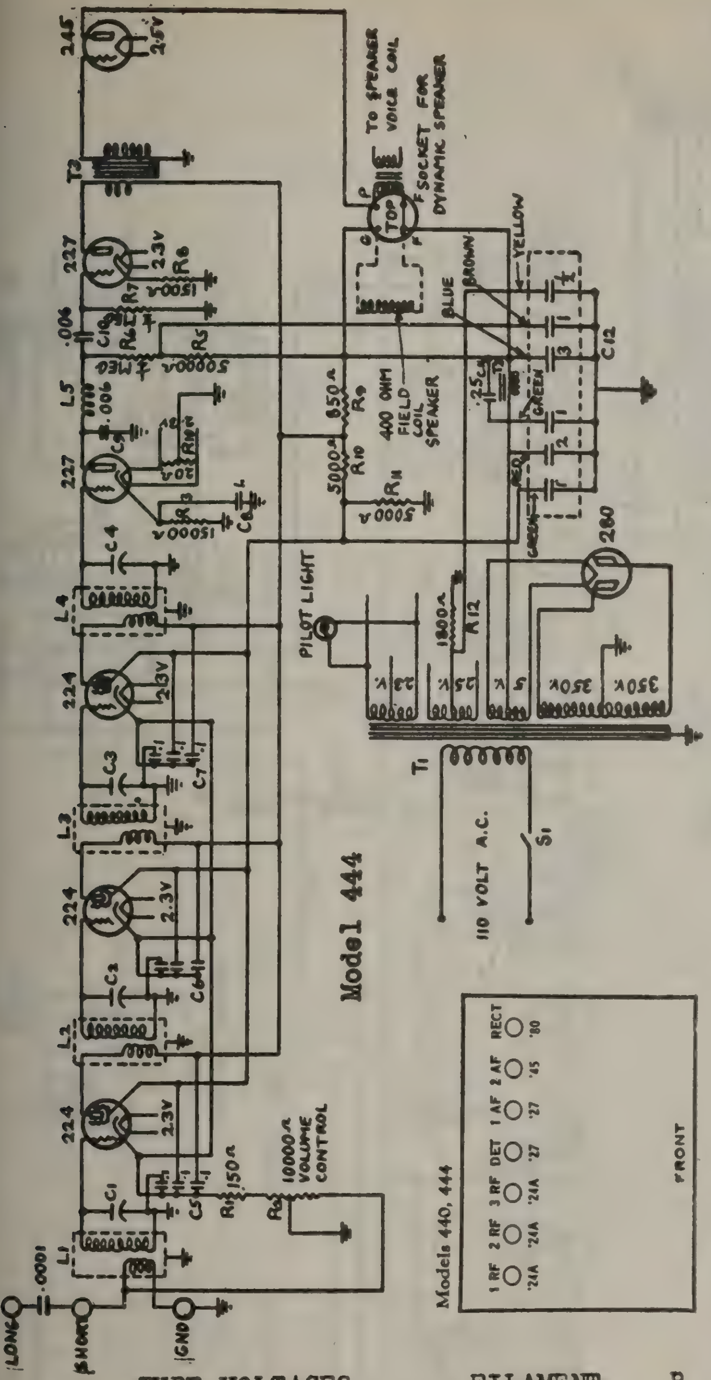
SENTINEL RADIO CORP.

MODEL 108-A,110
Schematic

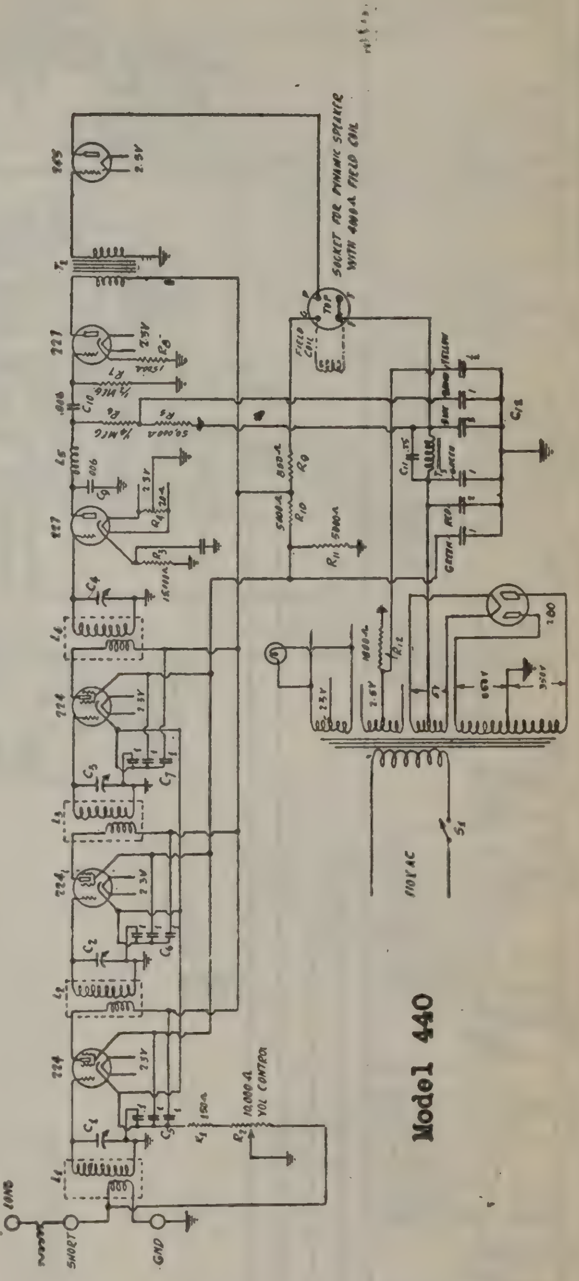

IF PEAK 175 KC
ANT.
GND.
251 or 235
224
.25
.01
.00025
100,000"
227
251 or 235
224
.25
15,000"
10,000"
7,000"
VOL. CONT.
200"
10,000"
.0005
900,000"
15,000"
800,000"
.01
50,000"
.5 MEG.
.1
100,000"
247
H H
.01
TONE CONT. 50,000"
.1
SPEAKER SOCKET
P
HP
G
K
HX
8.mf
8.mf
385"
280
H
PILOT LIGHT
H
OUTPUT TRANSFORMER
FIELDS
800"
1250"
BROWN
GREY
BLACK
CABLE
BROWN
GREEN
BLACK
RED
YELLOW
SPEAKER PLUG
Model 110
OSC '27
RF '35
1 DET '24A
IF '35
2 DET '24A
AF '47
RECT '80
FRONT

MODEL 440
MODEL 444

SENTINEL RADIO CORP.


245
2.5V
T3
To speaker voice coil
Socket for dynamic speaker
TOP
227
2.3V
R6
1500Ω
R7
.006
C10
R8 1 MEG
R5
50000Ω
L5
.006
C9
R13
20Ω
227
R3
15000Ω
C8
850Ω
R9
5000Ω
R10
400 OHM FIELD COIL SPEAKER
R11
5000Ω
BLUE
BROWN
YELLOW
GREEN
RED
.25
C12
280
PILOT LIGHT
1800Ω
R12
2.5V
350V
350V
T1
110 VOLT A.C.
S1
C4
L4
224
2.3V
C3
C7
L3
224
2.3V
C2
C6
L2
224
2.3V
C1
C5
R1 150Ω
R2
10000Ω VOLUME CONTROL
L1
.0001
LONG
SHORT
GND
Models 440, 444
1 RF '24A
2 RF '24A
3 RF '24A
DET '27
1 AF '27
2 AF '45
RECT '80
FRONT

Model 444


245
2.5V
T3
Socket for dynamic speaker with 400Ω field coil
Field coil
TOP
227
2.5V
R6
R7
R8
R5
C10
C12
L5
C9
227
2.5V
R9
R10
5000Ω
R11
5000Ω
C11
280
1800Ω
R12
2.5V
350V
110V AC
S1
C4
L4
224
2.5V
C3
C7
L3
224
2.5V
C2
C6
L2
224
2.5V
C1
C5
150Ω
10,000Ω VOL CONTROL
L1
LONG
SHORT
GND

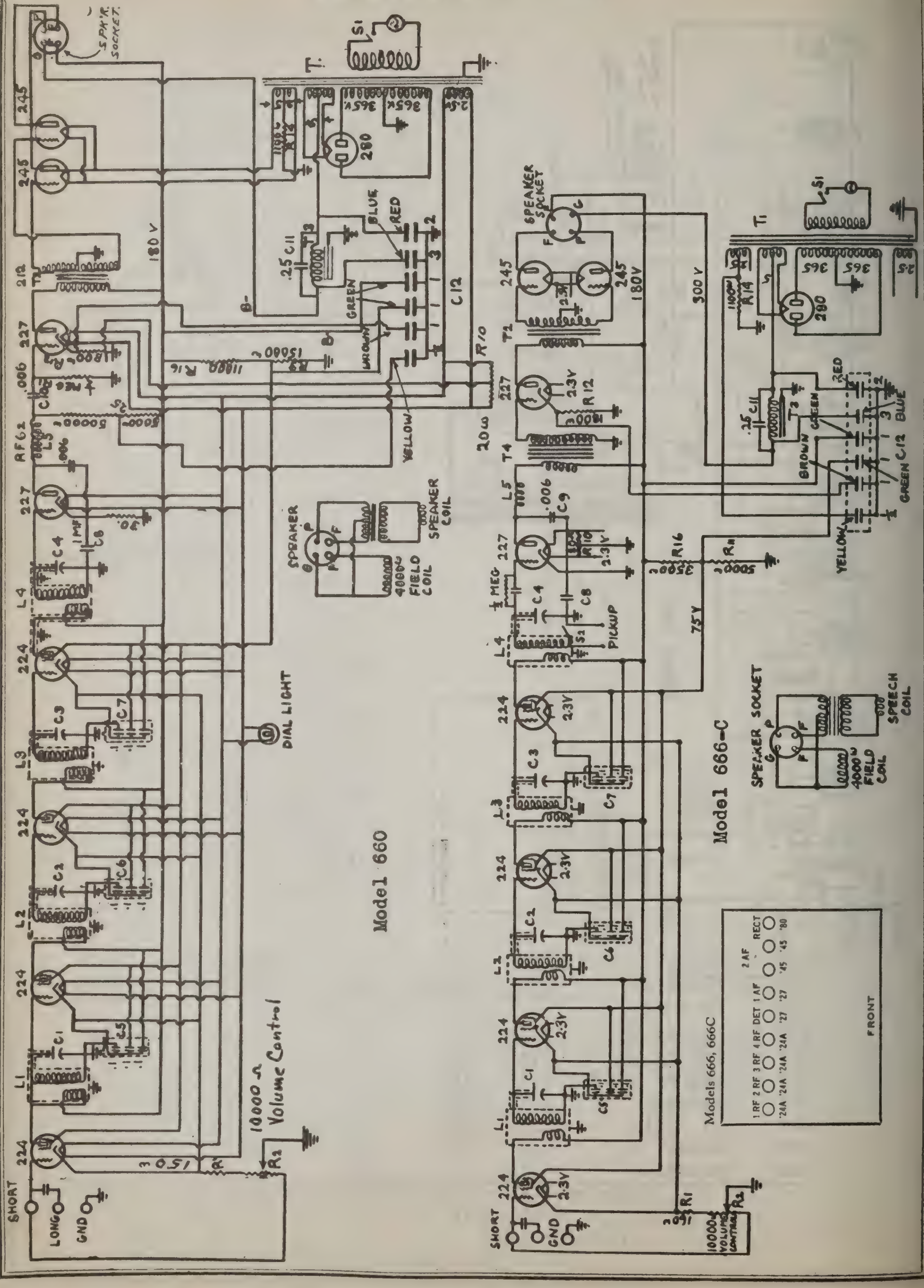
Model 440

TUBE VOLTAGES Type of Tube	Position of Tube	FILAMENT VOLTS	B VOLTS	C VOLTS	NORMAL PLATE M.A.	SCREEN VOLTS
224	1st RF	2.35	155	2	3.5	75
224	2nd RF	2.35	155	2	3.5	75
224	3rd RF	2.35	155	2	3.5	75
227	Detector	2.35	110	18	.2	
227	1st Audio	2.35	122	8	10.5	
245	Output	2.4	245	50	27	
280	Rectifier	4.75		*55		

350 A.C. Volts each side high voltage secondary
*51-55 M.A. each plate
115 volts line
With volume control to full on position

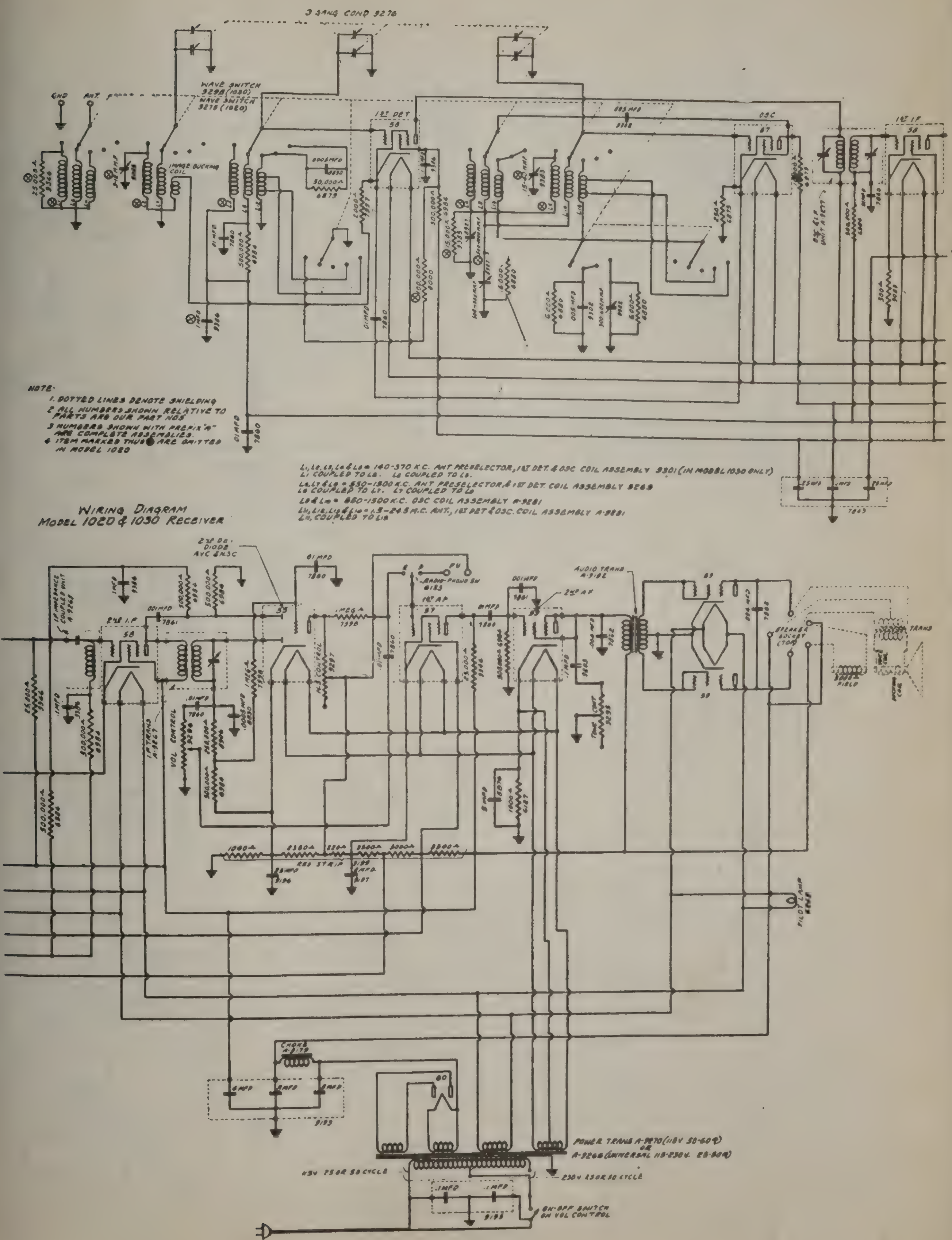
MODEL 660,
MODEL 666-C

SENTINEL RADIO CORP.


SPK'R. SOCKET
245
245
227
227
224
224
224
224
280
T
S1
2.5
365V
365V
110Ω
R14
.25 C11
BLUE
RED
GREEN
BROWN
YELLOW
C12
R10
20ω
B-
B+
180V
11000 R16
15000 R9
1800 R3
.006 C10
1 MEG
RF 62 L5
.006
50000
5000
C4
C8
1 MF
.05
L4
L3
L2
L1
C3
C2
C1
C7
C6
C5
DIAL LIGHT
10000 Ω Volume Control
150 R
R2
SHORT
LONG
GND
SPEAKER
SPEAKER COIL
4000Ω FIELD COIL
Model 660
SPEAKER SOCKET
T2
T4
R12
2.3V
180V
300V
75V
R16 3500
R11 5000
PICKUP
S2
C9
R1
10000 VOLUME CONTROL
T1
T3
SPEECH COIL
Model 666-C
Models 666, 666C
1 RF 2 RF 3 RF 4 RF DET 1 AF 2 AF RECT
'24A '24A '24A '24A '27 '27 '45 '45 '80
FRONT

MODEL 1020, 1030

SENTINEL RADIO CORP.


3 GANG COND 9276
GND
ANT.
WAVE SWITCH 9298 (1030)
WAVE SWITCH 9278 (1020)
IMAGE BUCKING COIL
1ST DET
58
OSC
57
1ST I.F
58
.0005 MFD
50,000Ω 6879
.01 MFD 7860
500,000Ω 6984
.1 MFD 9186
.005 MFD
500,000Ω 6984
15,000Ω
6000Ω
250Ω 6879
300Ω
2ND I.F. UNIT A-9877
7863
2ND DET. DIODE AVC & 55C
55
1ST IF IMPEDANCE COUPLED UNIT A-9268
2ND I.F
.001 MFD 7861
.01 MFD 7860
I.F TRANS A-9267
VOL CONTROL 9298
1 MEG Ω 7990
RADIO-PHONO SW 6183
R
P
PU
1ST AF
57
2ND AF
AUDIO TRANS A-9182
.001 MFD 7861
TONE CONT 9293
53
SPEAKER SOCKET (TOP)
FIELD
TRANS
MOVING COIL
1060Ω
2380Ω
220Ω
2500Ω
3000Ω
2380Ω
RES STRIP
PILOT LAMP 6648
CHOKE A-9179
8 MFD
9193
80
POWER TRANS A-9270 (115V 50-60~) OR A-9266 (UNIVERSAL 115-230V 25-60~)
115V 25 OR 50 CYCLE
230V 25 OR 50 CYCLE
.1 MFD
9193
ON-OFF SWITCH ON VOL CONTROL

NOTE:
1. DOTTED LINES DENOTE SHIELDING
2 ALL NUMBERS SHOWN RELATIVE TO PARTS ARE OUR PART NOS
3 NUMBERS SHOWN WITH PREFIX "A" ARE COMPLETE ASSEMBLIES.
4 ITEM MARKED THUS ● ARE OMITTED IN MODEL 1020

L1, L2, L3, L4 & L5 = 140-370 K.C. ANT PRESELECTOR, 1ST DET. & OSC COIL ASSEMBLY 9301 (IN MODEL 1030 ONLY)
L1 COUPLED TO L2. L4 COUPLED TO L5.

L6, L7 & L8 = 550-1500 K.C. ANT PRESELECTOR & 1ST DET. COIL ASSEMBLY 9269
L6 COUPLED TO L7. L7 COUPLED TO L8

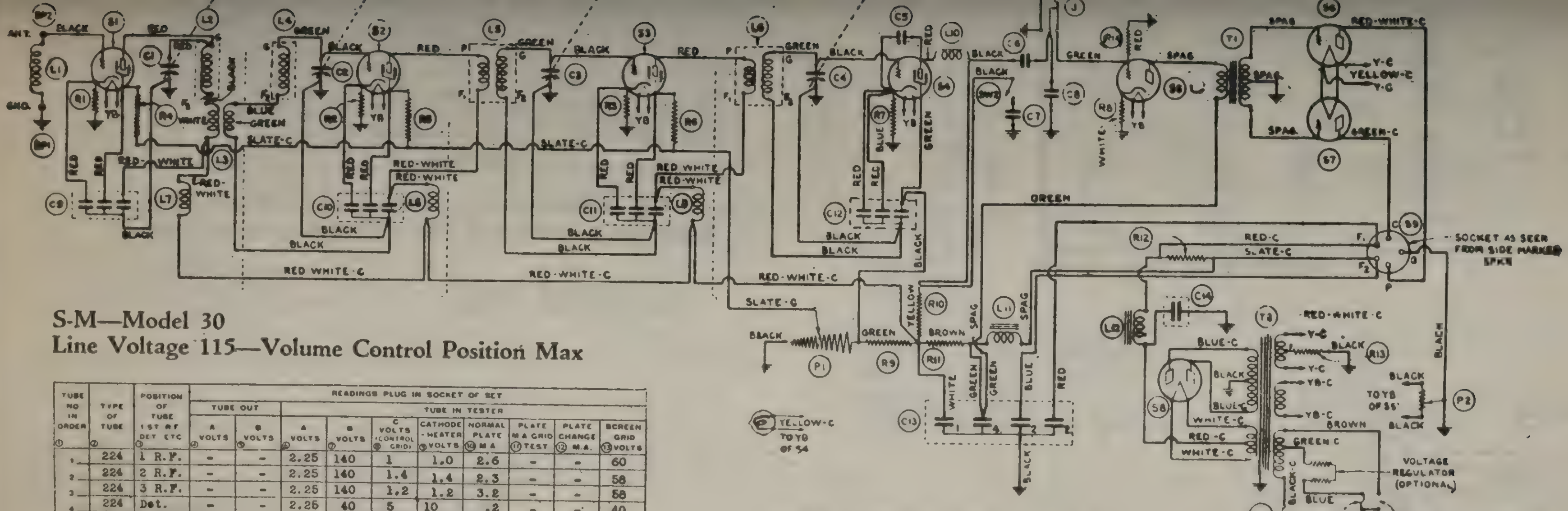
L9 & L10 = 550-1500 K.C. OSC COIL ASSEMBLY A-9281

L11, L12, L13 & L14 = 1.5-24.5 M.C. ANT., 1ST DET & OSC. COIL ASSEMBLY A-9881
L11 COUPLED TO L12

WIRING DIAGRAM
MODEL 1020 & 1030 RECEIVER

SILVER - MARSHALL, INC.

MODEL 30
Schematic,Voltage
MODEL 440

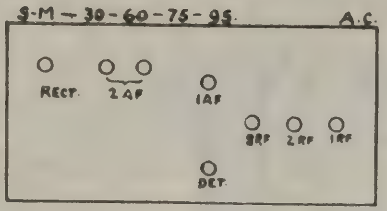

ANT.
GND.
BP1
BP2
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
S1
S2
S3
S4
S5
S6
S7
S8
S9
R1
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
T1
T2
P1
P2
J
SW1
SW2
BLACK
RED
GREEN
BLUE
WHITE
RED-WHITE
RED WHITE-C
RED-WHITE-C
SLATE-C
SLATE-G
YELLOW
BROWN
SPAG
YB
Y-C
YELLOW-C
GREEN-C
RED-C
BLUE-C
WHITE-C
BLACK-C
YB-C
SOCKET AS SEEN FROM SIDE MARKED SPKR
YELLOW-C TO YB OF S4
TO YB OF S5
VOLTAGE REGULATOR (OPTIONAL)
ATTACHMENT PLUG
SPLICE
POSITION OF FUSE TO INCLUDE VOLTAGE REGULATOR
POSITION OF FUSE TO OMIT VOLTAGE REGULATOR

S-M—Model 30
Line Voltage 115—Volume Control Position Max

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M.A. ⑫	SCREEN GRID VOLTS ⑬
1	224	1 R.F.	-	-	2.25	140	1	1.0	2.6	-	-	60
2	224	2 R.F.	-	-	2.25	140	1.4	1.4	2.3	-	-	58
3	224	3 R.F.	-	-	2.25	140	1.2	1.2	3.2	-	-	58
4	224	Det.	-	-	2.25	40	5	10	.2	-	-	40
5	227	1 A.F.	-	-	2.3	176	8.7	12	6.5	-	-	-
6	245	2 A.F.	-	-	2.3	205	40	-	28	-	-	-
7	245	3 A.F.	-	-	2.3	205	40	-	28	-	-	-
8	280	Rect.	-	-	4.7	-	-	-	75	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-

THIS DATA APPLIES TO "B", "C", "D" AND "E" VARIATIONS

S-M — 30 - 60 - 75 - 95 A.C.

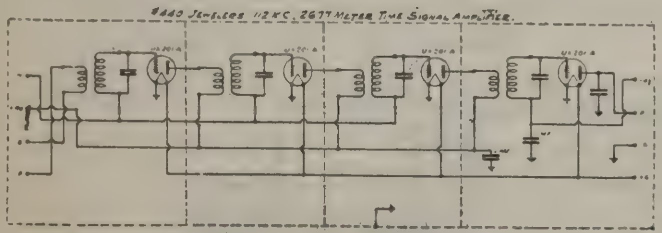

RECT.
2 AF
1AF
3RF
2RF
1RF
DET.

NOTE 2 - WHITE LEAD OF C13 REMOVED FROM S5 TO T1. ONE RED LEAD OF C12 REMOVED FROM S4 TO S5.

NOTE 3 RED LEAD OF C13 REMOVED FROM F1 OF S9 TO L12. L12 INSERTED IN THE RED LEAD OF T2. C14 ADDED BETWEEN L12 AND R12 AND GROUND

NOTE 4 - RED LEAD OF C12 CONNECTED TO S5 RETURNED TO S4

NOTE 5 - RED LEAD OF C13 REMOVED FROM L12 TO F1 OF S9 C14 REMOVED TO OPPOSITE SIDE OF L12.


#440 JEWELERS 112 KC, 2677 METER TIME SIGNAL AMPLIFIER.
UX 201-A
UX 201-A
UX 201-A
UX 201-A

440 JEWELERS TIME SIGNAL AMPLIFIER

LEGEND

BP1-BP2 = BINDING POSTS

C1-C2-C3-C4 = .00035 MFD COND
C5-C6 = 150 MMFD. COND
C8 = .0078 MFD. COND
C7 = .001 MFD. COND
C9-C10-C11-C12 = .01-.01-.01 MFD COND
C13 = L-4-2-2 MFD. — C14 = 2 MFD CONDS

J - JACK

L1-L7-L6-L9-L10 = #275 CHOKE
L2-L4 = #122 COILS
L3 = #30K COUPLING COIL
L5-L6 = #121 COILS
L11 = #338 CHOKE
L12 = #339 CHOKE

P1 = 10000 ω POT TAPERED
P2 - 20 ω POT

R1-R2-R3 = 400 ω
R4-R5-R6 = 3000 ω
R7 = 60,000 ω
R8 = 2000 ω
R9 = 10 000 ω
R10 = 300,000 ω
R11 = 3600 ω
R12 = 1800 ω
R13 = 800 ω
R14 = 2 MEGOHM

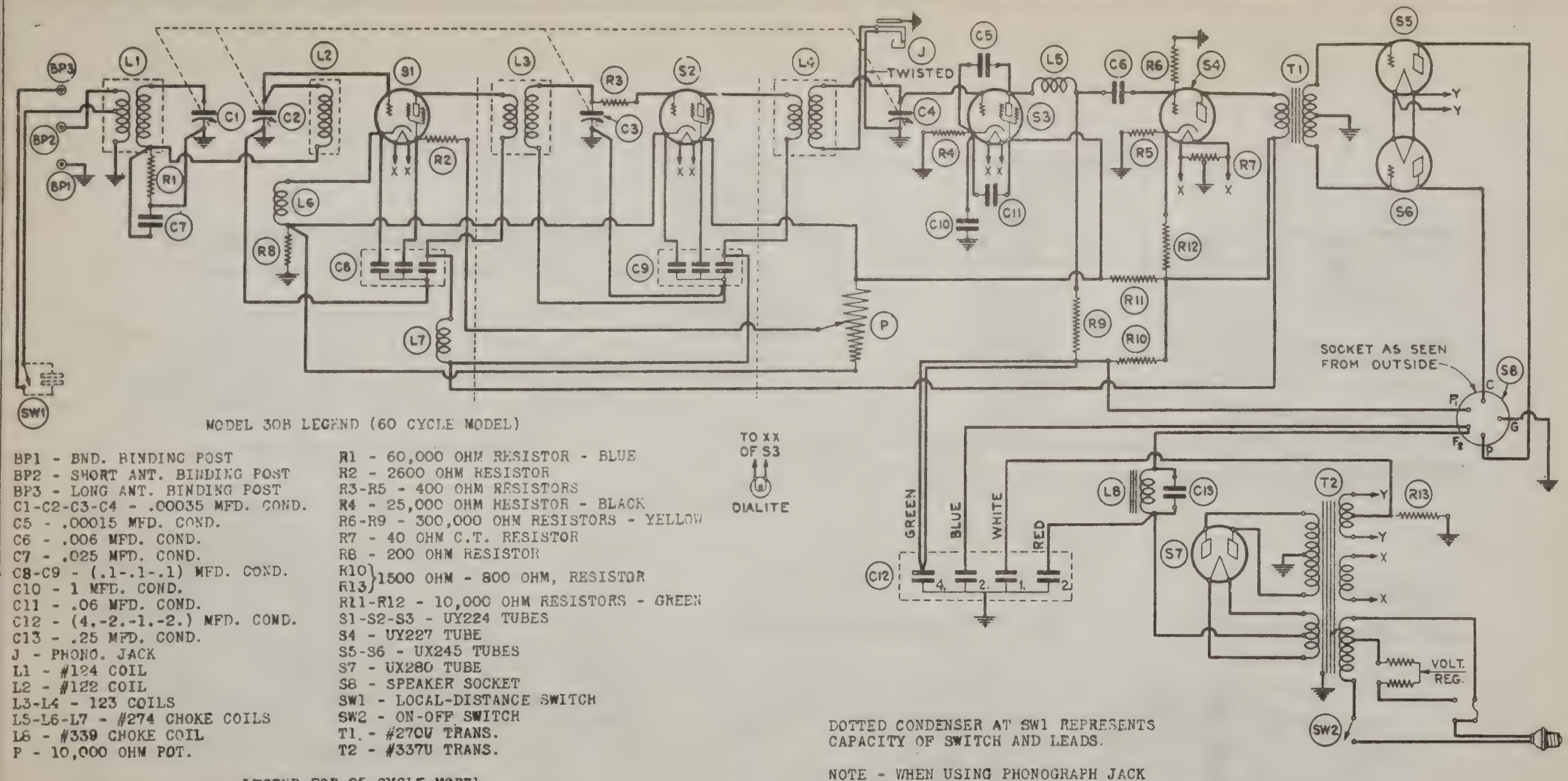
S1-S2-S3-S4 = UX 224
S5 = UX 227
S6-S7 = UX 245
S8 = UX 280
S9 = SPKR. SOCKET
SW1 = 115 V. SWITCH
SW2 = OVERTONE SWITCH

T1 = #270 AUDIO TRANS.
T2 = #337U PWR-TRANS.

SCHEMATIC WIRING DIAGRAM			
PART NO		ASSEMBLY NO.	
MATL.		SCHEMATIC NO 30	
SKETCH BY	KL	SCALE	
DRAWN BY	MK	DATE	5-22-29
CHECKED BY		APPROVED	

MODEL 30B
Schematic,Voltage

SILVER - MARSHALL, INC.


BP1
BP2
BP3
L1
L2
L3
L4
L5
L6
L7
L8
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
S1
S2
S3
S4
S5
S6
S7
S8
T1
T2
J
P
SW1
SW2
TWISTED
X X
Y
X
SOCKET AS SEEN FROM OUTSIDE
C
G
P
F2
GREEN
BLUE
WHITE
RED
4.
2.
1.
2.
VOLT. REG.
TO XX OF S3
DIALITE

MODEL 30B LEGEND (60 CYCLE MODEL)

BP1 - BND. BINDING POST
BP2 - SHORT ANT. BINDING POST
BP3 - LONG ANT. BINDING POST
C1-C2-C3-C4 - .00035 MFD. COND.
C5 - .00015 MFD. COND.
C6 - .006 MFD. COND.
C7 - .025 MFD. COND.
C8-C9 - (.1-.1-.1) MFD. COND.
C10 - 1 MFD. COND.
C11 - .06 MFD. COND.
C12 - (4.-2.-1.-2.) MFD. COND.
C13 - .25 MFD. COND.
J - PHONO. JACK
L1 - #124 COIL
L2 - #122 COIL
L3-L4 - 123 COILS
L5-L6-L7 - #274 CHOKE COILS
L8 - #339 CHOKE COIL
P - 10,000 OHM POT.

R1 - 60,000 OHM RESISTOR - BLUE
R2 - 2600 OHM RESISTOR
R3-R5 - 400 OHM RESISTORS
R4 - 25,000 OHM RESISTOR - BLACK
R6-R9 - 300,000 OHM RESISTORS - YELLOW
R7 - 40 OHM C.T. RESISTOR
R8 - 200 OHM RESISTOR
R10 } 1500 OHM - 800 OHM, RESISTOR
R13 }
R11-R12 - 10,000 OHM RESISTORS - GREEN
S1-S2-S3 - UY224 TUBES
S4 - UY227 TUBE
S5-S6 - UX245 TUBES
S7 - UX280 TUBE
S8 - SPEAKER SOCKET
SW1 - LOCAL-DISTANCE SWITCH
SW2 - ON-OFF SWITCH
T1 - #270U TRANS.
T2 - #337U TRANS.

LEGEND FOR 25 CYCLE MODEL
SAME AS 60 CYCLE MODEL EXCEPT

C11 - .04 MFD. COND.
C13 - 2. MFD. COND.
T2 - #337-25U TRANS.

ADD 1. MFD. CONDENSER
ACROSS TERMINALS OF R12

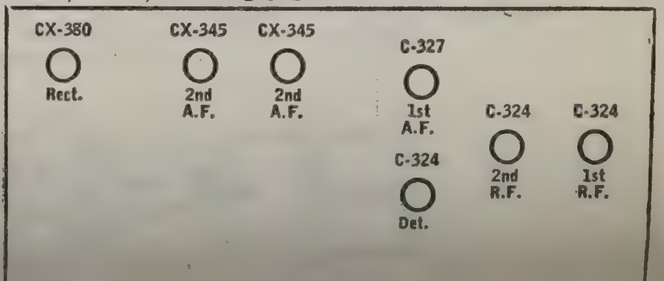
DOTTED CONDENSER AT SW1 REPRESENTS CAPACITY OF SWITCH AND LEADS.

NOTE - WHEN USING PHONOGRAPH JACK CONNECT LOW SIDE OF PHONOGRAPH VOLUME CONTROL TO SLEEVE OF PLUG.

SILVER-MARSHALL—No. 30B-60B-75B-90B
Line Voltage 115—Volume Control Position Max

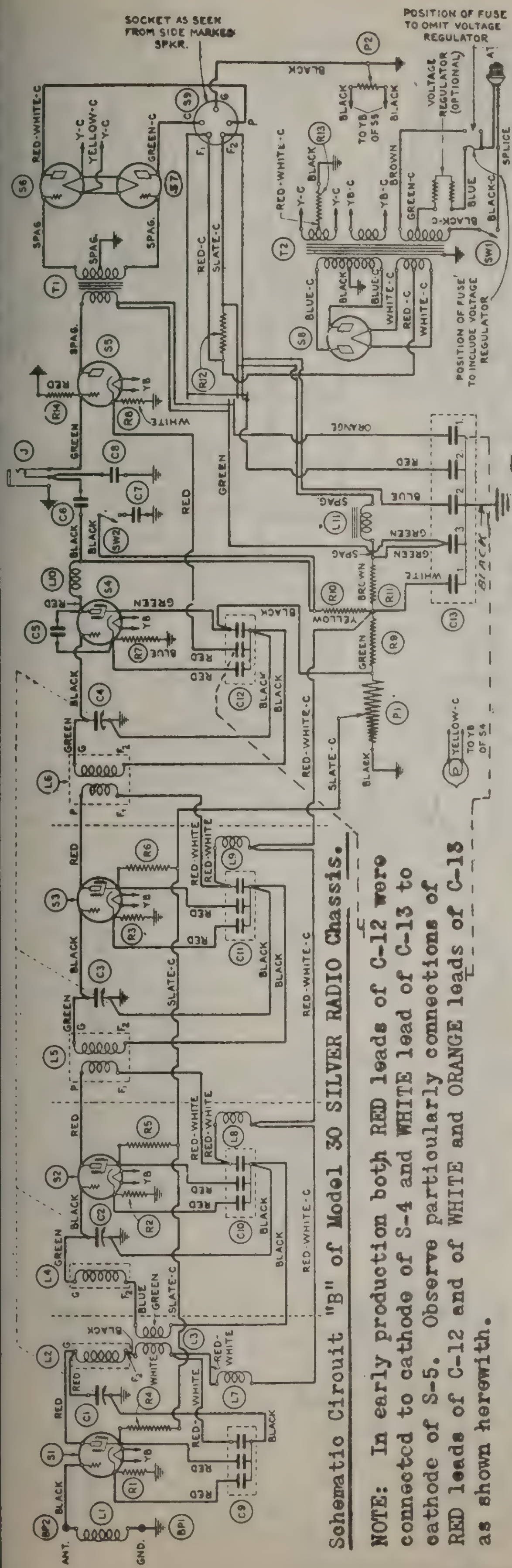
TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST. R.F. DET., ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	C VOLTS (CONTROL ⑧ GRID)	CATHODE -HEATER ⑨ VOLTS	NORMAL PLATE ⑩ M.A.	PLATE M.A GRID ⑪ TEST	PLATE CHANGE ⑫ M.A.	SCREEN GRID ⑬ VOLTS
1	224	1 R.F.	-	-	2.5	168	4	4	5	-	-	70
2	224	2 R.F.	-	-	2.5	164	4	4	5	-	-	70
3	224	Det.	-	-	2.5	28	8	8	.5	-	-	70
4	227	1 A.F.	—	-	2.5	150	10	10	6	-	-	-
5	245	2 A.F.	-	-	2.5	264	44	-	30	-	-	-
6	245	2 A.F.	-	-	2.5	264	44	-	30	-	-	-
7	280	Rect.	-	-	4.8	-	-	-	100	-	-	-

60-B, 75-B, 95-B-30B (A.C.)


CX-380
Rect.
CX-345
2nd A.F.
CX-345
2nd A.F.
C-327
1st A.F.
C-324
Det.
C-324
2nd R.F.
C-324
1st R.F.

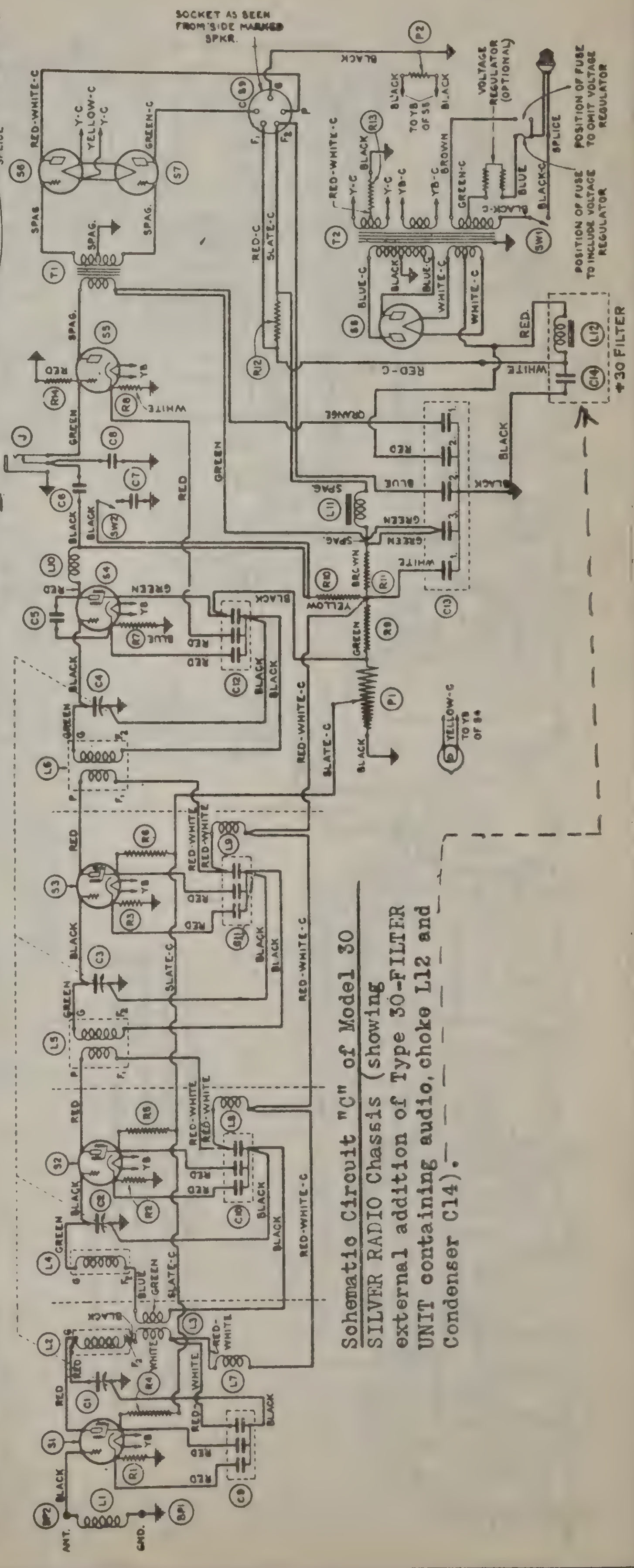
SILVER - MARSHALL, INC.

MODEL 30
Schematic Circuit B
Schematic Circuit C


SOCKET AS SEEN FROM SIDE MARKED SPKR.
POSITION OF FUSE TO OMIT VOLTAGE REGULATOR
VOLTAGE REGULATOR (OPTIONAL)
POSITION OF FUSE TO INCLUDE VOLTAGE REGULATOR
SPLICE
TO YB OF S5
TO YB OF S4
ANT.
GND.
S1
S2
S3
S4
S5
S6
S7
S8
S9
T1
T2
C13
P1
P2
SW1
SW2
RED-WHITE-C
SLATE-C
GREEN
BLACK
RED
SPAG.

Schematic Circuit "B" of Model 30 SILVER RADIO Chassis.

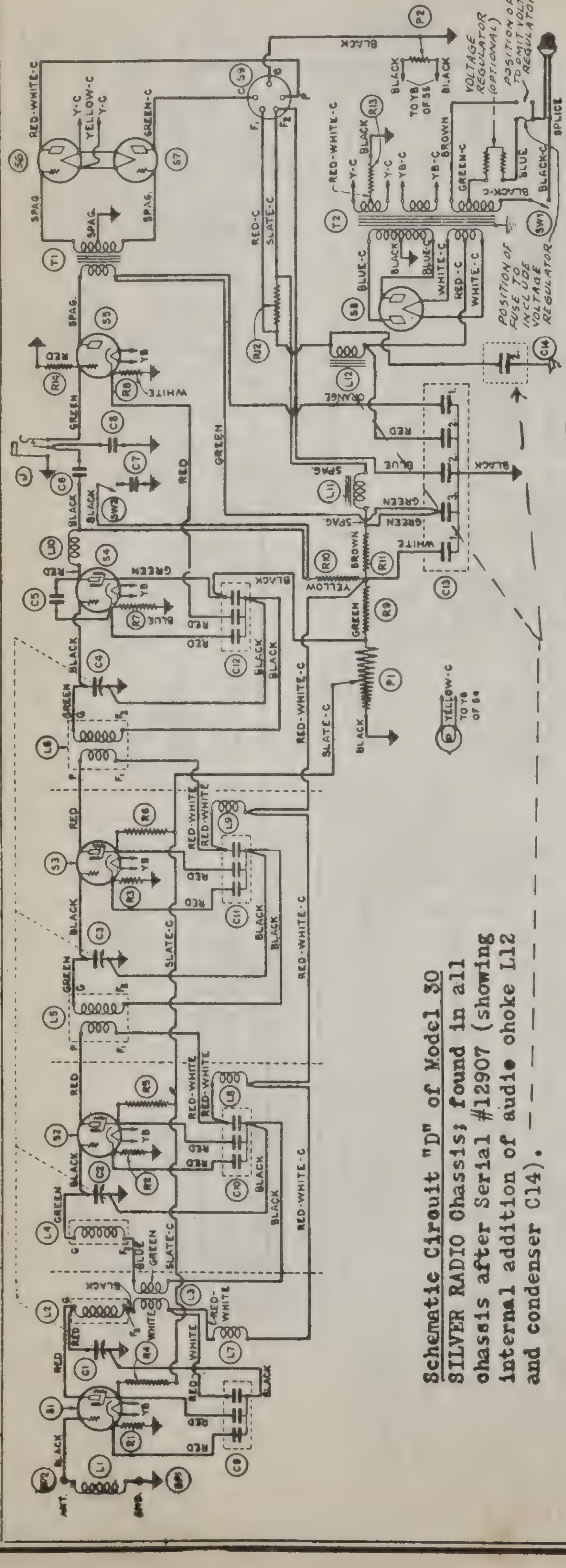
NOTE: In early production both RED leads of C-12 were connected to cathode of S-4 and WHITE lead of C-13 to cathode of S-5. Observe particularly connections of RED leads of C-12 and of WHITE and ORANGE leads of C-18 as shown herewith.


SOCKET AS SEEN FROM SIDE MARKED SPKR.
POSITION OF FUSE TO OMIT VOLTAGE REGULATOR
POSITION OF FUSE TO INCLUDE VOLTAGE REGULATOR
VOLTAGE REGULATOR (OPTIONAL)
SPLICE
TO YB OF S5
TO YB OF S4
#30 FILTER
L12
C14
ANT.
GND.
RED-WHITE-C
SLATE-C
GREEN
BLACK
RED

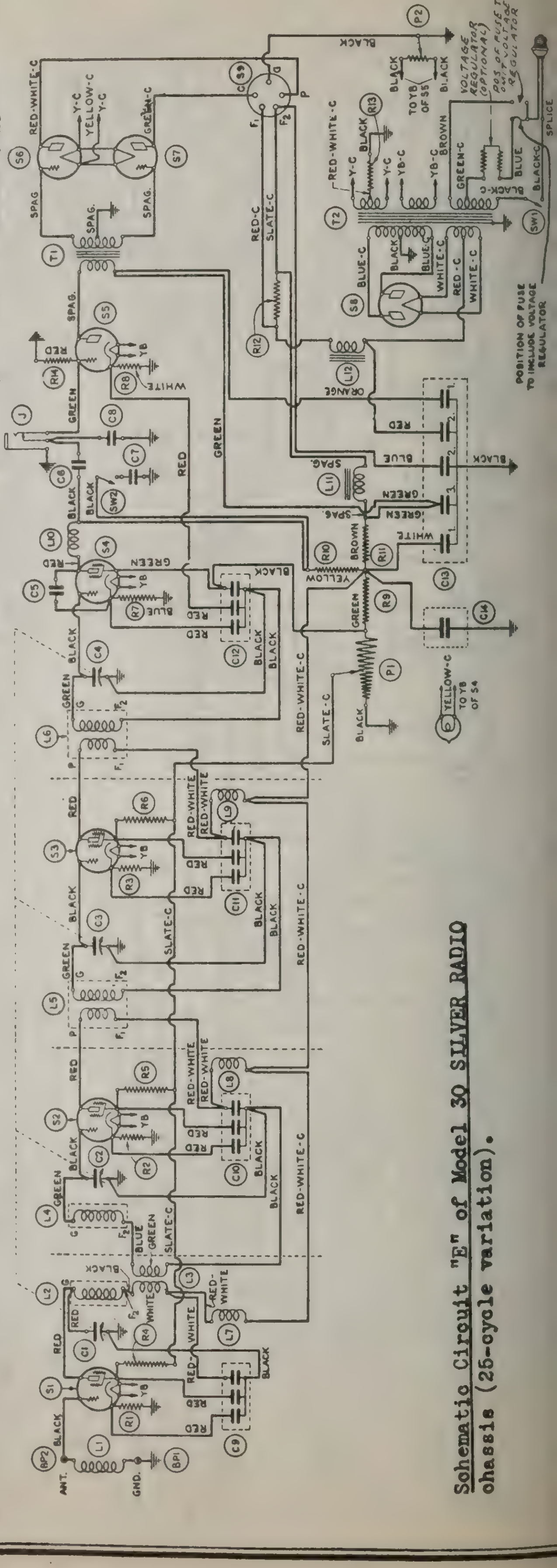
Schematic Circuit "C" of Model 30 SILVER RADIO Chassis (showing external addition of Type 30-FILTER UNIT containing audio, choke L12 and Condenser C14).

MODEL 30
Schematic Circuit D
Schematic Circuit E

SILVER - MARSHALL, INC.


S1
S2
S3
S4
S5
S6
S7
S8
S9
T1
T2
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
P1
P2
BP1
BP2
J
SW1
SW2
ANT.
GND.
RED-WHITE-C
YELLOW-C
Y-C
GREEN-C
SPAG.
BLACK
RED-C
SLATE-C
BLUE-C
WHITE-C
YB-C
BROWN
BLACK-C
TO Y.B OF S6
VOLTAGE REGULATOR (OPTIONAL)
POSITION OF FUSE TO OMIT VOLTAGE REGULATOR
POSITION OF FUSE TO INCLUDE VOLTAGE REGULATOR
SPLICE
ORANGE
RED
BLUE
GREEN
WHITE
YELLOW
YB
RED-WHITE
RED-WHITE-C
SLATE-C
YELLOW-C TO YB OF S4

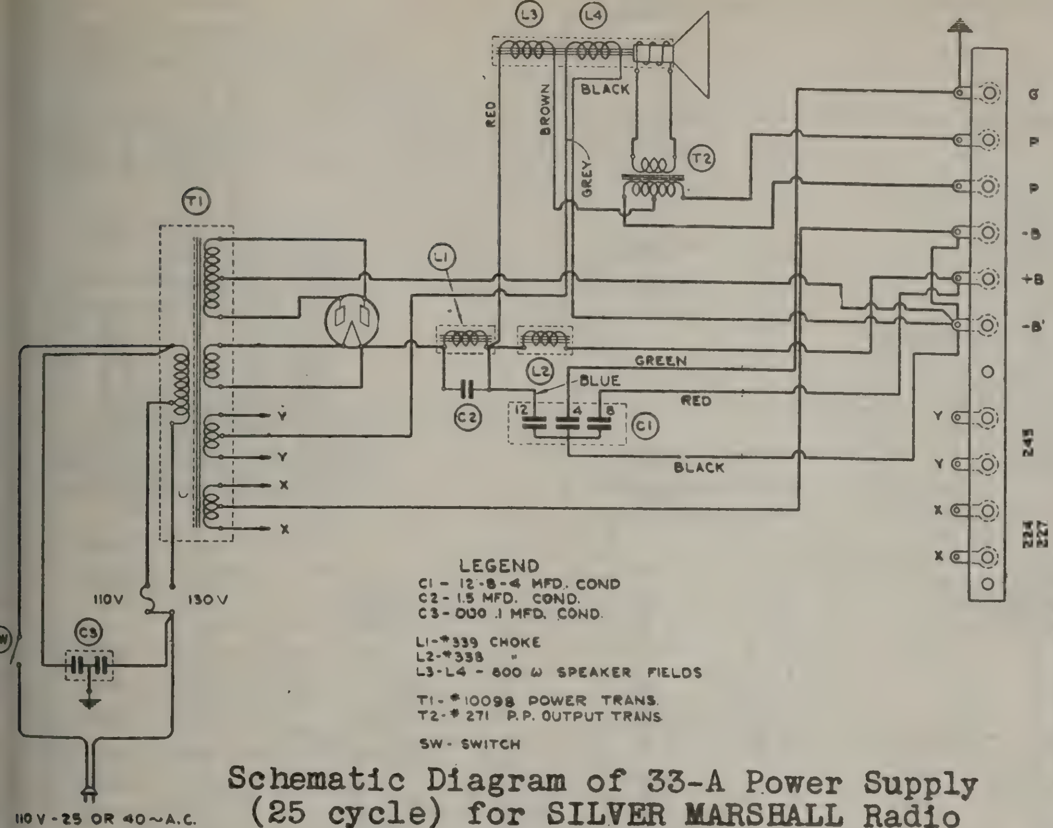
Schematic Circuit "D" of Model 30
SILVER RADIO Chassis; found in all
chassis after Serial #12907 (showing
internal addition of audio choke L12
and condenser C14). — — — — —


S1
S2
S3
S4
S5
S6
S7
S8
S9
T1
T2
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
P1
P2
BP1
BP2
J
SW1
SW2
ANT.
GND.
RED-WHITE-C
YELLOW-C
Y-C
GREEN-C
SPAG.
BLACK
RED-C
SLATE-C
BLUE-C
WHITE-C
YB-C
BROWN
BLACK-C
TO YB OF S5
VOLTAGE REGULATOR (OPTIONAL)
POS. OF FUSE TO OMIT VOLTAGE REGULATOR
POSITION OF FUSE TO INCLUDE VOLTAGE REGULATOR
SPLICE
ORANGE
RED
BLUE
GREEN
WHITE
YELLOW
YB
RED-WHITE
YELLOW-C TO YB OF S4

Schematic Circuit "E" of Model 30 SILVER RADIO
chassis (25-cycle variation).

SILVER-MARSHALL, INC.

MODEL 33-A Power Supply 25 and 60 cycles


L3
L4
RED
BROWN
BLACK
GREY
T2
T1
L1
L2
C2
C1
12
4
8
GREEN
BLUE
RED
BLACK
Y
Y
X
X
G
P
P
-B
+B
-B'
Y
Y
X
X
245
224
227
110V
130V
C3
SW
110 V-25 OR 40~A.C.

LEGEND
C1 - 12-8-4 MFD. COND
C2 - 1.5 MFD. COND.
C3 - DUO .1 MFD. COND.

L1 - #339 CHOKE
L2 - #338 "
L3-L4 - 800 ω SPEAKER FIELDS

T1 - #10098 POWER TRANS.
T2 - # 271 P.P. OUTPUT TRANS

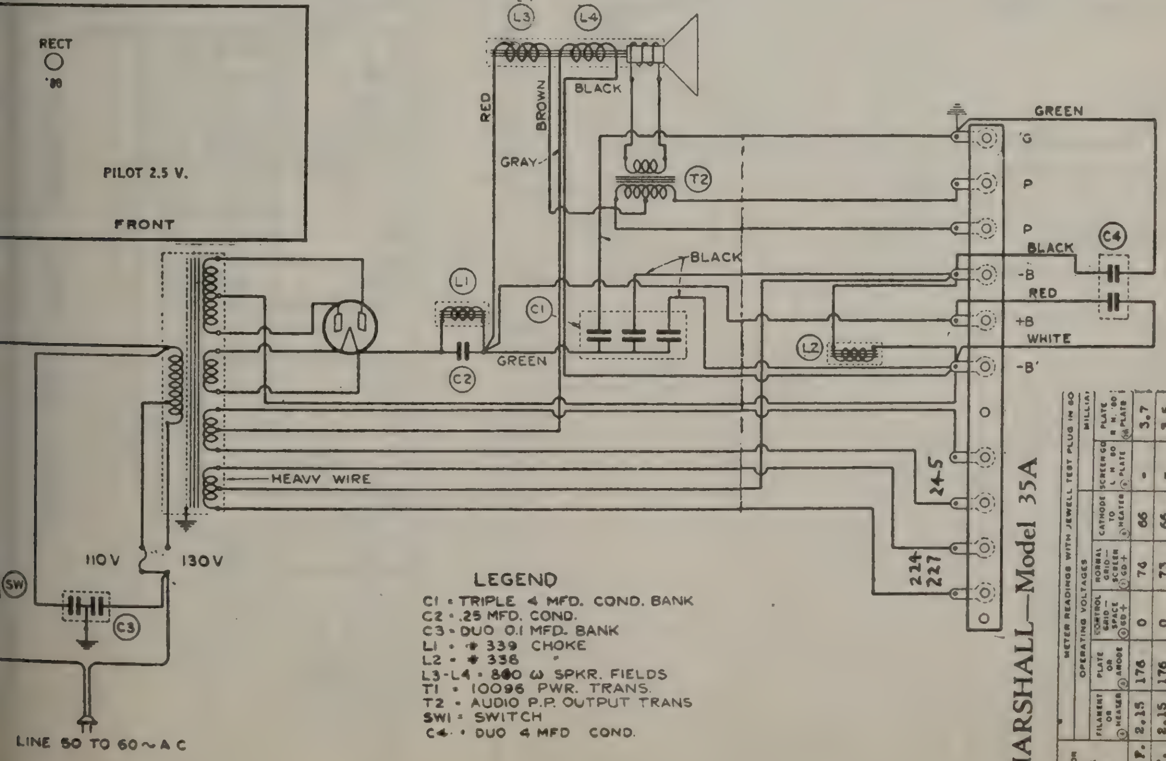
SW - SWITCH

Schematic Diagram of 33-A Power Supply (25 cycle) for SILVER MARSHALL Radio for 34A and 35A receivers

SILVER-MARSHALL—Model 34A

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID-SPACE ⑥ GD+	NORMAL GRID-SCREEN ⑦ GD+	CATHODE TO HEATER ⑧	SCREEN GD L H 80 ⑨ PLATE	PLATE R H 80 ⑩ PLATE	TUBE TEST ⑪	PLATE CURRENT ⑫ CHANGE ⑬
1	224	1 R.F.	2.40	184	3.5	-	61	-	2.4		
2	224	2 R.F.	2.40	165	3	-	64	-	2.4		
3	224	Det.	2.44	108	13	-	13	-	.2		
4	227	1 A.F.	2.48	140	-	2	9	-	4.4		
5	245	2 A.F.	2.34	220	-	40	-	-	20		
6	245	2 A.F.	2.32	220	-	40	-	-	21		
7	280	Rect.	5.	-	-	-	-	26	26		

Models 32A, 33A Power Supply


RECT
'80
PILOT 2.5 V.
FRONT
L3
L4
RED
BROWN
BLACK
GRAY
T2
GREEN
G
P
P
BLACK
C4
-B
RED
+B
WHITE
-B'
L1
C1
BLACK
C2
GREEN
L2
HEAVY WIRE
24-5
224
227
110V
130V
SW
C3
LINE 50 TO 60~A C

LEGEND
C1 - TRIPLE 4 MFD. COND. BANK
C2 - .25 MFD. COND.
C3 - DUO 0.1 MFD. BANK
L1 - # 339 CHOKE
L2 - # 338 "
L3-L4 - 800 ω SPKR. FIELDS
T1 - 10096 PWR. TRANS.
T2 - AUDIO P.P. OUTPUT TRANS
SW1 - SWITCH
C4 - DUO 4 MFD COND.

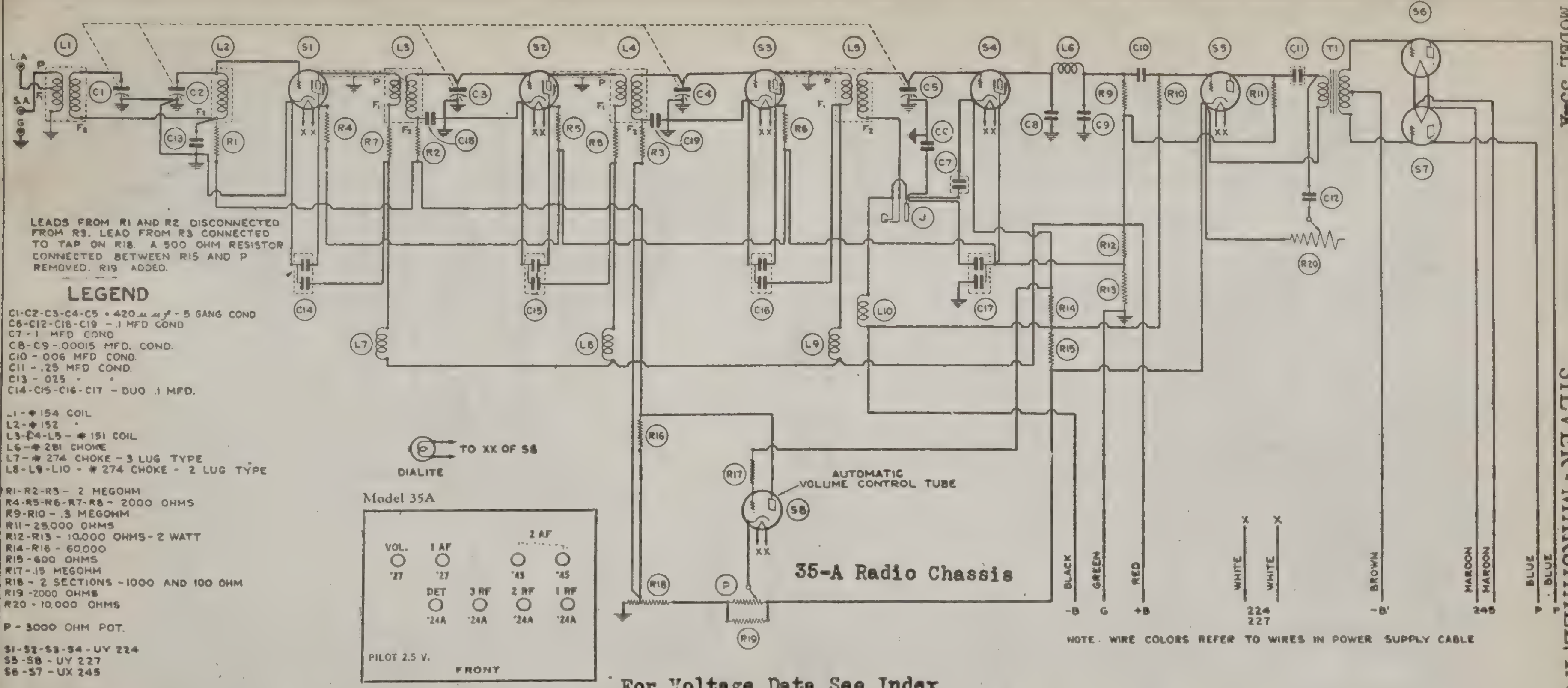
Schematic Diagram of 33-YA Power Supply (60 cycle) for SILVER MARSHALL Radio for 34A and 35A receivers.

SILVER-MARSHALL—Model 35A

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SO						
			OPERATING VOLTAGES					MILLIA	
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID-SPACE ⑥ GD+	NORMAL GRID-SCREEN ⑦ GD+	CATHODE TO HEATER ⑧	SCREEN GD L H 80 ⑨ PLATE	PLATE R H 80 ⑩ PLATE
1	224	1 R. F.	2.15	176	0	74	66	-	3.7
2	224	2 R.F.	2.15	176	0	73	66	-	3.5
3	224	3 R.F.	2.17	188	3	73	60	-	8.0
4	224	Det.	2.19	118	11	40	11	-	.2
5	227	1 A.F.	2.20	176	3	14	-	-	2.0
6	245	2 A.F.	2.30	216	-	40	-	-	20
7	245	V.Com.	2.30	216	-	40	-	-	20
8	227	Rect.	2.16	75	6	38	-	-	-
9	280	-	5.	-	-	-	-	28	28

MODEL 34-A
MODEL 35-A

SILVER - MARSHALL, INC.


L.A
S.A
G
L1
C1
C2
C13
L2
R1
S1
S2
S3
S4
S5
S6
S7
L3
L4
L5
L6
L7
L8
L9
L10
C3
C4
C5
CC
C7
C8
C9
C10
C11
C12
C14
C15
C16
C17
C18
C19
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
J
T1
P
F1
F2
XX
AUTOMATIC VOLUME CONTROL TUBE
S8
TO XX OF S8
DIALITE
BLACK
GREEN
RED
WHITE
WHITE
BROWN
MAROON
MAROON
BLUE
BLUE
-B
G
+B
224
227
-B'
245
P
P
Model 35A
VOL.
'27
1 AF
'27
2 AF
'45
'45
DET
'24A
3 RF
'24A
2 RF
'24A
1 RF
'24A
PILOT 2.5 V.
FRONT

LEADS FROM R1 AND R2 DISCONNECTED FROM R3. LEAD FROM R3 CONNECTED TO TAP ON R18. A 500 OHM RESISTOR CONNECTED BETWEEN R15 AND P REMOVED. R19 ADDED.

LEGEND

C1-C2-C3-C4-C5 - 420 μμf - 5 GANG COND
C6-C12-C18-C19 - .1 MFD COND
C7 - 1 MFD COND
C8-C9 - .00015 MFD. COND.
C10 - 006 MFD COND.
C11 - .25 MFD COND.
C13 - 025 " "
C14-C15-C16-C17 - DUO .1 MFD.

L1 - # 154 COIL
L2 - # 152 "
L3-L4-L5 - # 151 COIL
L6 - # 281 CHOKE
L7 - # 274 CHOKE - 3 LUG TYPE
L8-L9-L10 - # 274 CHOKE - 2 LUG TYPE

R1-R2-R3 - 2 MEGOHM
R4-R5-R6-R7-R8 - 2000 OHMS
R9-R10 - .3 MEGOHM
R11 - 25,000 OHMS
R12-R13 - 10,000 OHMS - 2 WATT
R14-R16 - 60,000
R15 - 600 OHMS
R17 - .15 MEGOHM
R18 - 2 SECTIONS - 1000 AND 100 OHM
R19 - 2000 OHMS
R20 - 10,000 OHMS

P - 3000 OHM POT.

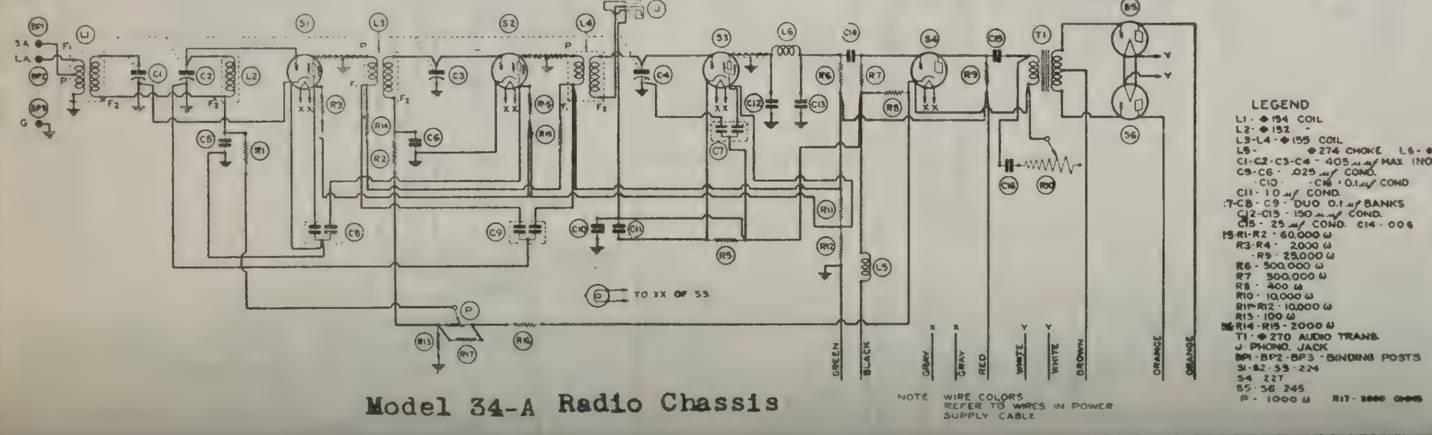
S1-S2-S3-S4 - UY 224
S5-S8 - UY 227
S6-S7 - UX 245

T - # 270 TRANSFORMER

NOTE. WIRE COLORS REFER TO WIRES IN POWER SUPPLY CABLE

35-A Radio Chassis

For Voltage Data See Index


BP1
BP2
BP3
SA
LA
G
L1
C1
C2
L2
C5
R1
S1
S2
S3
S4
S5
S6
L3
L4
L5
L6
J
C3
C4
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R20
T1
P
F1
F2
XX
TO XX OF S5
GREEN
BLACK
GRAY
GRAY
RED
WHITE
WHITE
BROWN
ORANGE
ORANGE
X
X
Y
Y

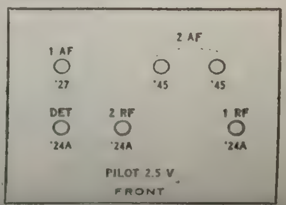
Model 34-A Radio Chassis

NOTE WIRE COLORS REFER TO WIRES IN POWER SUPPLY CABLE

LEGEND

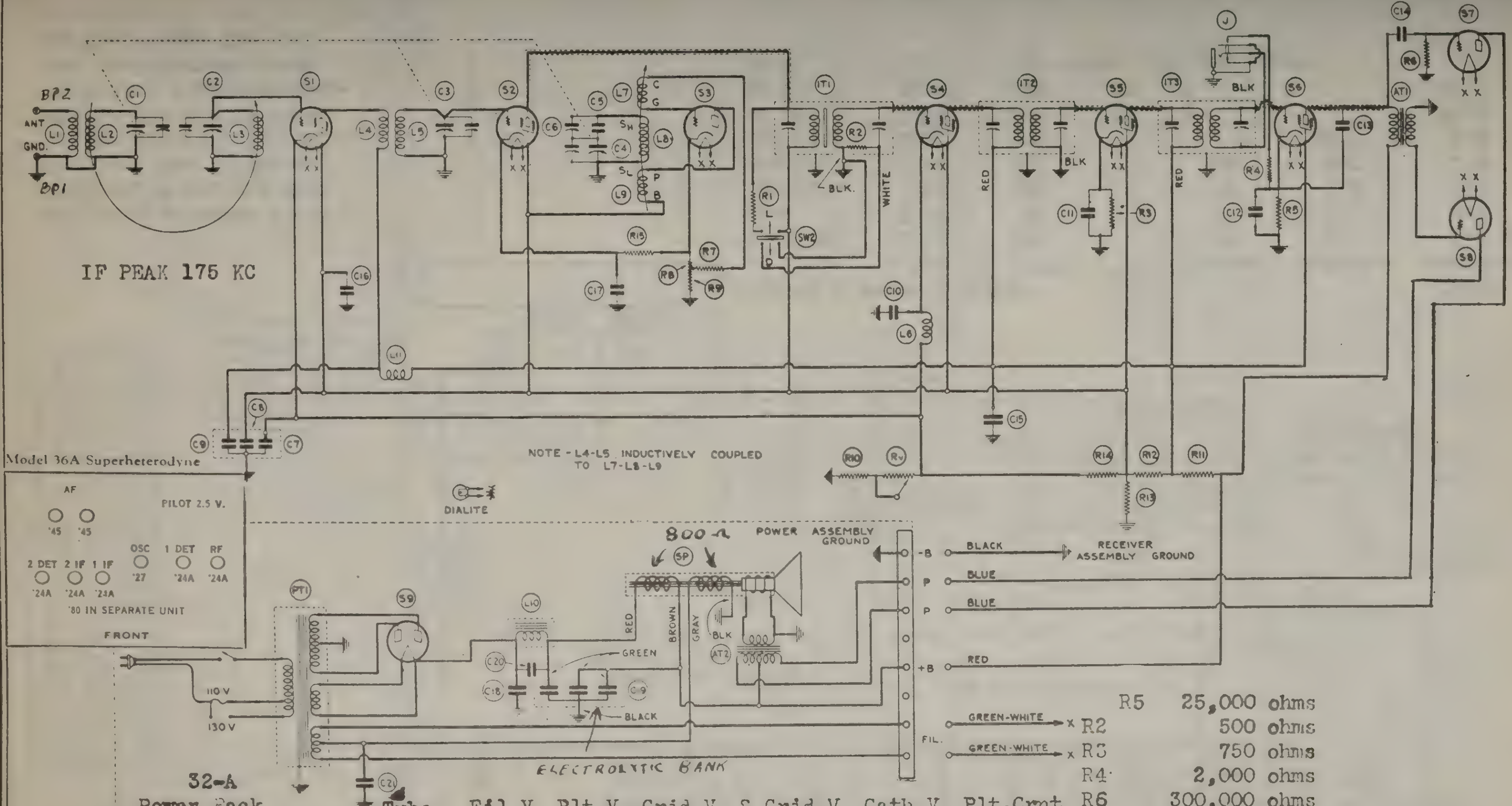
L1 - # 154 COIL
L2 - # 152 "
L3-L4 - # 155 COIL
L5 - # 274 CHOKE L6 - # 281 CHOKE
C1-C2-C3-C4 - 405 μμf MAX (NOMINAL)
C5-C6 - .025 μf COND.
·C10· ·C16 · 0.1 μf COND
C11 · 10 μf COND.
:7-C8 - C9 · DUO 0.1 μf BANKS
C12-C13 - 150 μμf COND.
C15 - 25 μf COND. C14 · 006
15-R1-R2 · 60,000 ω
R3-R4 · 2000 ω
·R9 · 25,000 ω
R6 - 300,000 ω
R7 300,000 ω
R8 - 400 ω
R10 · 10,000 ω
R11-R12 · 10,000 ω
R13 · 100 ω
R14 · R15 - 2000 ω
T1 · # 270 AUDIO TRANS.
J · PHONO. JACK
BP1 · BP2 · BP3 · BINDING POSTS
S1 · S2 · S3 · 224
S4 227
S5 · S6 245
P - 1000 ω R17 - [illegible] OHMS

Model 34A


1 AF
'27
2 AF
'45
'45
DET
'24A
2 RF
'24A
1 RF
'24A
PILOT 2.5 V.
FRONT

SILVER - MARSHALL, INC.

MODEL 36-A
Schematic,Voltage


BP2
ANT
GND.
BP1
L1
L2
C1
C2
L3
S1
C3
L4
L5
S2
C6
C5
C4
L7
L8
L9
C
G
SH
SL
P
B
S3
R15
R7
R8
R9
C16
C17
L11
IF PEAK 175 KC
IT1
R1
R2
SW2
BLK.
WHITE
S4
C10
L6
IT2
RED
BLK
S5
C11
R3
IT3
RED
J
BLK
S6
R4
R5
C12
C13
C14
R6
AT1
S7
S8
C8
C9
C7
C15
R10
Rv
R14
R12
R11
R13
Model 36A Superheterodyne
NOTE - L4-L5 INDUCTIVELY COUPLED TO L7-L8-L9
DIALITE
AF
PILOT 2.5 V.
'45 '45
2 DET 2 IF 1 IF
'24A '24A '24A
OSC '27
1 DET '24A
RF '24A
'80 IN SEPARATE UNIT
FRONT
800 Ω
SP
POWER ASSEMBLY GROUND
-B
P
P
+B
FIL.
BLACK
RECEIVER ASSEMBLY GROUND
BLUE
BLUE
RED
GREEN-WHITE
GREEN-WHITE
PT1
S9
L10
C20
C18
C19
RED
BROWN
GRAY
GREEN
BLACK
BLK
AT2
110 V
130 V
ELECTROLYTIC BANK
C21
32-A
Power Pack

Tube	Fil.V.	Plt.V.	Grid.V.	S.Grid.V.	Cath.V.	Plt.Crnt
RF	2.27	162		85	7.	4. ma
1Det	2.27	76*		80	37.5	3.
Osc	2.27	82			37.5	11.
1IF	2.27	160		110	42.5	4.
2IF	2.27	160		110	45.	4.
2Det	2.27	245		162	7.	4.
PP1	2.4	255	22.5*			
PP2	2.4	255	42.5			

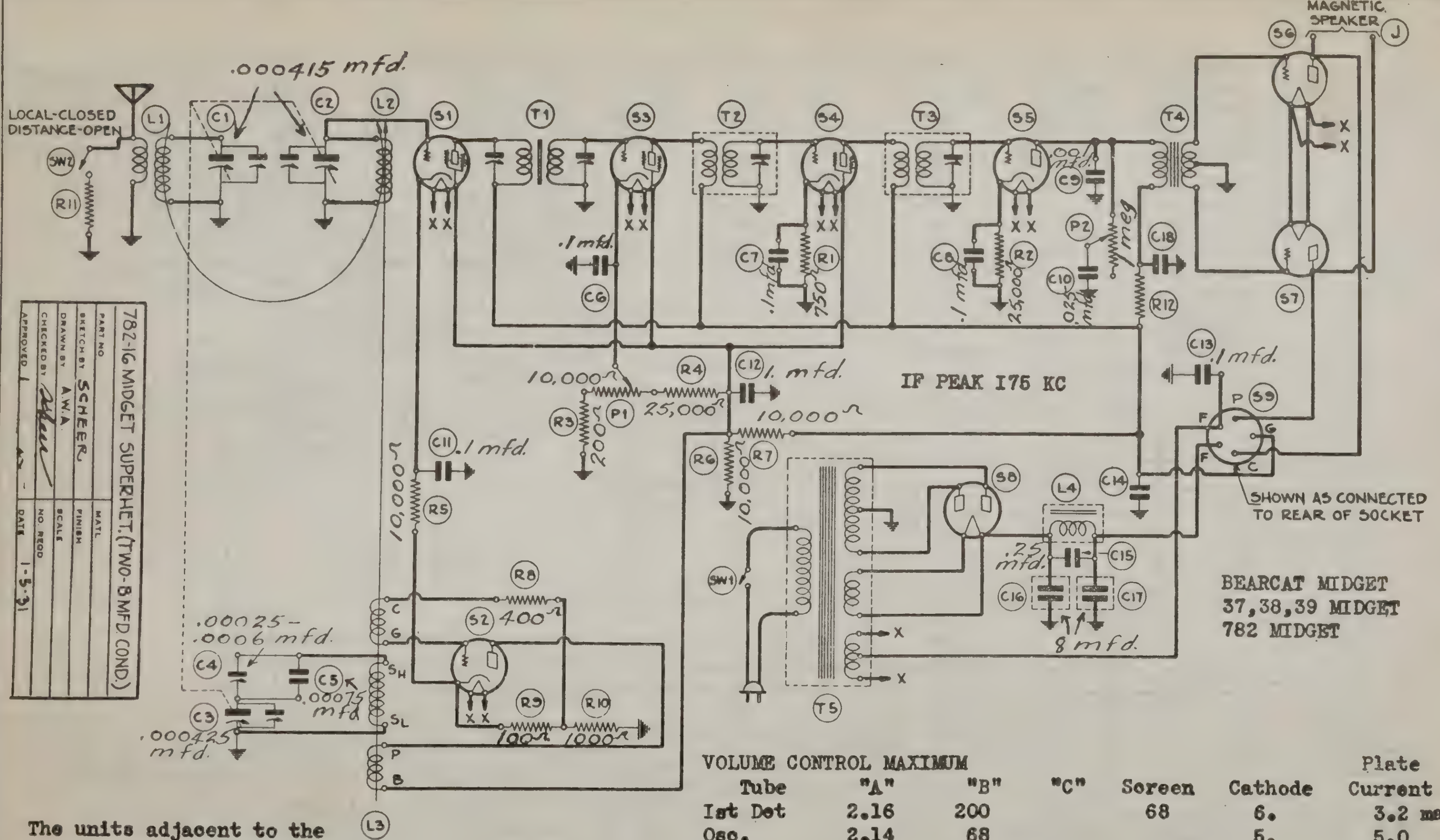
* Misleading due to current drawn by test meter.

C7,8,9	Triple .1 bank
C10,14,16,20	.25 mfd
C11,17,21	.1 mfd
C12,15,18	1. mfd
C13	.001
C19	Triple 4. mfd (electrolytic)

R5	25,000 ohms
R2	500 ohms
R3	750 ohms
R4	2,000 ohms
R6	300,000 ohms
R7	400 ohms
R8,R9	100 ohms,1000 ohms (one strip)
R10	375 ohms
Rv	3000 ohms
R11	3500 ohms
R12	4000 ohms
R13,R15	10000 ohms
R14	20000 ohms

MODEL Bearcat Midget
MODEL 37,38,39 Midget
MODEL 782 Midget

SILVER - MARSHALL, INC.


.000415 mfd.
LOCAL-CLOSED
DISTANCE-OPEN
SW2
R11
L1
C1
C2
L2
S1
T1
S3
T2
S4
T3
S5
T4
S6
MAGNETIC SPEAKER
J
S7
X
X
XX
.1 mfd.
C6
C7
.1 mfd.
R1
750Ω
C8
.1 mfd.
R2
25000Ω
C9
.001 mfd.
P2
1 meg
C10
.025 mfd.
C18
R12
C13
.1 mfd.
S9
P
G
F
F
C
SHOWN AS CONNECTED TO REAR OF SOCKET
10,000Ω
R3
200Ω
P1
R4
25,000Ω
C12
1. mfd.
IF PEAK 175 KC
10,000Ω
R6
R7
10,000Ω
C11
.1 mfd.
R5
10,000Ω
C14
L4
S8
C15
.25 mfd.
C16
C17
8 mfd.
SW1
T5
BEARCAT MIDGET
37,38,39 MIDGET
782 MIDGET
R8
400Ω
S2
R9
100Ω
R10
1000Ω
C
G
SH
SL
P
B
L3
C4
.00025-.0006 mfd.
C5
.00075 mfd
C3
.000425 mfd.
782-16 MIDGET SUPERHET.(TWO-8 MFD. COND.)
PART NO
MATL
SKETCH BY SCHEER
FINISH
DRAWN BY A.W.A.
SCALE
CHECKED BY
NO. REQD
APPROVED
DATE 1-5-31

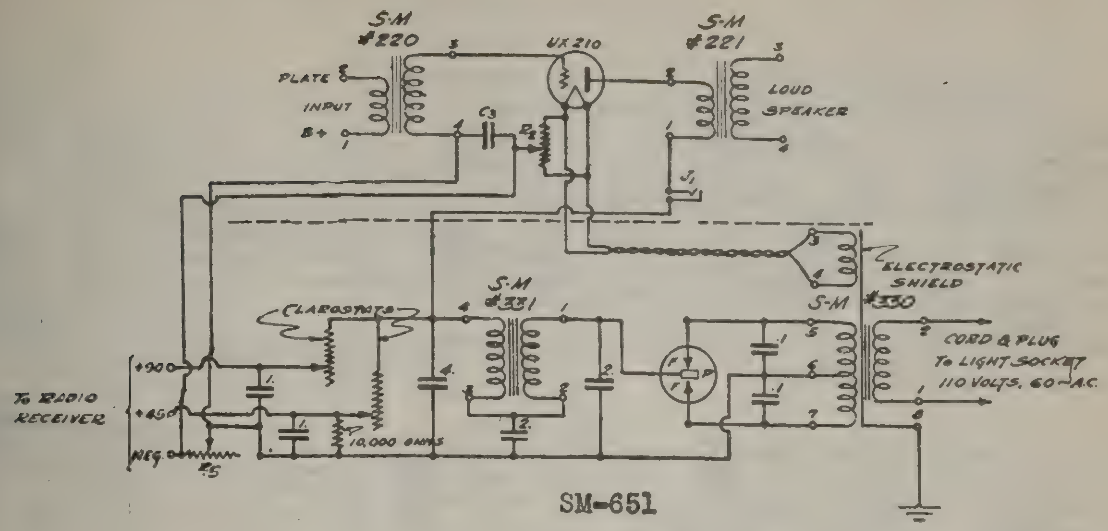
VOLUME CONTROL MAXIMUM

Tube	"A"	"B"	"C"	Screen	Cathode	Plate Current
Ist Det	2.16	200		68	6.	3.2 ma
Osc.	2.14	68			5.	5.0
Ist IF	2.18	200		68	1.6	5.7
2nd IF	2.19	200		68	2.3	5.6
2nd Det	2.20	200			20.	0.8
AF PP	2.25	245	47			29.0
AF PP	2.25	245	47			29.0
Rect.	5.1	400 Volts A.C. per anode				

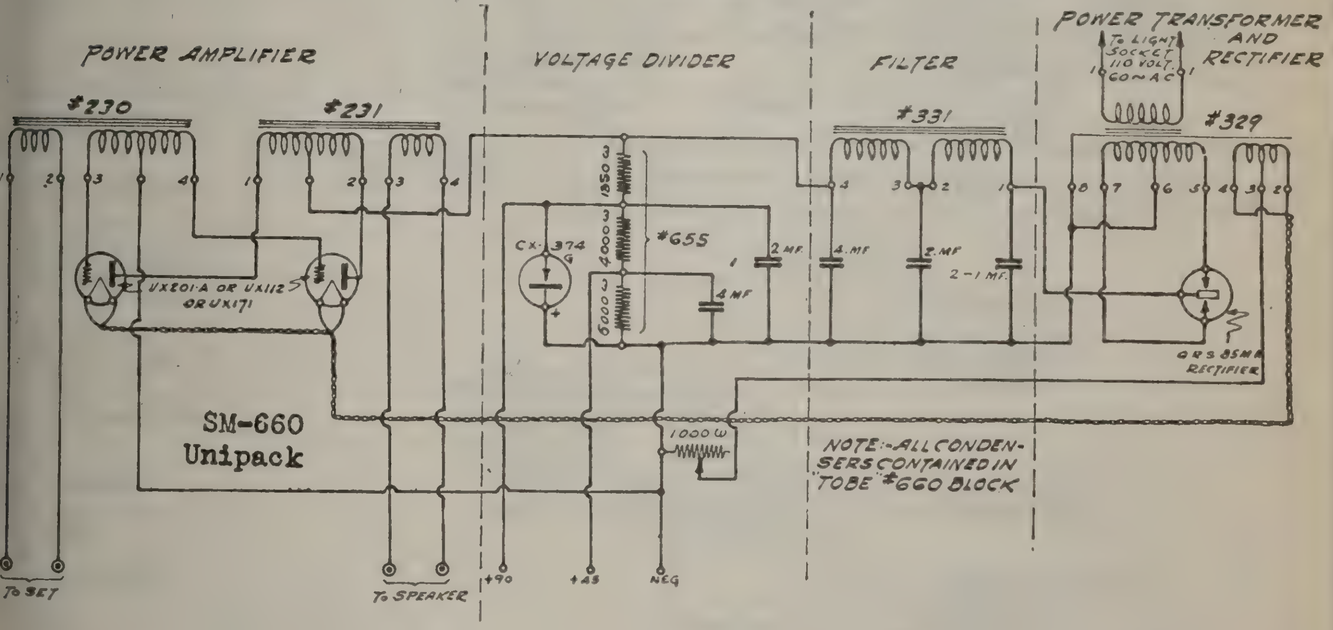
The units adjacent to the shielded IF and 2nd det. tubes are the IF transformers, with the 1st det. next to the 1st IF tube. The tuning condenser section most distant from the dial tunes the osc.

SILVER - MARSHALL, INC.

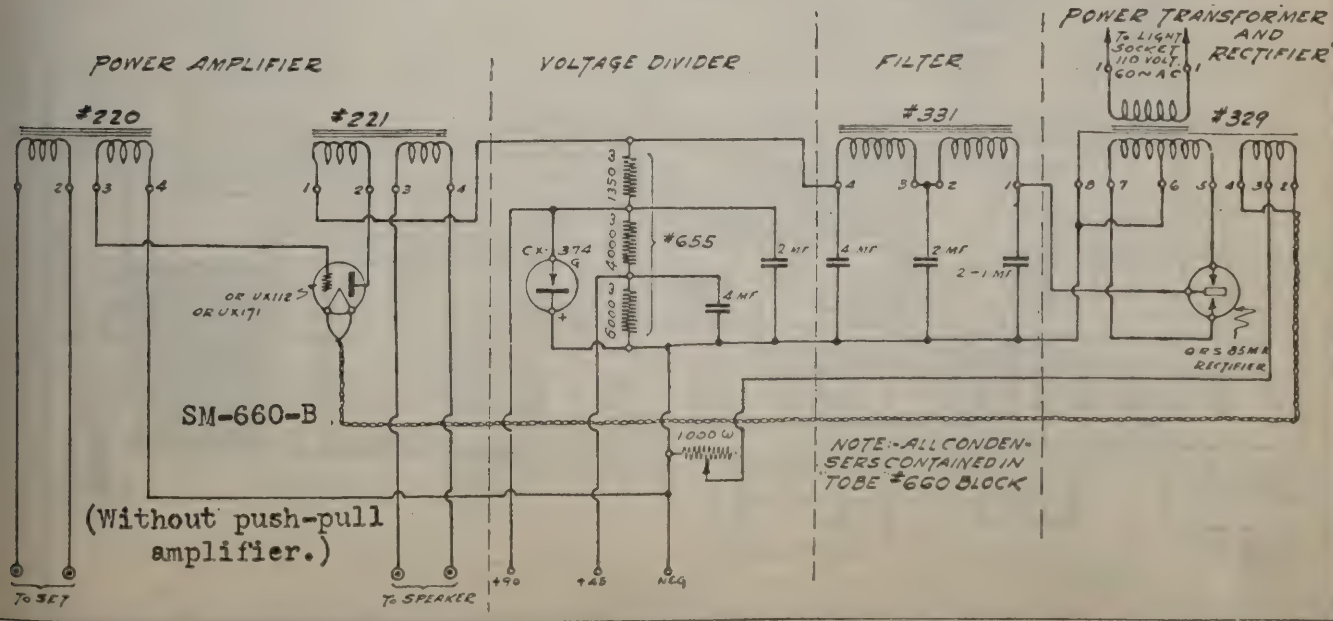
MODEL 651
MODEL 660 Unipack
MODEL 660-B


S-M #220
PLATE
INPUT
B+
UX 210
C3
S-M #221
LOUD SPEAKER
J1
ELECTROSTATIC SHIELD
S-M #330
CORD & PLUG To LIGHT SOCKET 110 VOLTS. 60~A.C.
CLAROSTATS
S-M #331
To RADIO RECEIVER
+90
+45
NEG.
R5
10,000 OHMS

SM-651


POWER AMPLIFIER
VOLTAGE DIVIDER
FILTER
POWER TRANSFORMER AND RECTIFIER
To LIGHT SOCKET 110 VOLT 60~AC
#230
#231
UX201-A OR UX112 OR UX171
CX-374
1350
4000
6000
#655
2 MF
4 MF
#331
4.MF
2.MF
2-1 MF
#329
QRS 85MA RECTIFIER
1000 W
NOTE:-ALL CONDENSERS CONTAINED IN TOBE #660 BLOCK
To SET
To SPEAKER
+90
+45
NEG

SM-660
Unipack

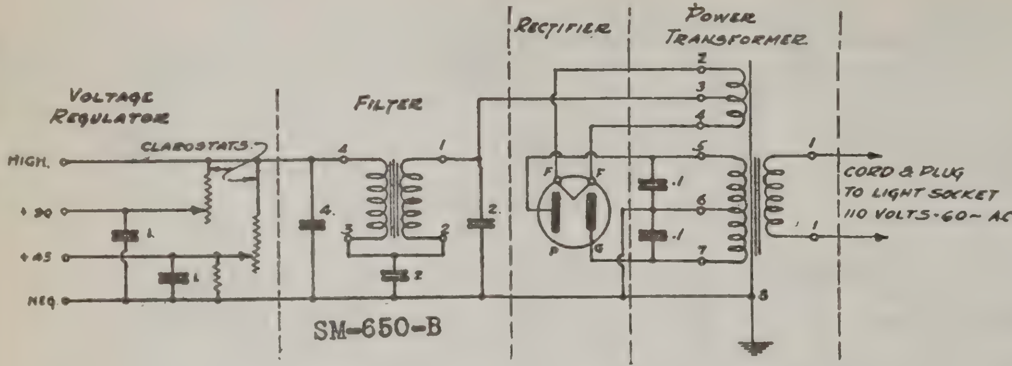

POWER AMPLIFIER
VOLTAGE DIVIDER
FILTER
POWER TRANSFORMER AND RECTIFIER
To LIGHT SOCKET 110 VOLT 60~AC
#220
#221
OR UX112 OR UX171
CX-374
1350
4000
6000
#655
2 MF
4 MF
#331
4 MF
2 MF
2-1 MF
#329
QRS 85MA RECTIFIER
1000 W
NOTE:-ALL CONDENSERS CONTAINED IN TOBE #660 BLOCK
To SET
To SPEAKER
+90
+45
NEG

SM-660-B

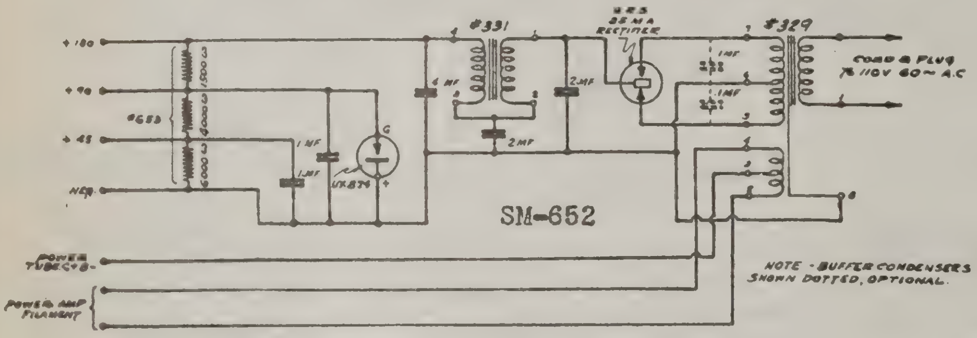
(Without push-pull amplifier.)

MODEL 650-B
MODEL 652
MODEL 669

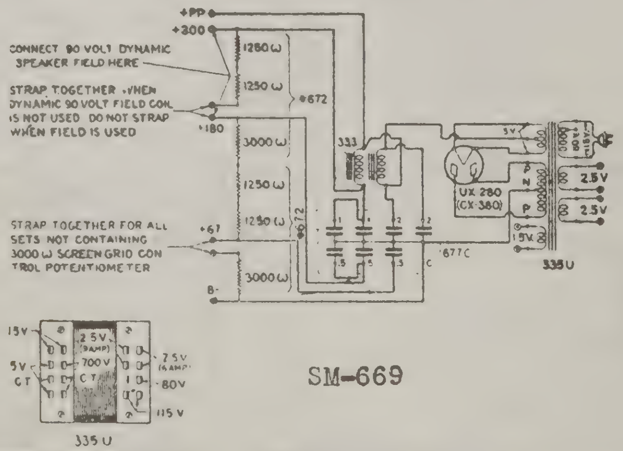
SILVER - MARSHALL, INC.


Voltage Regulator
Filter
Rectifier
Power Transformer
Clarostats
High
+90
+45
Neg.
Cord & Plug to light socket 110 volts-60~ AC

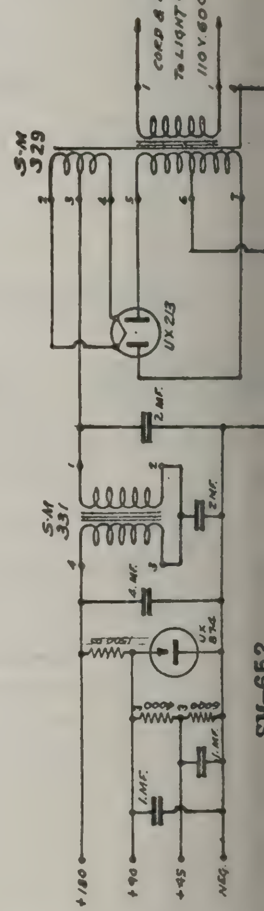
SM-650-B

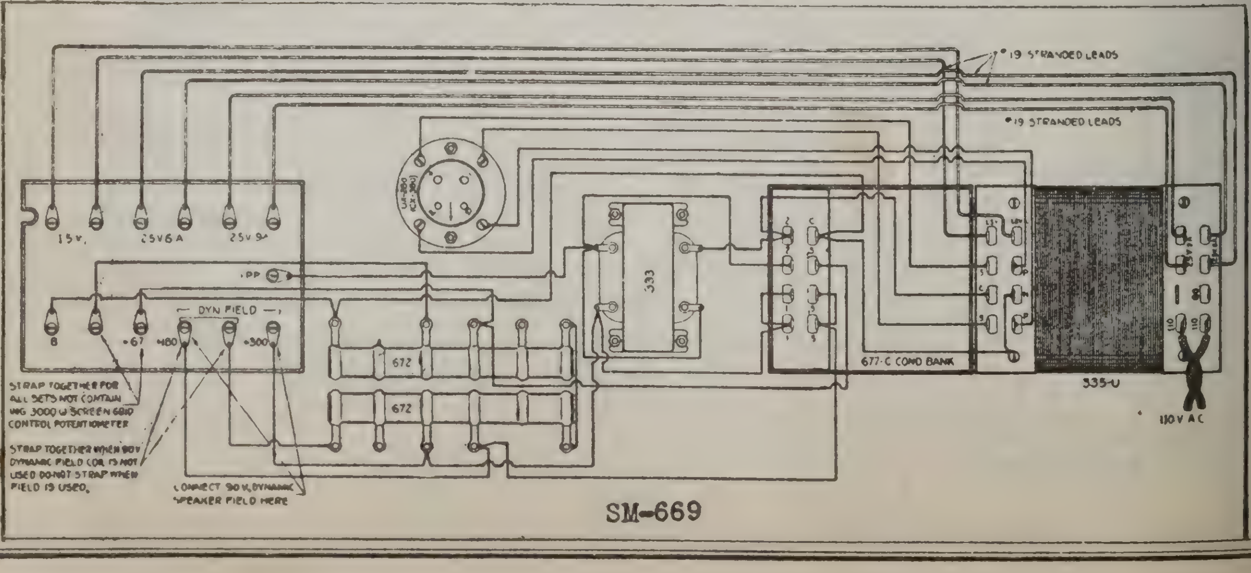

+180
+90
+45
Neg.
#653
#331
#329
BH5 85 MA Rectifier
UX874
4 MF
2 MF
1 MF
Cord & plug to 110V 60~ A.C.
Power tubes + B -
Power amp filament
Note - Buffer condensers shown dotted, optional.

SM-652


+PP
+300
CONNECT 90 VOLT DYNAMIC SPEAKER FIELD HERE
STRAP TOGETHER WHEN DYNAMIC 90 VOLT FIELD COIL IS NOT USED. DO NOT STRAP WHEN FIELD IS USED
+180
STRAP TOGETHER FOR ALL SETS NOT CONTAINING 3000 Ω SCREEN GRID CONTROL POTENTIOMETER
+67
B-
1250 Ω
3000 Ω
#672
333
UX 280 (CX-380)
677C
335U
2.5V
15V
5V
CT
700 V
7.5V
80V
115 V

SM-669

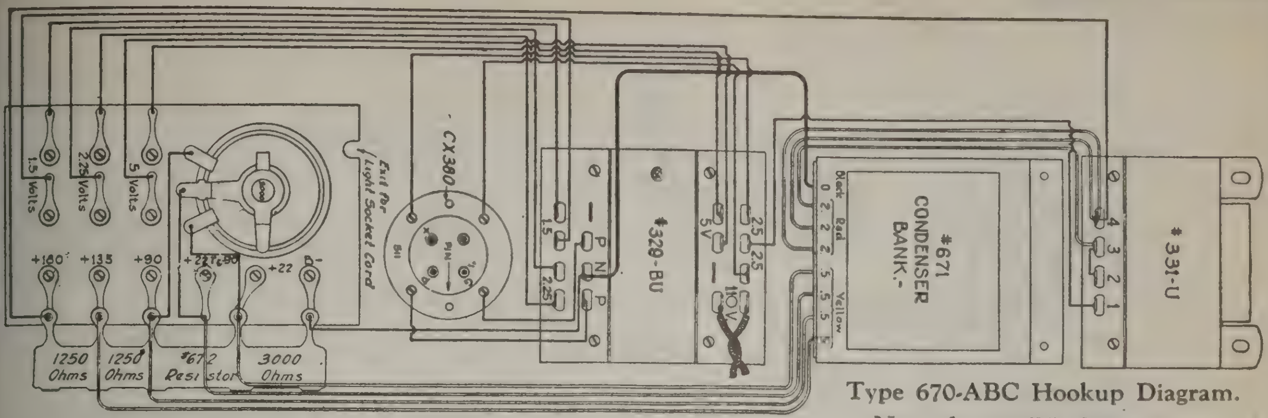

Cord & plug to light socket 110 V. 60 cycle A.C.
S.M 329
UX 213
S.M 331
2 MF
4 MF
UX 874
+180
+90
+45
Neg.


19 STRANDED LEADS
15V
2.5V 6A
2.5V 9A
+PP
B
+67
+180
+300
DYN FIELD
672
333
677-C COND BANK
335-U
110 V AC
STRAP TOGETHER FOR ALL SETS NOT CONTAINING 3000 Ω SCREEN GRID CONTROL POTENTIOMETER
STRAP TOGETHER WHEN 90V DYNAMIC FIELD COIL IS NOT USED DO NOT STRAP WHEN FIELD IS USED.
CONNECT 90 V. DYNAMIC SPEAKER FIELD HERE

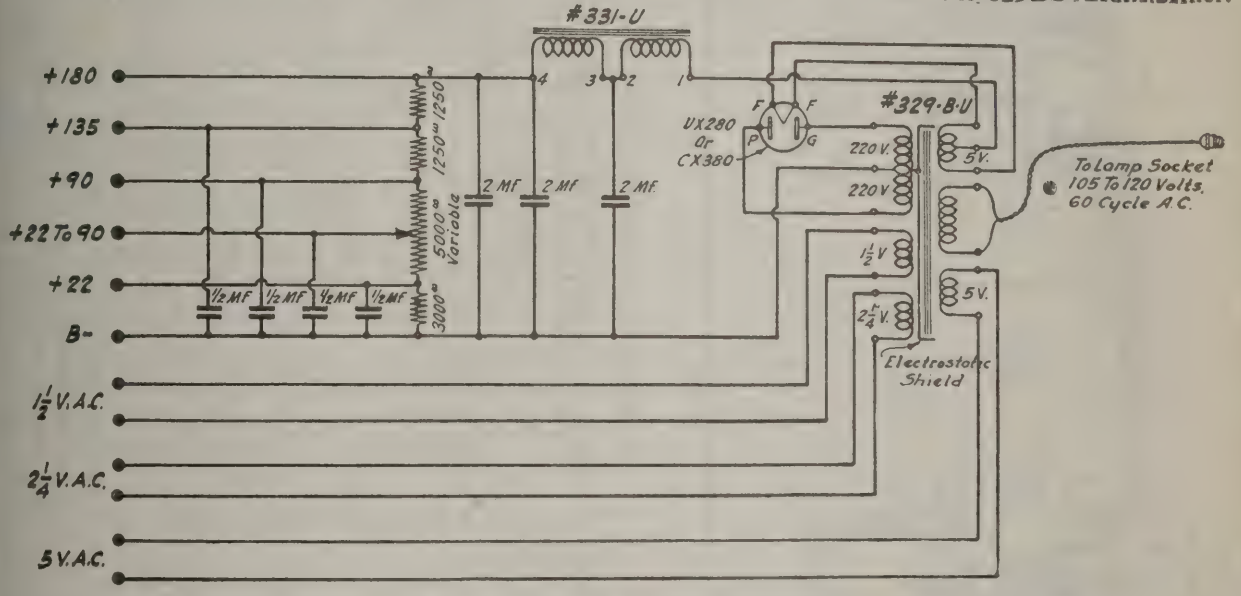
SM-669

SILVER - MARSHALL, INC.

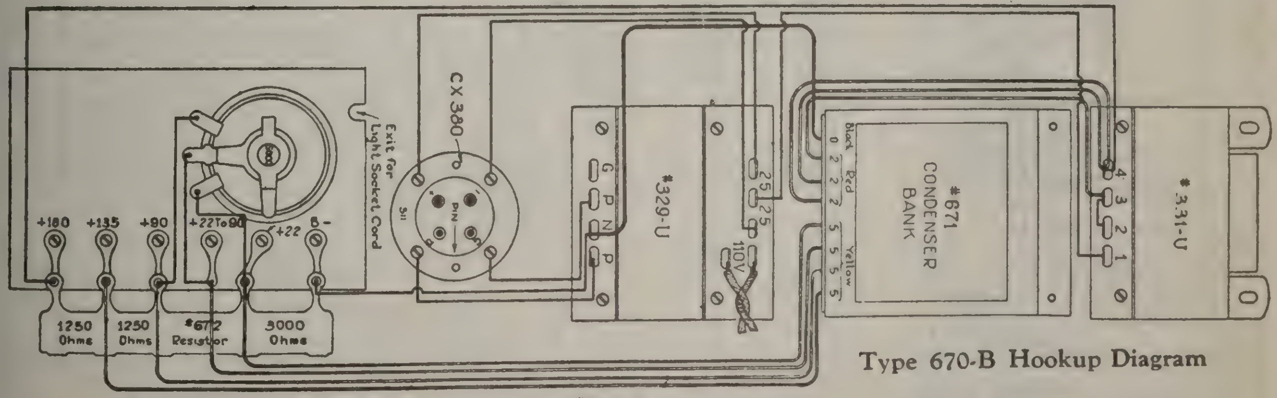
MODEL 670-ABC
MODEL 670-B
Schematic,Chassis


1.5 Volts
2.25 Volts
5 Volts
+180
+135
+90
+22 To 90
+22
B-
1250 Ohms
1250 Ohms
#672 Resistor
3000 Ohms
Exit for Light Socket Cord
CX380
Pin
1.5
2.25
P
N
P
#329-BU
5V
25
25
110V
Black
Red
Yellow
0 2 2 2 5 5 5 5
#671 CONDENSER BANK
4
3
2
1
#331-U

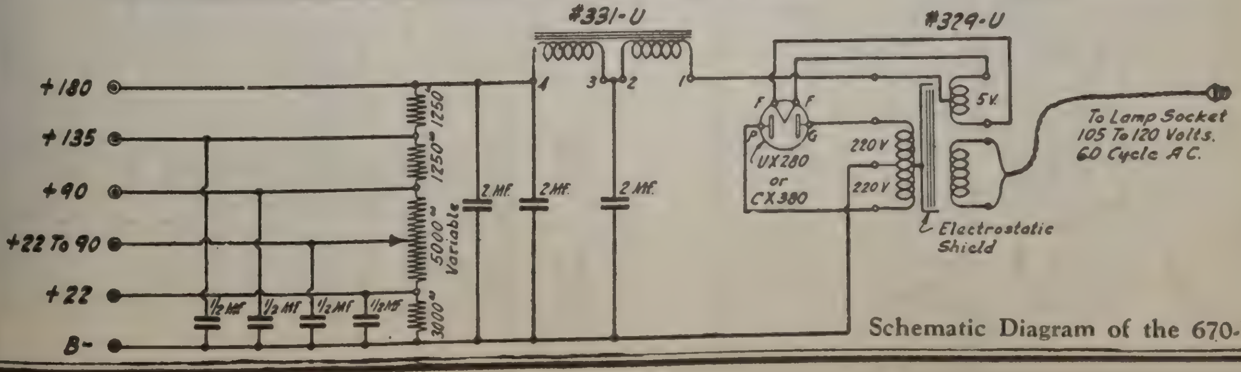
Type 670-ABC Hookup Diagram.
Note the 329BU Transformer.


#331-U
+180
+135
+90
+22 To 90
+22
B-
$1\frac{1}{2}$ V.A.C.
$2\frac{1}{4}$ V.A.C.
5 V.A.C.
1250 Ω
1250 Ω
5000 Ω Variable
3000 Ω
1/2 MF
1/2 MF
1/2 MF
1/2 MF
2 MF
2 MF
2 MF
4
3
2
1
F
F
P
G
UX280 Or CX380
#329-B-U
220 V.
220 V
5V.
$1\frac{1}{2}$ V
$2\frac{1}{4}$ V
5V.
Electrostatic Shield
To Lamp Socket 105 To 120 Volts. 60 Cycle A.C.

Schematic Diagram of the 670-ABC


Exit for Light Socket Cord
+180
+135
+90
+22 To 90
+22
B-
1250 Ohms
1250 Ohms
#672 Resistor
3000 Ohms
CX380
Pin
G
P
N
P
#329-U
25
25
110V
Black
Red
Yellow
0 2 2 2 5 5 5 5
#671 CONDENSER BANK
4
3
2
1
#331-U

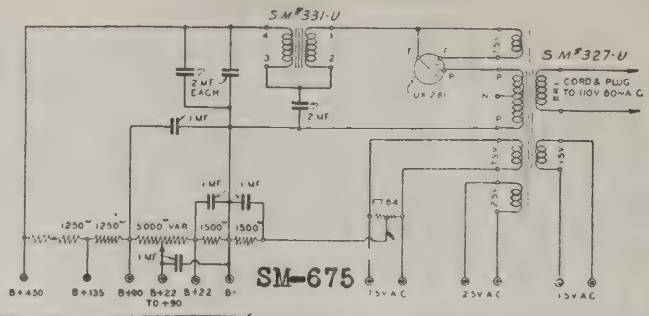
Type 670-B Hookup Diagram

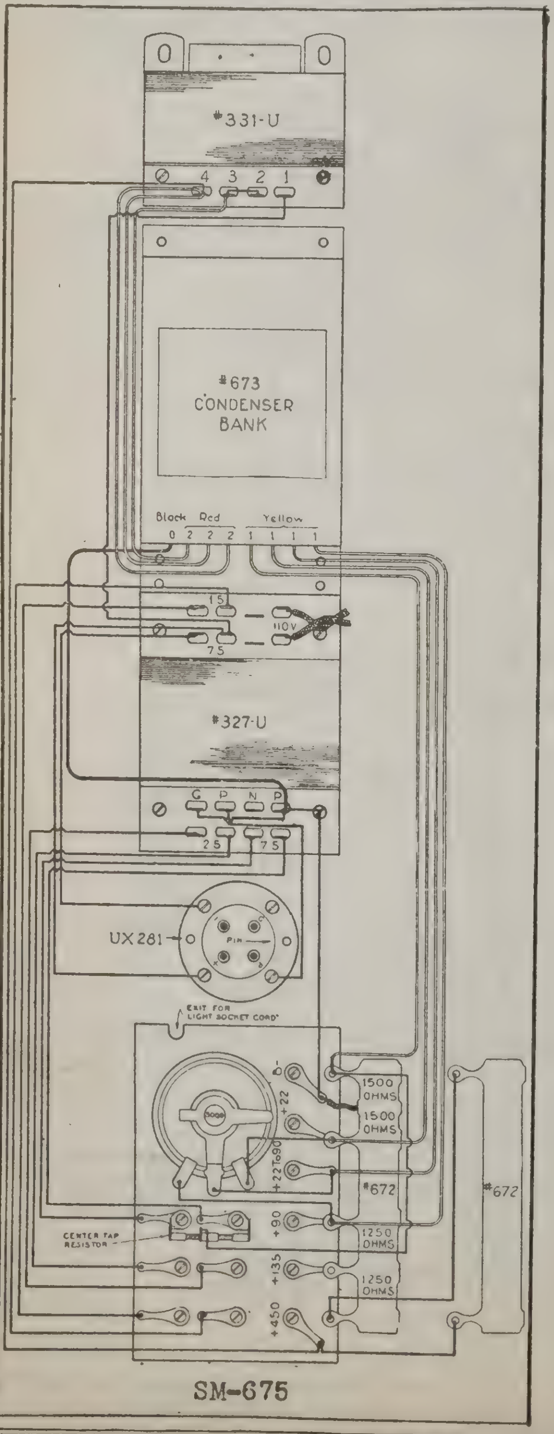

#331-U
#329-U
+180
+135
+90
+22 To 90
+22
B-
1250 Ω
1250 Ω
5000 Ω Variable
3000 Ω
1/2 MF
1/2 MF
1/2 MF
1/2 MF
2 MF
2 MF
2 MF
4
3
2
1
F
F
P
G
UX280 or CX380
220 V
220 V
5V
Electrostatic Shield
To Lamp Socket 105 To 120 Volts. 60 Cycle A.C.

Schematic Diagram of the 670-B

MODEL 675
Schematic
Chassis, Voltage

SILVER - MARSHALL, INC.


SM#331-U
SM#327-U
2 MF EACH
1 MF
2 MF
UX 281
CORD & PLUG TO 110V 60~A.C.
1250~
1250~
5000~ VAR
1500~
1500~
1 MF
B+450
B+135
B+90
B+22 TO +90
B+22
B-
SM-675
7.5V A.C
2.5V A.C
1.5V A.C


#331-U
4 3 2 1
#673 CONDENSER BANK
Black Red Yellow
0 2 2 2 1 1 1 1
1.5
7.5
110V
#327-U
G P N P
2.5
7.5
UX281
PIN
EXIT FOR LIGHT SOCKET CORD
B-
+22
+22 to 90
+90
+135
+450
1500 OHMS
1500 OHMS
#672
1250 OHMS
1250 OHMS
#672
CENTER TAP RESISTOR
SM-675

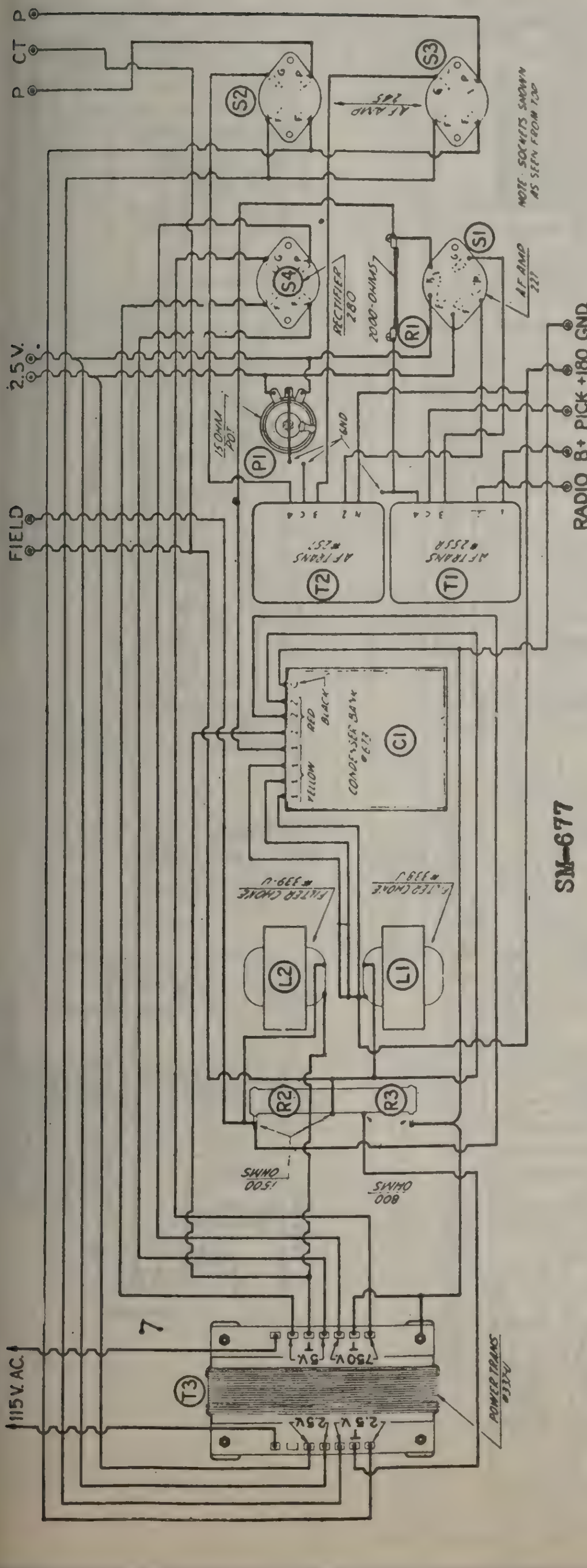
Type No.	Code Word	Secondary		Recti-fier Tube	Filament Windings						Tubes (or Equivalent) Will Operate	Size, Inches			Shpg. Wt., Lbs.	List Price
					First		Second		Third							
		Total Volts	M.A.		Volts	Am-peres	Volts	Am-peres	Volts	Am-peres		High	Wide	Long		
328BU	Transall	1100	150	2—'81	7½	2.5	2½	2	1½	2	2—'50, 2—'26, 1—'27	4⅝	5⅝	4½	16½	$25.00
337U*	Transvaal	750	110	1—'80	2½	9	2½	3	...	...	2—'45, 5—'24 or '27	4⅝	5⅝	4	12	16.00
33725U*	Transmute	750	110	1—'80	2½	9	2½	3	...	...	2—'45, 5—'24 or '27	4⅝	5⅝	4	13	20.00
346	Transtone	820	100	1—'80	2½	10		None			5—'24, 1—'27, 2—'45	4⅝	6⅜	4	13	15.00
34625	Transex	820	100	1—'80	2½	10		None			5—'24, 1—'27, 2—'45	4⅝	6⅜	4	14	20.00
329BU	Transmount	440	85	1—'80	5	2	2½	3.5	1½	5		4½	4 3/16	4 3/16	5	10.00
334	Transflow	300	60	1—'80	...			None			120-volt speaker field	3½	2¾	3⅝	2	7.00
336U	Transnut	520	85	1—'80	2½	3	2½	7.5	1½	4	2—'45, 4—'26, 4—'24 or —'27	4 3/16	3⅝	3⅜	5	10.00
285	Transmor	338	40	1—'26	2½	3½	...	...	...	...	2—'27 or '24	3¼	2⅝	2⅞	3	7.00
28525	Transcycle	338	40	1—'26	2½	3½	.		...		2—'27 or 24	3¼	2⅝	3¼	...	9.50
247	Transform	Filament only			1½	5	2½	3.5	5	1	2—'27, 5—'26, 2—'27	3¼	2⅝	2¼	2½	5.00
249	Transfull	Filament only			2½	9	2½	3	...	..	2—'45, 5—'24 or '27	3¼	2⅝	2¼	2½	5.00
326**	Transduce	Special line voltage reducing transformer									″(Any 6 to 10 tube set)	4⅜	3⅛	5	7½	15.00

**326 line voltage reducing transformer is intended to reduce line voltages varying from 200 to 250 volts to 110 volts for the operation of 110 volt, 50 to 60 cycle receivers or amplifiers of up to 150 watt rating, or it may also be reversed and employed to step up a 110 volt line to 220 to 250 volts.

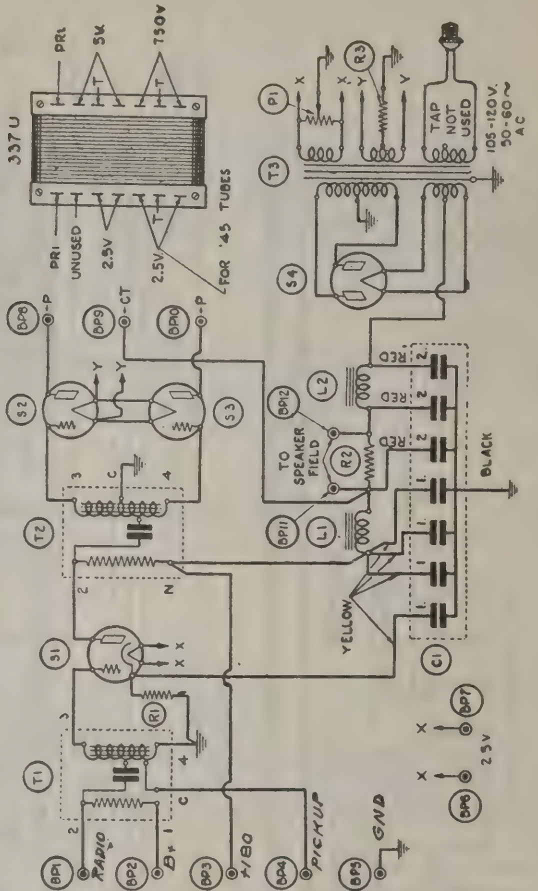
*Equipped with 80 volt primary tap for use with automatic voltage regulating device.

MODEL 677
25 and 60 cycles
Schematic, Chassis

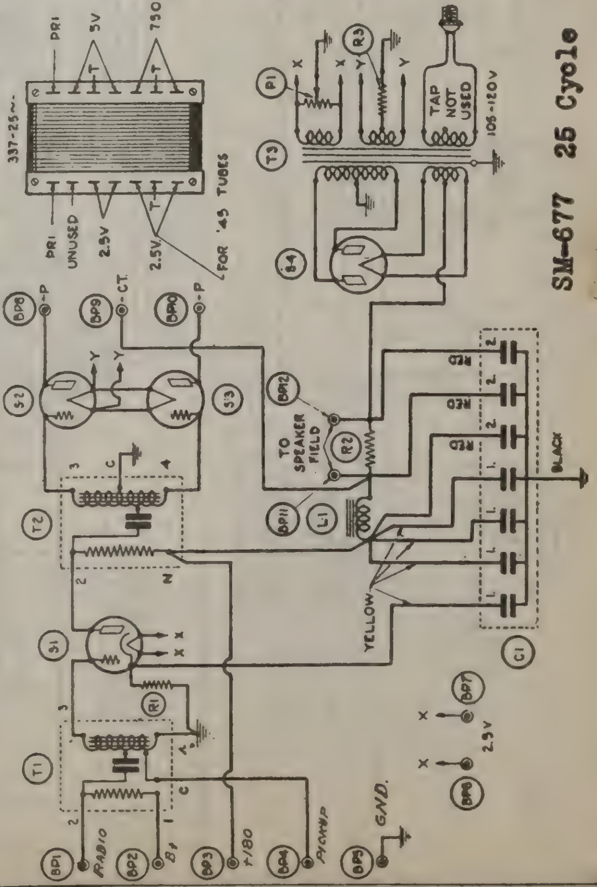
SILVER - MARSHALL, INC.


P
CT
P
2.5 V.
FIELD
115 V. AC.
S1
S2
S3
S4
AF AMP 245
AF AMP 227
RECTIFIER 280
2000 OHMS
NOTE: SOCKETS SHOWN AS SEEN FROM TOP
R1
P1
15 OHM POT
GND
RADIO B+ PICK +180 GND UP.
T1
AF TRANS #255A
T2
AF TRANS #251
C1
CONDENSER BANK #617
YELLOW
RED
BLACK
L1
L2
FILTER CHOKE #339-U
FIELD CHOKE #339-J
R2
R3
1500 OHMS
800 OHMS
T3
POWER TRANS #337U
5 V
750 V
2.5 V
2.5 V
7

SM-677


337 U
PRI
5V
750V
UNUSED
2.5V
2.5V
FOR '45 TUBES
BP8
BP9
BP10
P
CT
P
S2
S3
Y
T2
S1
X
R1
T1
BP1
BP2
BP3
BP4
BP5
BP6
BP7
RADIO
B+
+180
PICKUP
GND
2.5V
TO SPEAKER FIELD
BP11
BP12
L1
L2
R2
RED
BLACK
YELLOW
C1
P1
R3
T3
S4
TAP NOT USED
105-120V. 50-60~ AC

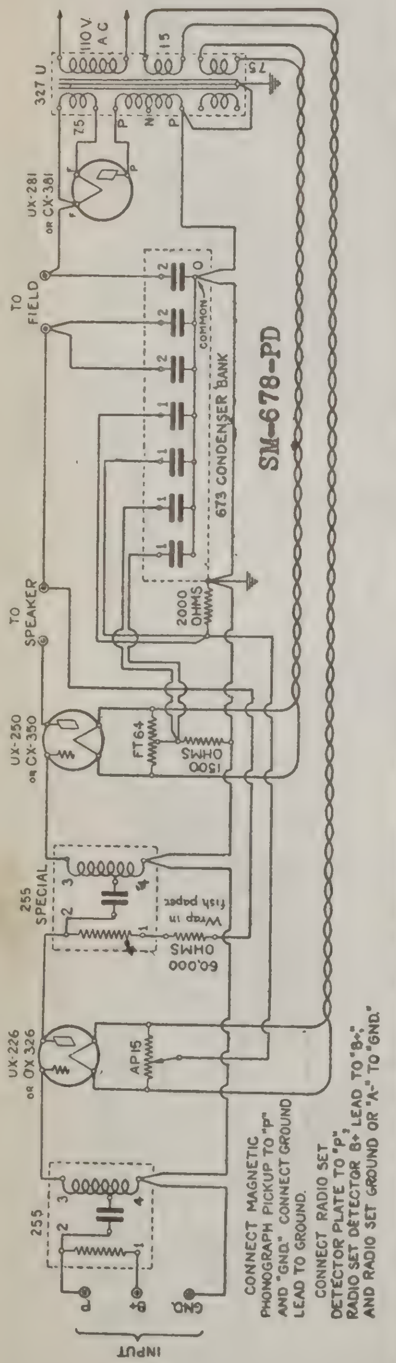
SM-677 60 Cycle


337-25~
PRI
5V
750V
UNUSED
2.5V
2.5V
FOR '45 TUBES
BP8
BP9
BP10
P
CT
P
S2
S3
Y
T2
S1
X
R1
T1
BP1
BP2
BP3
BP4
BP5
BP6
BP7
RADIO
B+
+180
PICKUP
GND.
2.5V
TO SPEAKER FIELD
BP11
BP12
L1
R2
RED
BLACK
YELLOW
C1
P1
R3
T3
S4
TAP NOT USED
105-120V

SM-677 25 Cycle

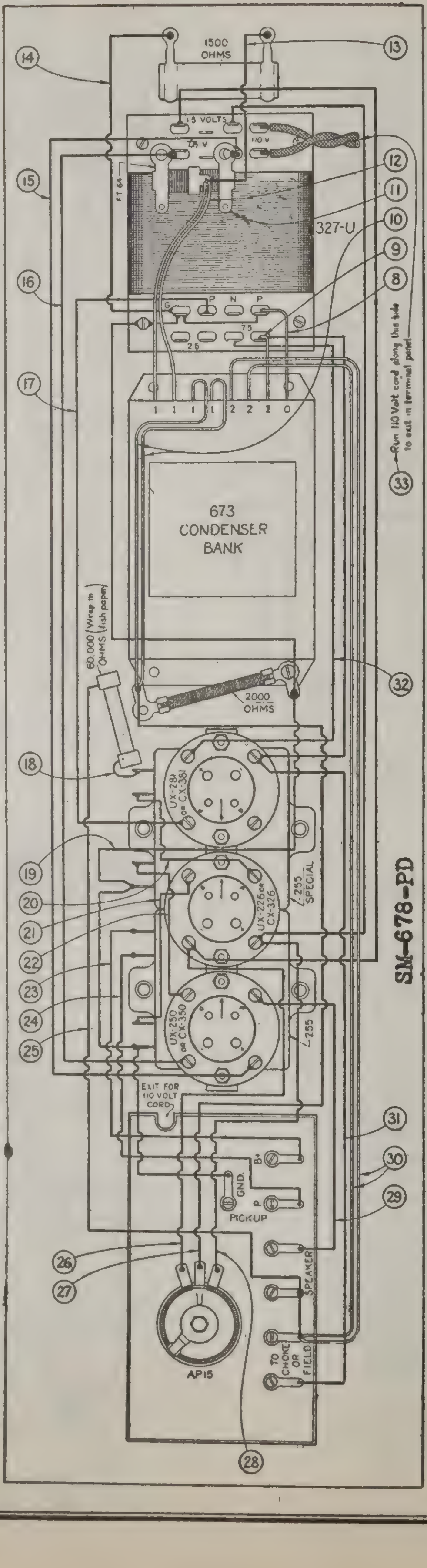
SILVER-MARSHALL, INC.

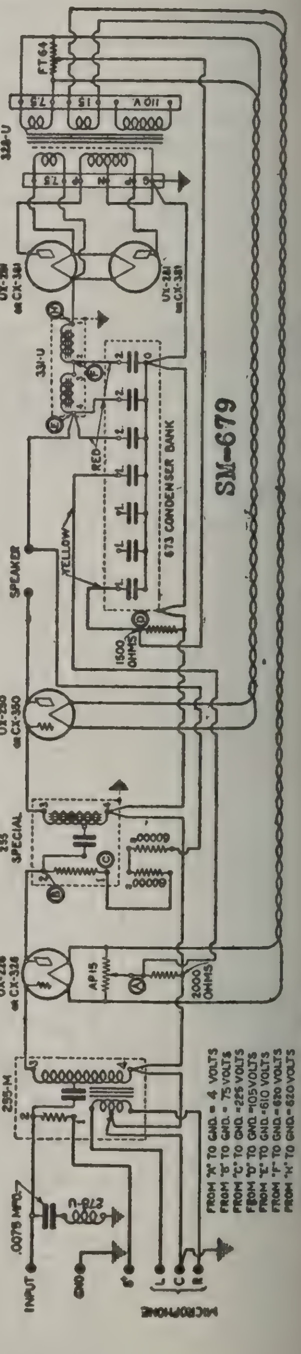
MODEL 678-PD
Schematic,Chassis
MODEL 679


SM-678-PD
110 V A C
327 U
15
75
7.5
P
N
UX-281 OR CX-381
TO FIELD
TO SPEAKER
673 CONDENSER BANK
COMMON
2000 OHMS
UX-250 OR CX-350
FT64
1500 OHMS
255 SPECIAL
Wrap in fish paper
60,000 OHMS
UX-226 OR CX 326
AP15
255
INPUT
P
B+
GND.

CONNECT MAGNETIC PHONOGRAPH PICKUP TO "P" AND "GND." CONNECT GROUND LEAD TO GROUND.

CONNECT RADIO SET DETECTOR PLATE TO "P", RADIO SET DETECTOR B+ LEAD TO "B+", AND RADIO SET GROUND OR "A-" TO "GND."


SM-678-PD
1500 OHMS
15 VOLTS
2.5 V
110 V
FT 64
327-U
G P N P
25 75
1 1 1 1 2 2 2 0
673 CONDENSER BANK
60,000 OHMS (Wrap in fish paper)
2000 OHMS
UX-281 or CX-381
UX-226 or CX-326
255 SPECIAL
UX-250 or CX-350
255
EXIT FOR 110 VOLT CORD
B+
GND.
P
PICKUP
SPEAKER
TO CHOKE OR FIELD
AP15
Run 110 Volt cord along this side to exit in terminal panel
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
12
11
10
9
8

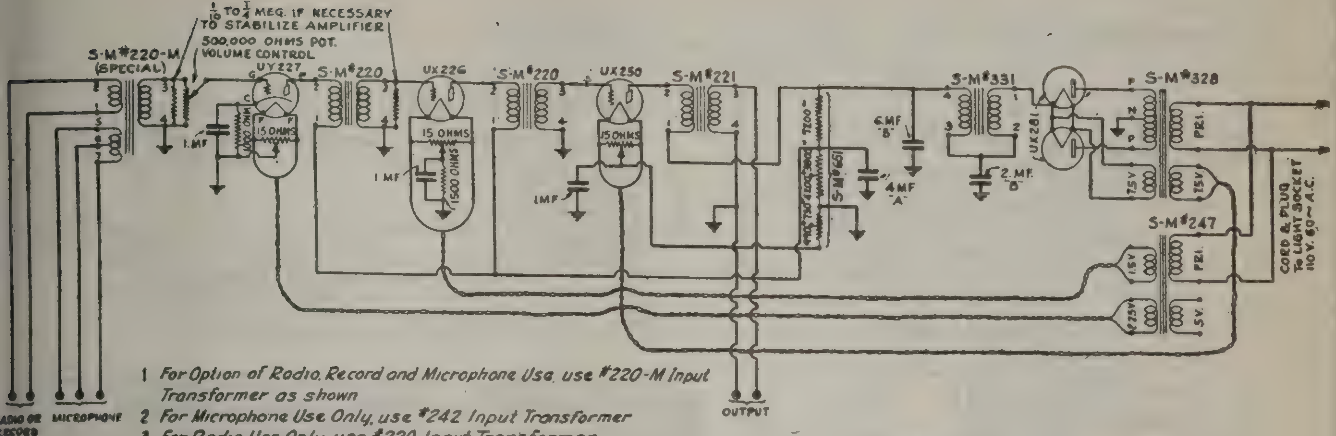

SM-679
FT64
7.5
15
110V
328-U
UX-281 or CX-381
331-U
RED
YELLOW
673 CONDENSER BANK
SPEAKER
1500 OHMS
UX-250 or CX-350
255 SPECIAL
UX-226 or CX-326
AP15
2000 OHMS
255-M
.0075 MFD.
INPUT
GND
B+
L C R
MICROPHONE

FROM "A" TO GND. = 4 VOLTS
FROM "B" TO GND. = 75 VOLTS
FROM "C" TO GND. =225 VOLTS
FROM "D" TO GND. =105 VOLTS
FROM "E" TO GND. =610 VOLTS
FROM "F" TO GND. =620 VOLTS
FROM "H" TO GND. =620 VOLTS
VOLTAGES GIVEN ARE APPROXIMATE

Schematic Diagram of 679 Amplifier

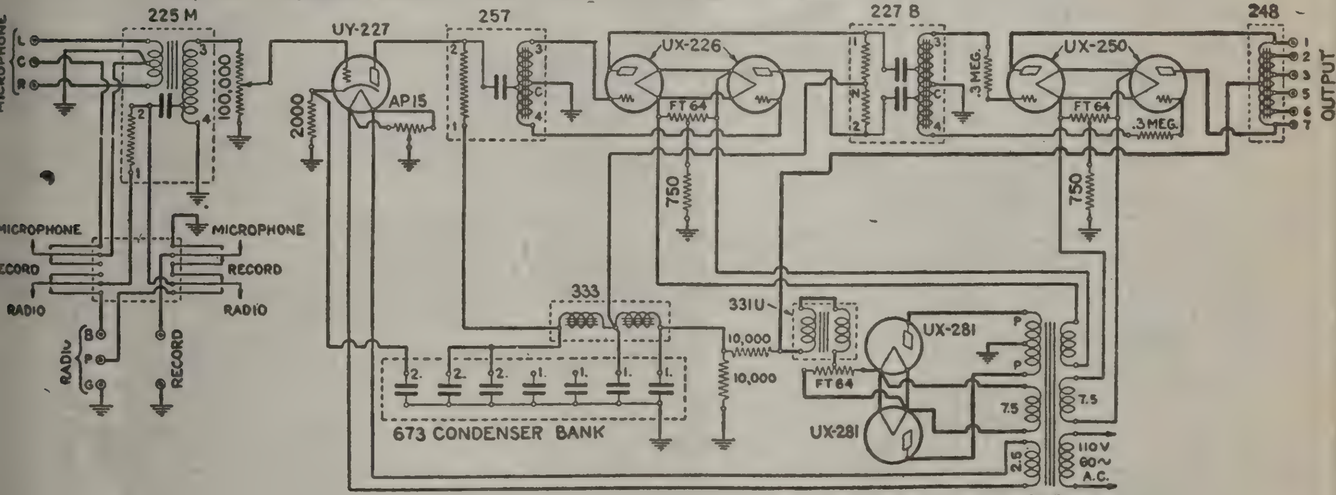
SILVER - MARSHALL, INC.

MODEL 685
MODEL 690
MODEL 692

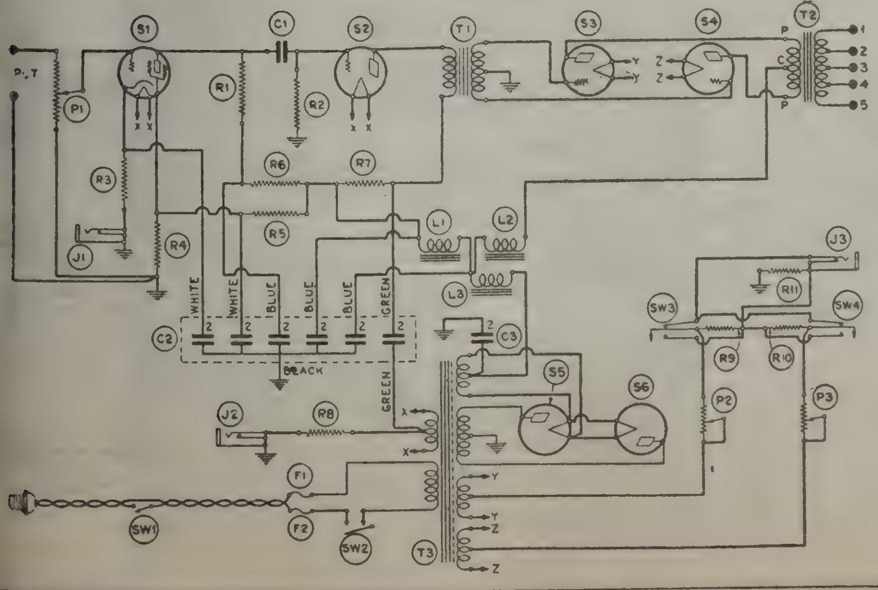

1/10 TO 1/4 MEG. IF NECESSARY TO STABILIZE AMPLIFIER
500,000 OHMS POT. VOLUME CONTROL
S-M #220-M (SPECIAL)
UY227
S-M #220
UX226
S-M #220
UX250
S-M #221
S-M #331
S-M #328
S-M #247
UX281
S-M #681
1 MF
15 OHMS
1500 OHMS
6 MF "B"
4 MF "A"
2 MF "B"
PRI.
S.V.
CORD & PLUG TO LIGHT SOCKET 110 V. 60~ A.C.
OUTPUT
RADIO OR RECORD
MICROPHONE

1 *For Option of Radio, Record and Microphone Use, use #220-M Input Transformer as shown*
2 *For Microphone Use Only, use #242 Input Transformer*
3 *For Radio Use Only, use #220 Input Transformer*
4 *For Record-Pickup Use Only, Omit Input Transformer and Connect Record-Pickup in place of Input Transformer Secondary directly to Ends of 500,000 Ohm Volume-Control Potentiometer*
5 *When Using Microphone (Single or Double-Button Type Optional) keep well away from Loud Speakers to avoid "Singing"*
6 *Use 3 to 4½ Volts of Dry Battery for Microphone*
7 *Group all Loud Speakers Used into Cluster, to avoid "Echo Effect"*

Model 685


MICROPHONE
225 M
UY-227
257
UX-226
227 B
UX-250
248
OUTPUT
100,000
2000
AP15
FT 64
750
.3 MEG.
MICROPHONE
RECORD
RADIO
333
331U
10,000
10,000
UX-281
UX-281
673 CONDENSER BANK
7.5
2.5
110 V 60~ A.C.
324 BU

Schematic Diagram of the S-M 690 Amplifier

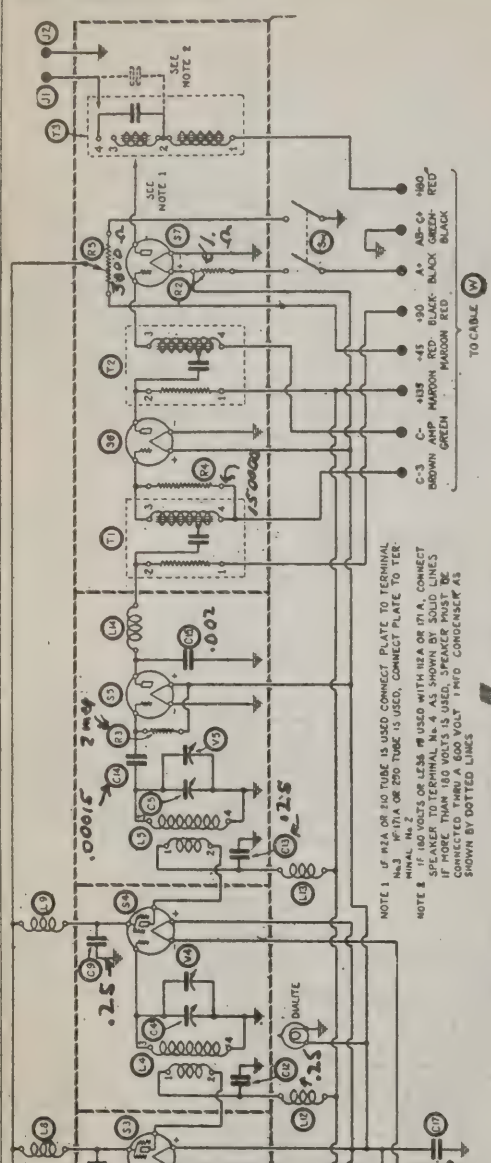

S1
S2
S3
S4
S5
S6
C1
C2
C3
T1
T2
T3
P1
P2
P3
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
J1
J2
J3
L1
L2
L3
SW1
SW2
SW3
SW4
F1
F2
WHITE
BLUE
GREEN
BLACK

Model 692

P1	No. 4491	Potentiometer
P2 P3	No 4490	Potentiometer
R1	No. 4772	Resistor
R2	No. 4700	Resistor
R3	No. 4730	Resistor
R4	No. 4771	Resistor
R5	No. 4685	Resistor
R6	No 4698	Resistor
R7	No. 4726	Resistor
R8	No. 4689	Resistor
R9 R10	No. 4723	Resistor
R11	No. 4776	Resistor

MODEL 710
Sargent-Raymond Seven
Schematic, Chassis

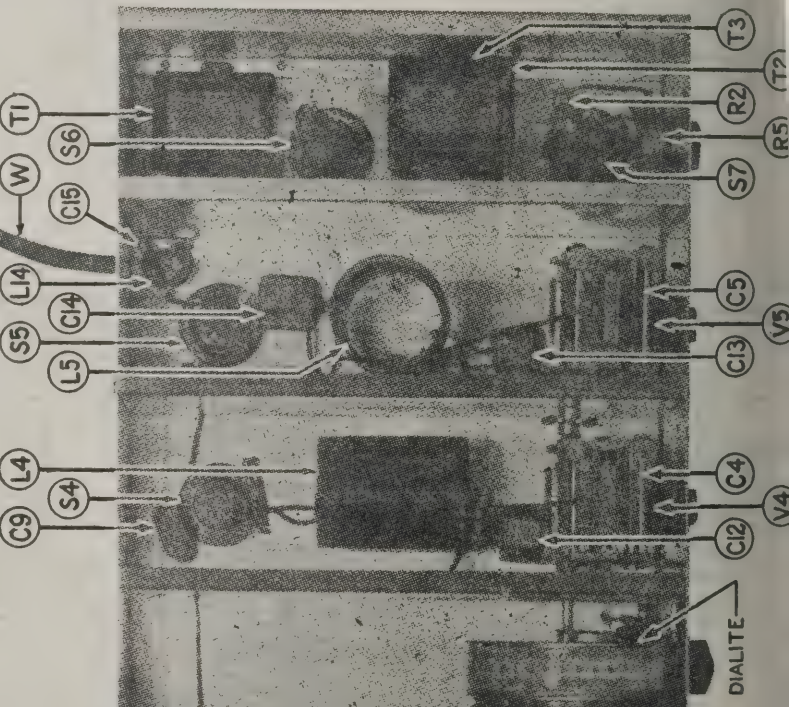
SILVER - MARSHALL, INC.


J2
J1
T3
SEE NOTE 2
SEE NOTE 1
R5
3000 Ω
S7
R2
1/2 Ω
S8
T2
S6
R4
150000
T1
L14
C15
.002
S5
R1
2 meg
C14
.00015
V5
C5
L5
C13
.25
L13
L9
C9
.25
S4
V4
C4
L4
C12
.25
L12
DIALITE
L8
C8
.25
S3
V3
C3
L3
C11
.25
L11
L7
C7
.25
S2
V2
C2
L2
C10
.25
L10
L6
C6
.25
S1
BP2
L1
BP1
V1
C1
C16
1.
R1
3. Ω
C17
1.
C-3 BROWN
C- AMP GREEN
+135 MAROON
+45 RED-MAROON
+90 BLACK-RED
A+ BLACK
AB- C+ GREEN-BLACK
+180 RED
TO CABLE W

NOTE 1 IF 112A OR 210 TUBE IS USED CONNECT PLATE TO TERMINAL No. 3 IF 171A OR 250 TUBE IS USED, CONNECT PLATE TO TERMINAL No 2

NOTE 2 IF 180 VOLTS OR LESS IS USED WITH 112A OR 171A, CONNECT SPEAKER TO TERMINAL No. 4 AS SHOWN BY SOLID LINES IF MORE THAN 180 VOLTS IS USED, SPEAKER MUST BE CONNECTED THRU A 600 VOLT 1 MFD CONDENSER AS SHOWN BY DOTTED LINES

L1	141 antenna coil
L2-L3-L4-L5	142 RF transformer coils
C1-C2-C3-C4-C5	320R variable condensers, .00035 mfd.
V1-V2-V3-V4-V5	340 midget condensers, .000025 mfd.
L6 L7-L8-L9-L10-L11-L12-L13-L14	275 RF chokes
S1-S2-S3-S4-S5-S6-S7	511 tube sockets
T1	255 first stage AF transformer
T2	256 second stage AF transformer
T3	251 output transformer
W	708 ten lead battery cable

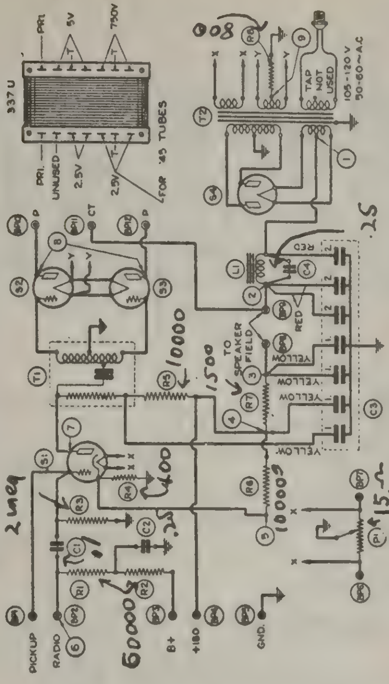

T3
T2
T1
R2
S6
R5
W
S7
C15
L14
C14
C5
S5
V5
L5
C13
L4
S4
C4
C9
V4
C12
DIALITE
L3
S3
V3
C8
C11
C3
L2
S2
V2
C7
C10
BP1
C2
S1
BP2
V1
C6
C1
L1

SILVER - MARSHALL, INC.

MODEL 712
Schematic
Chassis
MODEL 677-B

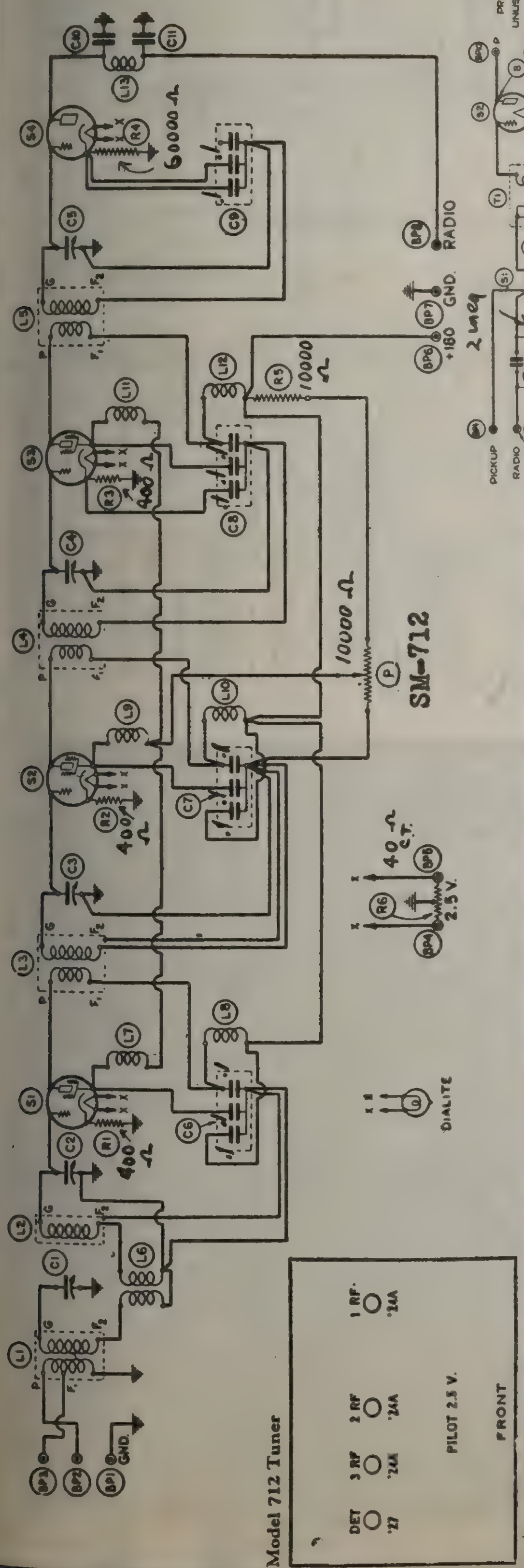
Representative voltages when 677B is connected to 712 Tuner with on-off volume control on full

From	(1)	to Ground	- 320
"	(2)	" "	- 310
"	(3)	" "	- 230
"	(4)	" "	- 160
"	(5)	" "	- 8
"	(6)	" "	- 110
"	(7)	" "	- 100
"	(8)	" "	- 300
"	(9)	" "	- 50

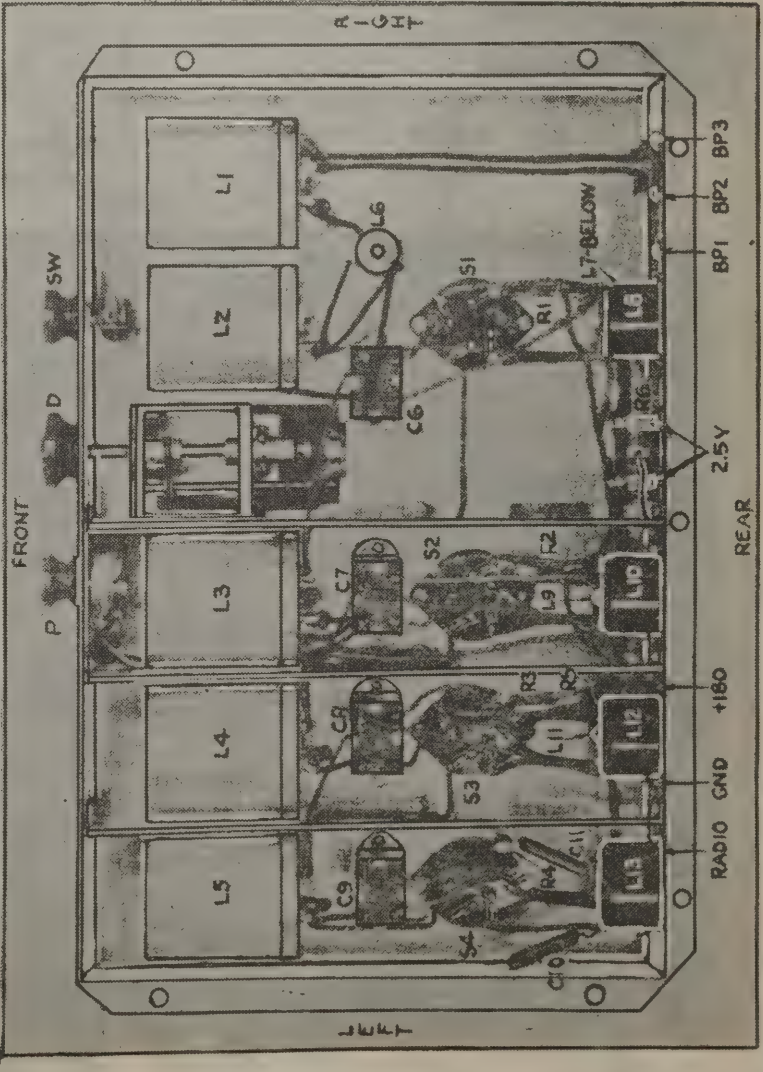


337 U
PRI.
UNUSED
2.5V
5V
750V
FOR '45 TUBES
105-120 V 50-60~A.C.
TAP NOT USED
PICKUP
RADIO
B+
+180
GND.
TO SPEAKER FIELD
YELLOW
RED
60000
2 meg
10000
1500
400
10000
15
2.5V

Schematic of 677B Amplifier used with 712 AC Tuner



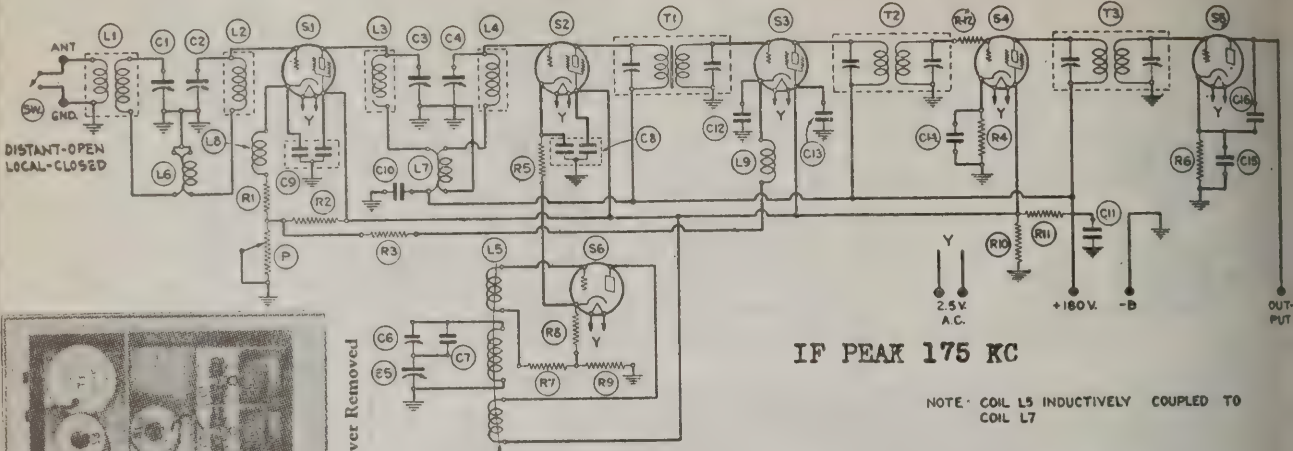
60000 Ω
400 Ω
10000 Ω
SM-712
40 Ω C.T.
2.5 V.
DIALITE
+180
GND.
RADIO
Model 712 Tuner
DET '27
3 RF '24A
2 RF '24A
1 RF '24A
PILOT 2.5 V.
FRONT



FRONT
REAR
RIGHT
LEFT
SW
D
P
L1
L2
L3
L4
L5
L6
L7-BELOW
L9
L10
L11
L12
L13
C6
C7
C8
C9
C11
S1
S2
S3
S4
R1
R2
R3
R4
R6
2.5V
BP1
BP2
BP3
+180
GND
RADIO

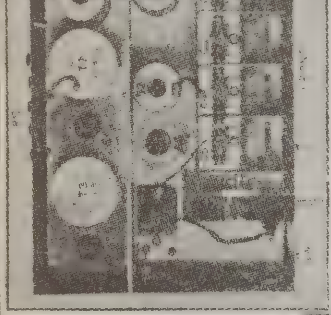
MODEL 714
Schematic
Chassis,Voltage

SILVER - MARSHALL, INC.

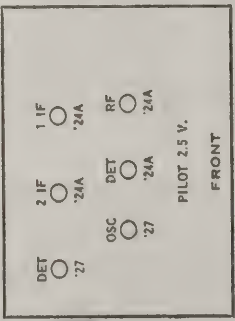

ANT
SW.
GND.
DISTANT-OPEN
LOCAL-CLOSED
L1
C1
C2
L2
S1
L3
C3
C4
L4
S2
T1
S3
T2
R12
S4
T3
S5
L6
L8
R1
C9
R2
P
R3
C10
L7
R5
C8
C12
L9
C13
C14
R4
R6
C16
C15
C11
R10
R11
Y
2.5 V.
A.C.
+180 V.
-B
OUT-
PUT
L5
S6
C6
C7
C5
R8
R7
R9

IF PEAK 175 KC

NOTE · COIL L5 INDUCTIVELY COUPLED TO COIL L7



Top View of Tuner with Cover Removed

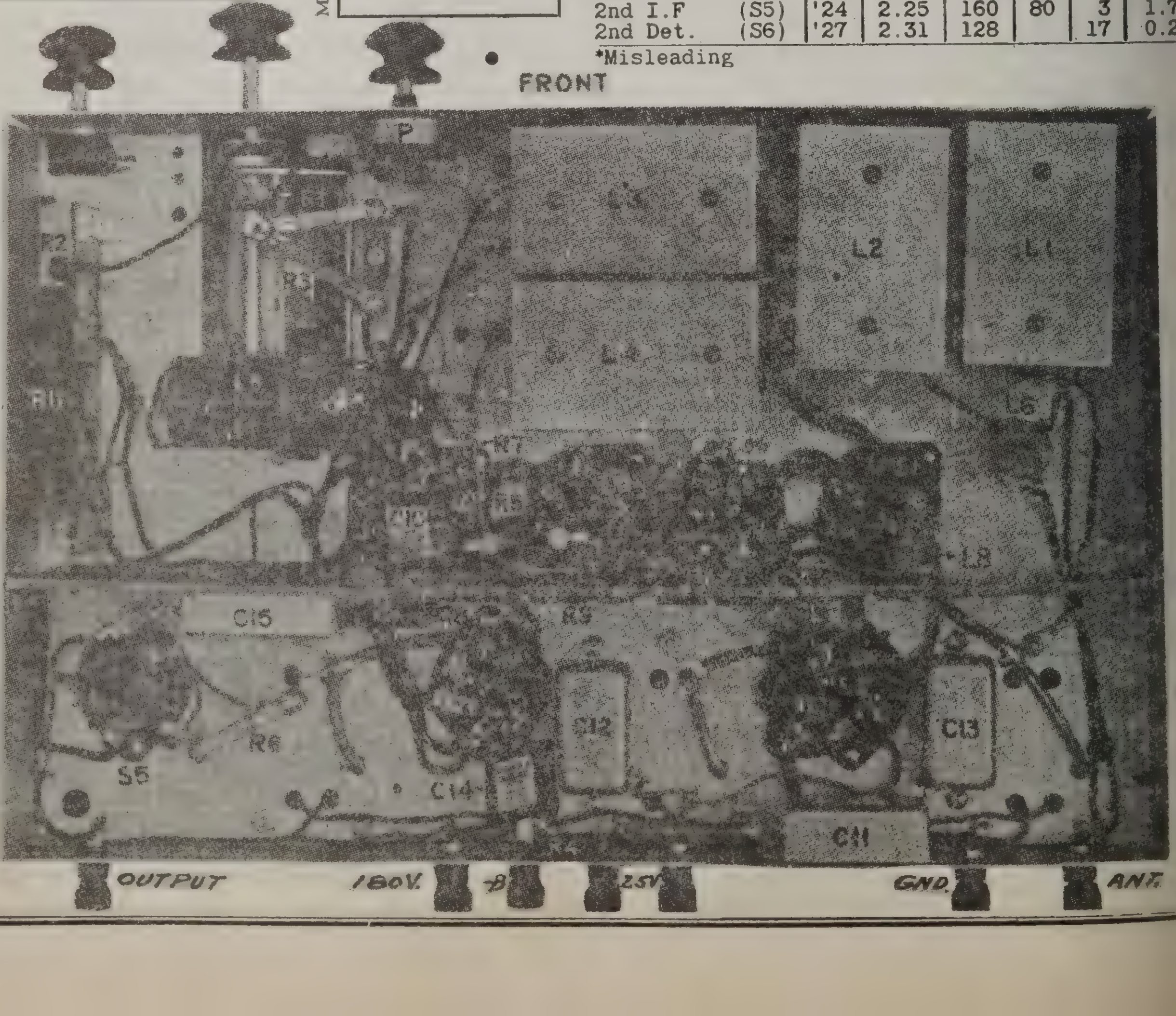

DET
'27
2 IF
'24A
1 IF
'24A
OSC
'27
DET
'24A
RF
'24A
PILOT 2.5 V.
FRONT

Model 714 Tuner

VOLTAGES WITH VOLUME CONTROL AT MAXIMUM

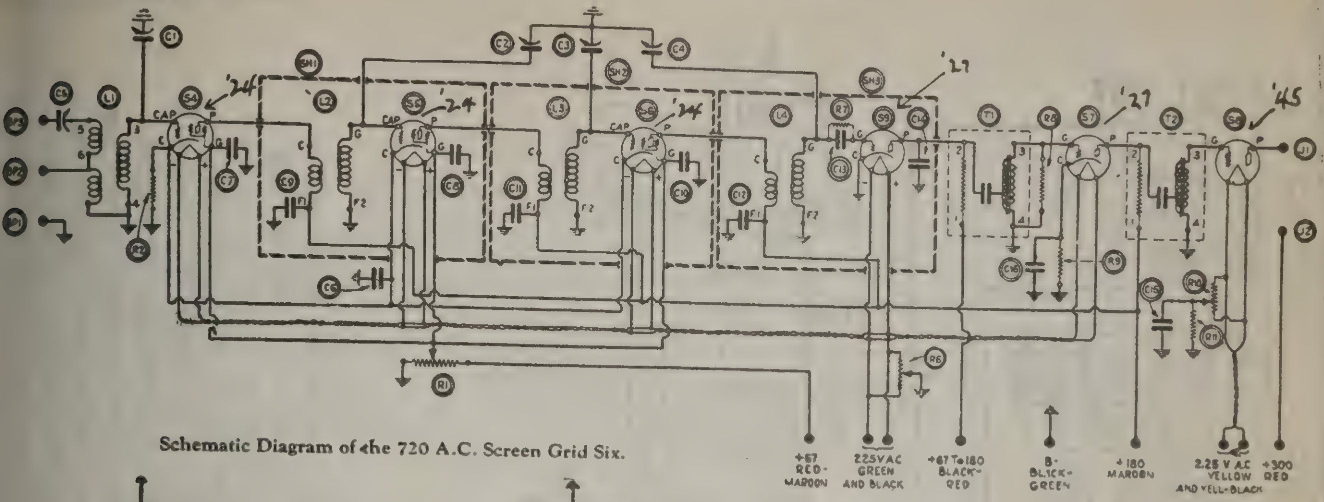
Tube Number		Type of Tube	"A" Volts	"B" Volts	Screen Volts	"C" Volts	Normal Plate Current MA
R.F	(S1)	'24	2.30	160	80	5	3.0
1st Det.	(S2)	'24	2.27	160	80	7	Note*
Oscillator	(S3)	'27	2.25	80		7	5.9
1st I.F.	(S4)	'24	2.31	160	80	5	1.4
2nd I.F	(S5)	'24	2.25	160	80	3	1.7
2nd Det.	(S6)	'27	2.31	128		17	0.2

*Misleading

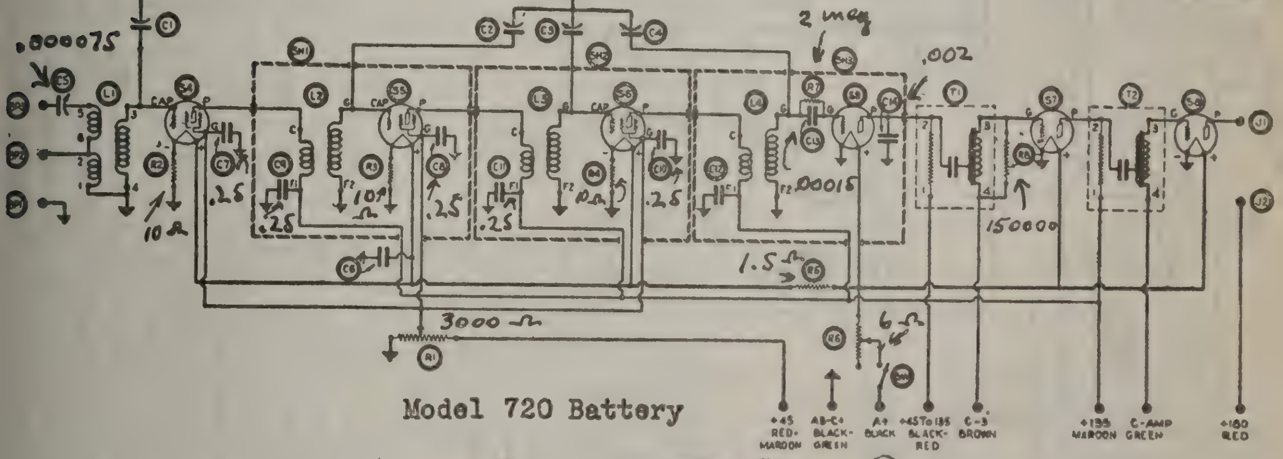

FRONT
P
R2
R3
L3
L2
L1
L4
R6
L6
R7
R5
L8
C15
R9
C12
C13
R6
S5
C14
C11
OUTPUT
180V.
-B
2.5V
GND.
ANT.

MODEL 720 AC
MODEL 720 Battery
Schematic,Chassis

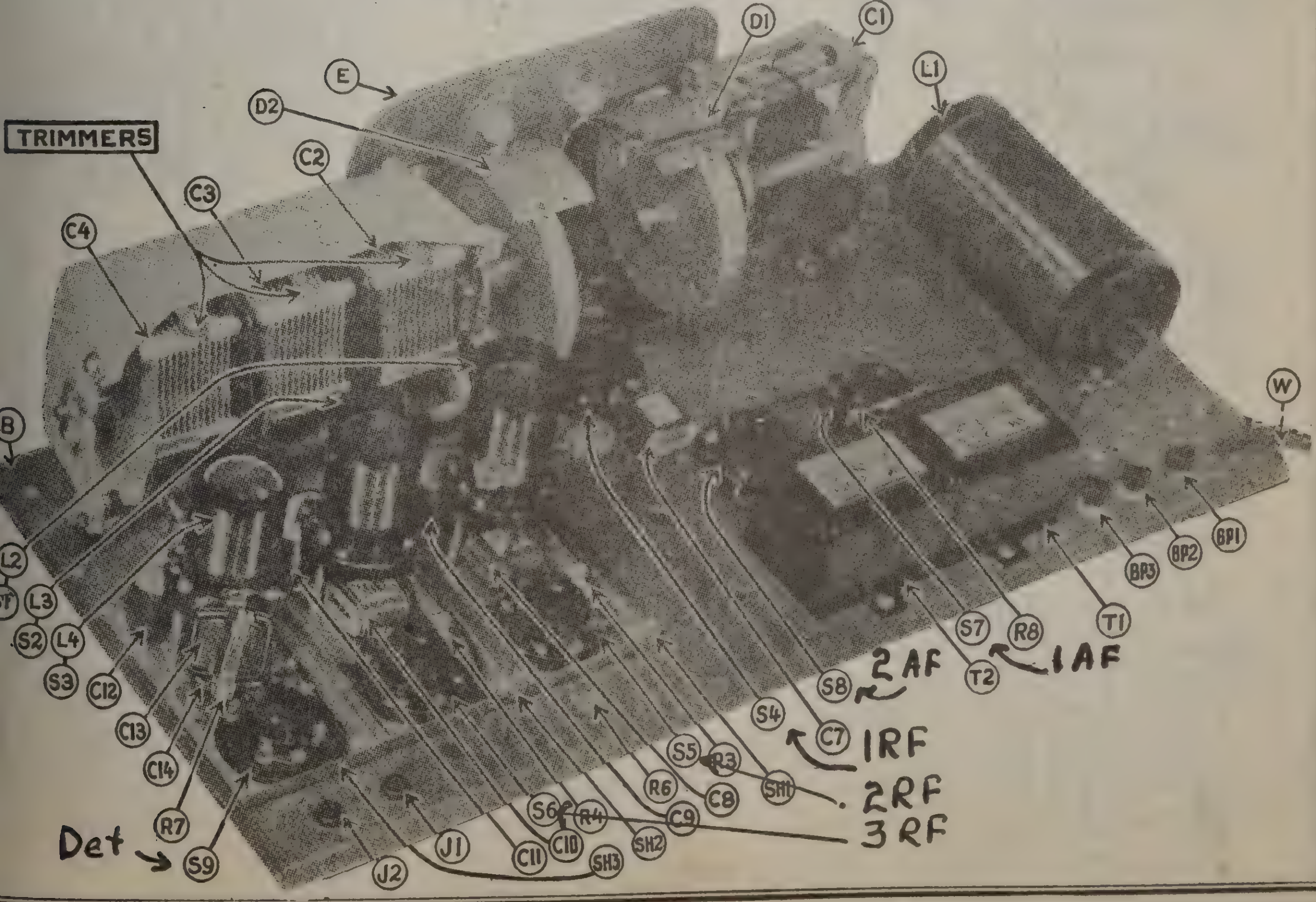
SILVER - MARSHALL, INC.


C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
L1
L2
L3
L4
SH1
SH2
SH3
S4
S5
S6
S7
S8
S9
R1
R2
R6
R7
R8
R9
R10
R11
T1
T2
J1
J2
'24
'24
'24
'27
'27
'45
CAP
+67 RED-MAROON
2.25 V AC GREEN AND BLACK
+67 To 180 BLACK-RED
B- BLACK-GREEN
+180 MAROON
2.25 V AC YELLOW AND YELL-BLACK
+300 RED

Schematic Diagram of the 720 A.C. Screen Grid Six.

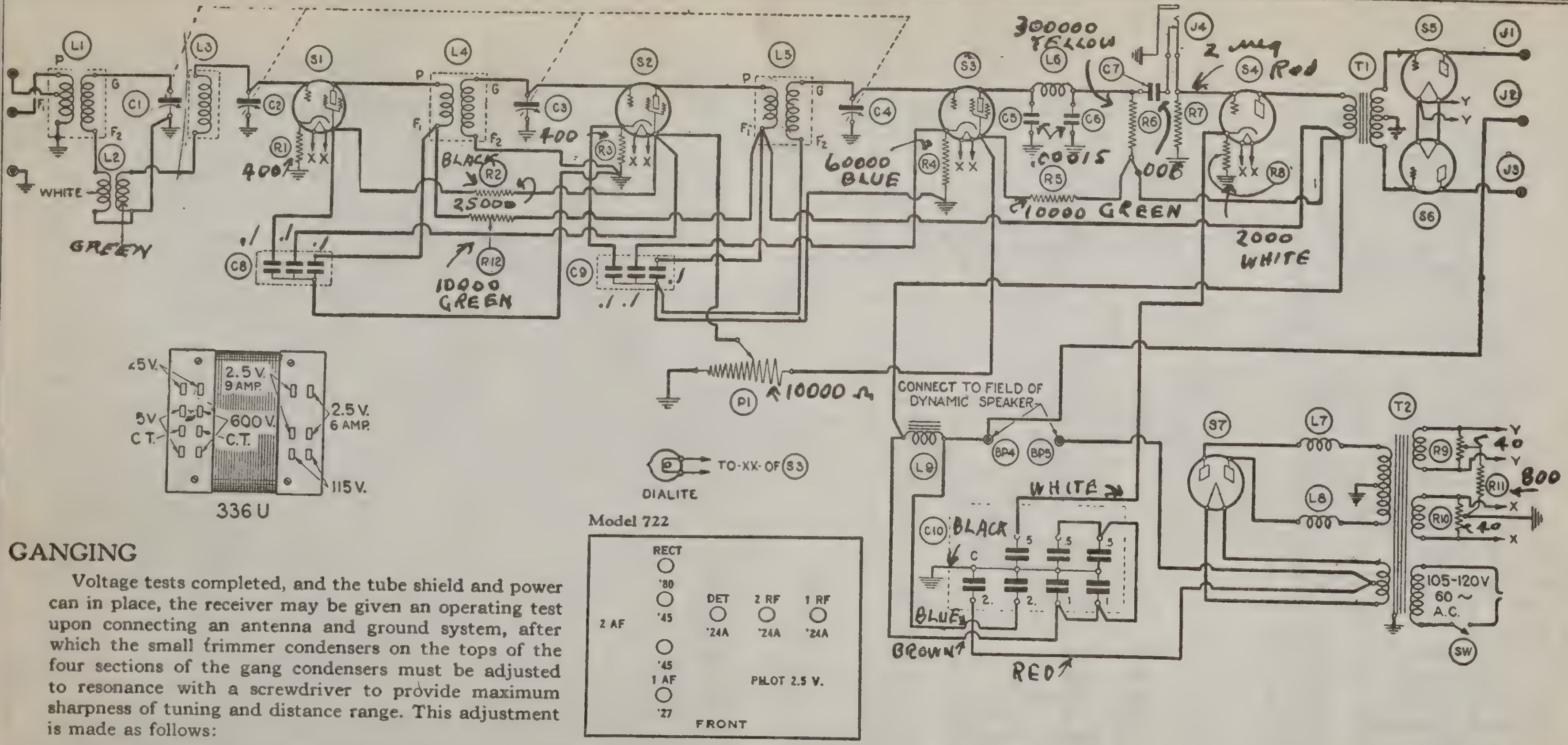

.000075
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
L1
L2
L3
L4
SH1
SH2
SH3
S4
S5
S6
S7
S8
S9
R1
R2
R3
R4
R5
R6
R7
R8
T1
T2
J1
J2
SW
2 meg
.002
.00015
.25
.25
.25
.25
.25
.25
10 Ω
10 Ω
Ω
1.5 Ω
3000 Ω
6 Ω
150000
+45 RED-MAROON
AB-C+ BLACK-GREEN
A+ BLACK
+45 To 135 BLACK-RED
C-3 BROWN
+135 MAROON
C-AMP GREEN
+180 RED

Model 720 Battery


TRIMMERS
E
D1
D2
C1
C2
C3
C4
L1
L2
L3
L4
B
W
BP1
BP2
BP3
T1
T2
R3
R4
R6
R7
R8
S2
S3
S4
S5
S6
S7
S8
S9
C7
C8
C9
C10
C11
C12
C13
C14
SH1
SH2
SH3
J1
J2
1 AF
2 AF
1 RF
2 RF
3 RF
Det

SILVER - MARSHALL, INC.

MODEL 722
Schematic
Voltage, Dat


L1
L2
L3
L4
L5
L6
L7
L8
L9
P
G
F1
F2
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
S1
S2
S3
S4
S5
S6
S7
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
WHITE
GREEN
400
XX
BLACK
2500
10000 GREEN
.1
.1 .1
60000 BLUE
.00015
10000 GREEN
300000 YELLOW
.006
2 meg
Red
2000 WHITE
J1
J2
J3
J4
T1
T2
Y
X
40
800
10000 Ω
CONNECT TO FIELD OF DYNAMIC SPEAKER
BP4
BP5
WHITE
BLACK
C
5
2
1
BLUE
BROWN
RED
105-120V 60 ~ A.C.
SW
2.5 V. 9 AMP.
600 V. C.T.
2.5 V. 6 AMP.
115 V.
5V C.T.
45V.
336 U
TO-XX-OF S3
DIALITE
Model 722
RECT
'80
'45
2 AF
1 AF
'27
DET
'24A
2 RF
1 RF
PILOT 2.5 V.
FRONT

GANGING

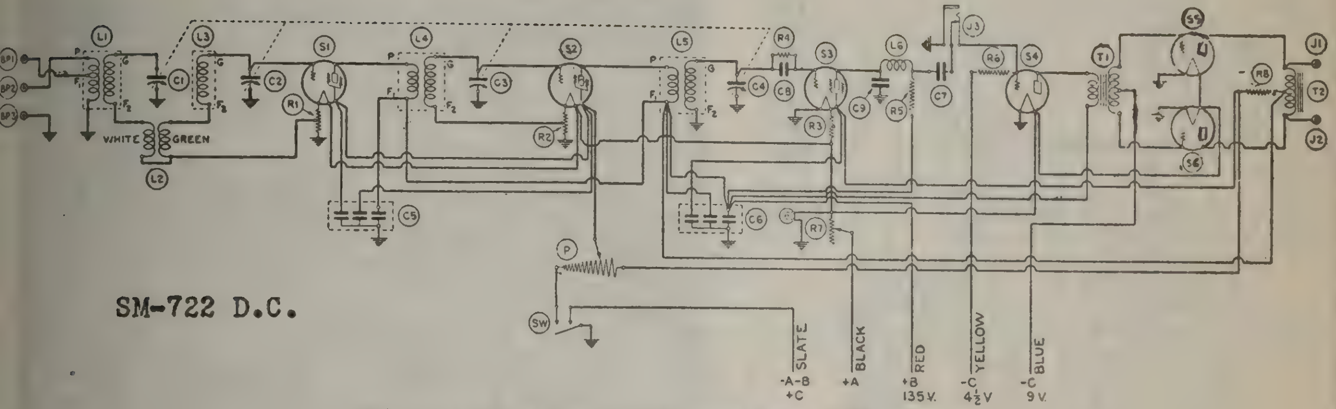
Voltage tests completed, and the tube shield and power can in place, the receiver may be given an operating test upon connecting an antenna and ground system, after which the small trimmer condensers on the tops of the four sections of the gang condensers must be adjusted to resonance with a screwdriver to provide maximum sharpness of tuning and distance range. This adjustment is made as follows:

1. Unscrew trimmer condensers **C2, C3, C4** two full turns. The three holes in the cover of the tube shield SH should be directly over the trimmer screws.
2. Connect small antenna to binding post BP1 (or artificially shorten a long one in order to produce a rather weak signal when volume control is turned full on or nearly full on).
3. Tune in a station at 230 to 250 meters.
4. Adjust trimmer C-4 for loudest signal.
5. Adjust trimmer C3 for loudest signal.
6. Adjust trimmer C2 for loudest signal.
7. Adjust trimmer C1 for loudest signal.
8. Re-tune receiver to a station at between 450 and 550 meters.
9. Re-check adjustment of trimmers C1 and C2. If any variation is present, adjust for maximum signal.
10. Re-tune to original short wave station and re-adjust trimmers C2 and then C1 for maximum signal strength.

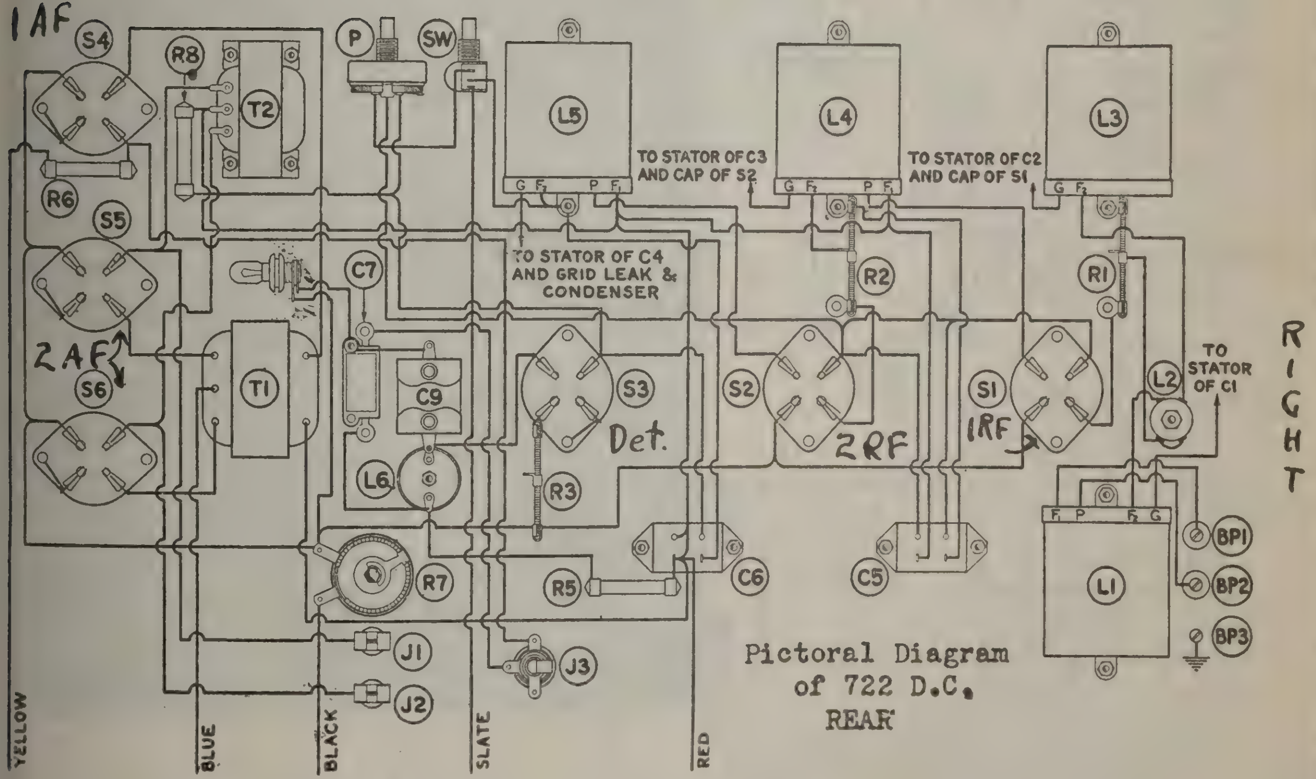
TEST VOLTAGES

With rectifier tube only in socket;
Voltage across F lugs of tubes S1 to S6 should be 2.45 volts. Across outside lug of P1 and across R5 should be 130 to 150 volts. Chassis -B to arm of P1 (fully right) should be 60 to 70 volts. Chassis to right rear of T1 should be 130,142,155 volts. Chassis to left rear lug of S4, 6 to 9 volts DC. Chassis to right rear lug of S3, 20 to 35 volts DC. Chassis to right rear lug of S2, 1.2 to 2.0 volts DC. Chassis to right rear lug of S1, (P1 turned fully right), 1.2 to 2.0 volts DC. Chassis to J1, 160 to 220 volts DC. Chassis to J2, 170 to 240 volts DC. Chassis to J3. 160 to 220 volts DC.

SILVER-MARSHALL, INC.


SM-722 D.C.
BP1
BP2
BP3
L1
L2
WHITE
GREEN
P
G
F1
F2
C1
L3
C2
S1
R1
L4
C3
S2
R2
C5
L5
C4
R4
C8
S3
R3
C9
L6
R5
C7
J3
R6
S4
T1
S5
S6
R8
J1
T2
J2
C6
R7
P
SW
SLATE
-A-B
+C
BLACK
+A
RED
+B
135V.
YELLOW
-C
4½V
BLUE
-C
9V.

Schematic diagram of the 722DC, showing all parts keyed

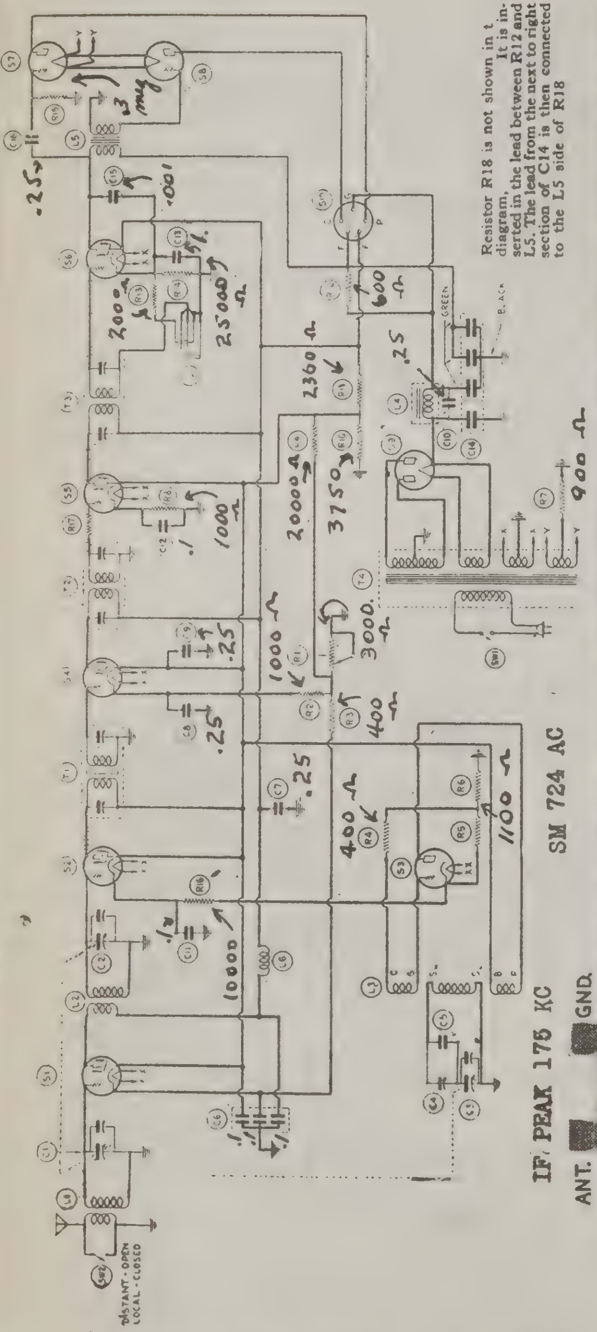

1 AF
S4
R8
T2
P
SW
L5
TO STATOR OF C3 AND CAP OF S2
L4
TO STATOR OF C2 AND CAP OF S1
L3
G F2 P F1
R6
S5
C7
TO STATOR OF C4 AND GRID LEAK & CONDENSER
R2
R1
2AF
S6
T1
C9
S3
Det.
S2
2RF
S1
1RF
L2
TO STATOR OF C1
RIGHT
L6
R3
F1 P F2 G
L1
BP1
BP2
BP3
R7
R5
C6
C5
J1
J2
J3
YELLOW
BLUE
BLACK
SLATE
RED

Pictoral Diagram
of 722 D.C.
REAR

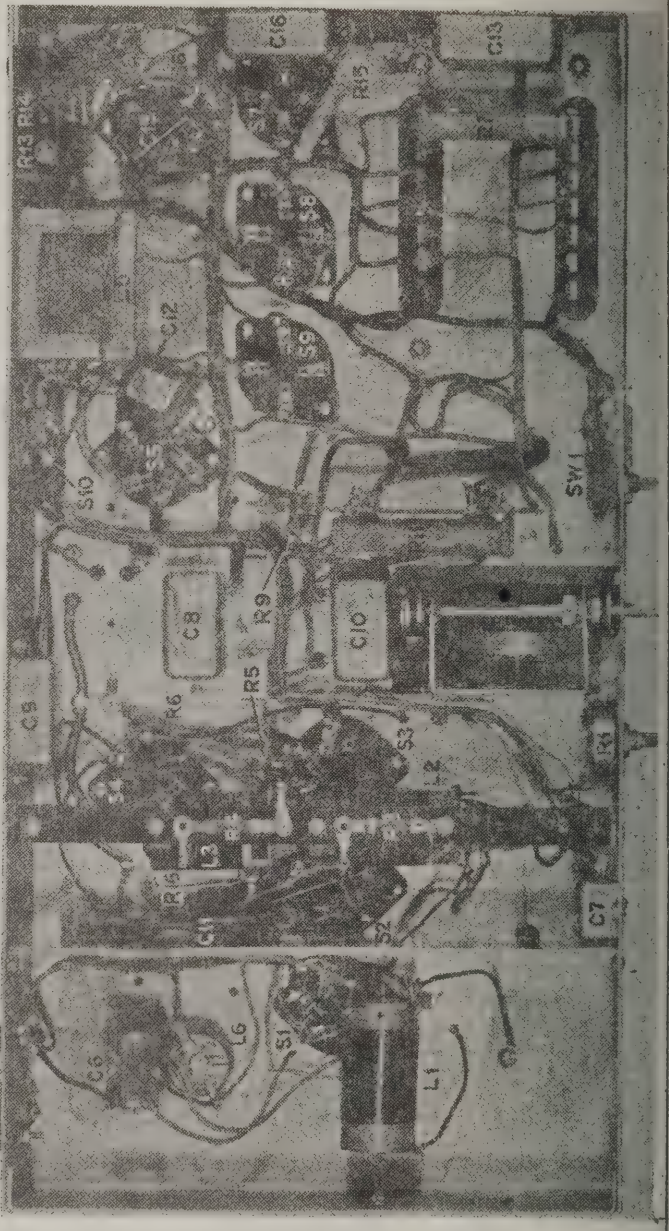
C1,2,3,4,	.00035 mfd 4 gang condenser
C5,6	block condensers containing three .1 mfd units
C7	.006 mfd.
C8	.00015 mfd.
C9	.0005 mfd.
P	10000 ohm potentiometer. ....
R1,2,3	15 ohm center tapped.
R4,6	2 megohm (one watt) Red
R5	60000 ohm(one watt) Blue
R7	Rheostat(sub-base)
R8	20000 ohms (one watt) Orange

SILVER - MARSHALL, INC.

MODEL 724 AC
Schematic, Chassis
Voltage Data


SM 724 AC
IF PEAK 175 KC
ANT.
GND.
DISTANT - OPEN
LOCAL - CLOSED
.25
.001
2000 Ω
25000 Ω
.1
1000 Ω
.25
.25
.1
10000
.25
2360 Ω
20000 Ω
3150 Ω
1000 Ω
3000 Ω
400 Ω
400 Ω
1100 Ω
600 Ω
.25
900 Ω
GREEN
BLACK

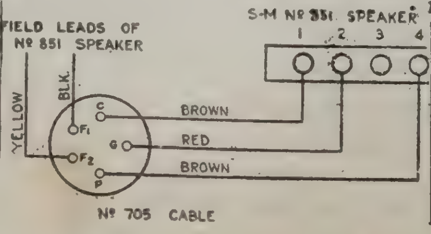
Resistor R18 is not shown in t diagram. It is inserted in the lead between R12 and L5. The lead from the next to right section of C14 is then connected to the L5 side of R18


C16
C13
R13 R14
R15
S8
S9
C12
S10
SW1
C8
R9
C10
R5
R6
C9
S3
S4
L3
R16
C7
L6
S1
L1
C6

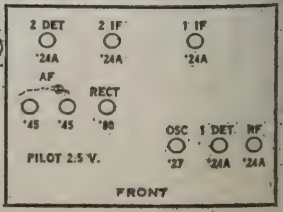
VOLTAGES WITH VOLUME CONTROL AT MAXIMUM

Tube Number		Type of Tube	"A" Volts	"B" Volts	Screen Volts	"C" Volts	Normal Plate Current MA
R.F.	(S1)	'24	2.15	168	84	1.3	2.5
1st Det.	(S2)	'24	2.16	75	84	9.5	.4
Oscillator	(S3)	'27	2.20	78	...	6.5	6.0
1st I. F.	(S4)	'24	2.17	165	82	2.8	1.8
2nd I.F.	(S5)	'24	2.22	164	83	3.0	2.5
2nd Det.	(S6)	'24	2.19	208	160	16.0	.6
Audio (Right)	(S7)	'45	2.57	235	...	48.0	27.
Audio (Left)	(S8)	'45	2.57	235	...	20.0*	29.
Rectifier	(S9)	'80	4.80	...	...	....	....

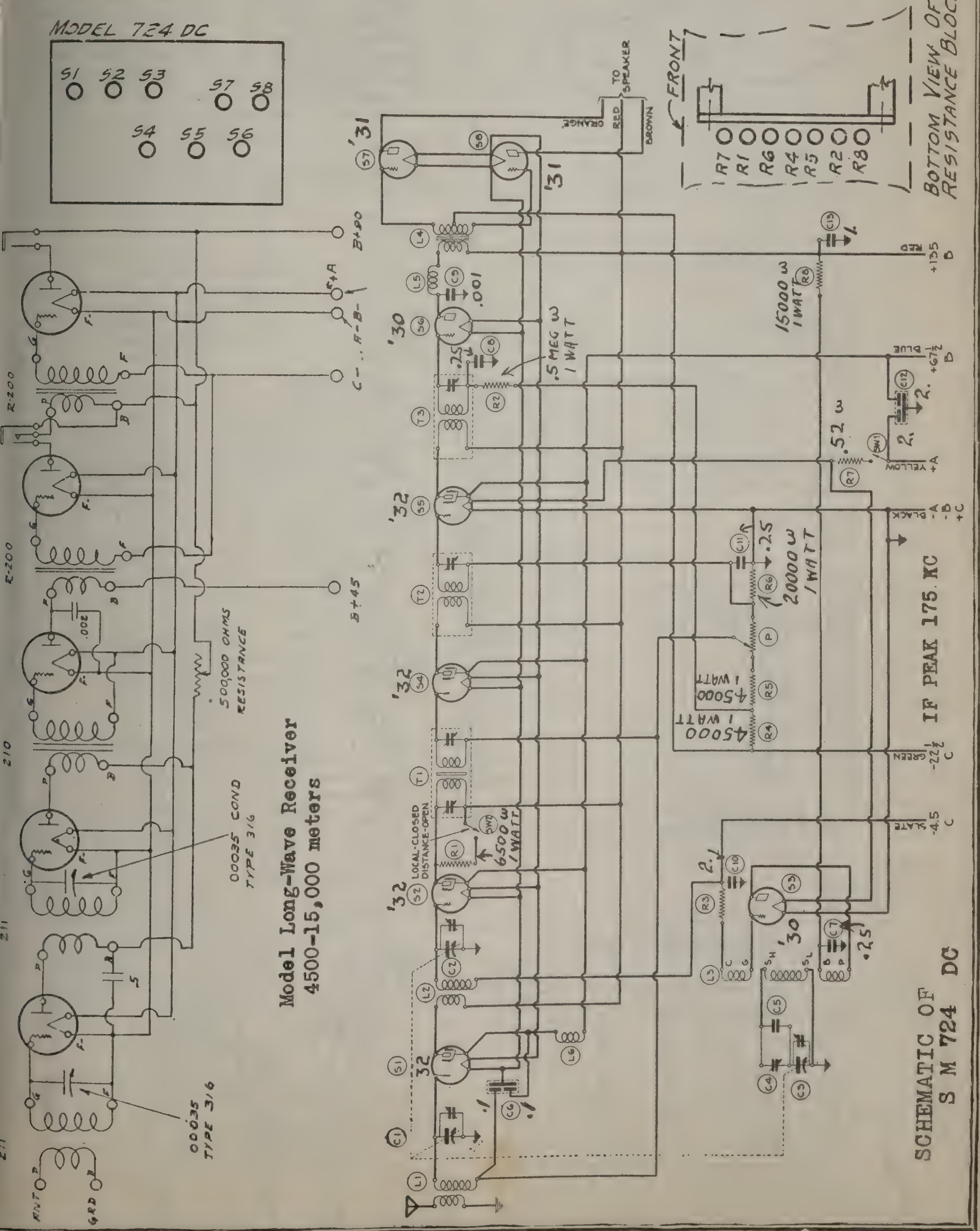
*Misleading due to current drawn by meter.


FIELD LEADS OF
Nº 851 SPEAKER
S-M Nº 851 SPEAKER
1
2
3
4
BLK.
YELLOW
F1
F2
C
G
P
BROWN
RED
BROWN
Nº 705 CABLE

Model 724 Superheterodyne Receiver


2 DET
'24A
2 IF
'24A
1 IF
'24A
AF
'45
'45
RECT
'80
PILOT 2.5 V.
OSC
'27
1 DET.
'24A
RF
'24A
FRONT

MODEL 724 DC
MODEL Long-Wave Receiver SILVER-MARSHALL, INC.


MODEL 724 DC
S1 S2 S3 S7 S8
S4 S5 S6
Model Long-Wave Receiver
4500-15,000 meters
ANT P
GRD B
211
.00035 TYPE 316
.00035 COND TYPE 316
210
R-200
.002
500,000 OHMS RESISTANCE
.5
B+90
F+A
C- . A- B-
B+45
FRONT
BOTTOM VIEW OF RESISTANCE BLOCK
R7 R1 R6 R4 R5 R2 R8
TO SPEAKER
ORANGE
RED
BROWN
'31
'30
'32
32
L1 L2 L3 L4 L5 L6
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13
T1 T2 T3
SW1 SW2
LOCAL-CLOSED DISTANCE-OPEN
.001
.25
.5 MEG W 1 WATT
6500 W 1 WATT
15000 W 1 WATT
.52 W
20000 W 1 WATT
45000 1 WATT
45000 1 WATT
2.
1
.1
IF PEAK 175 KC
RED +135 D
BLUE +67½ D
YELLOW +A
BLACK -A -B +C
GREEN -22½ C
SLATE -4.5 C

SCHEMATIC OF
S M 724 DC

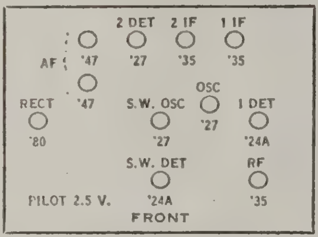
SILVER - MARSHALL, INC.

MODEL 726
Schematic
Voltage,Da

REPLACEMENT PARTS LIST FOR 726 SW & 726 SHORT WAVE-BROADCAST RECEIVERS

Code	Description	Piece Part No
L1	167-S Coil	
L2	168-S Coil	
L3	175-S Coil	
L4	281 R.F. Choke	
L5	10145 Choke	
L6	277 R.F. Choke	
La	S.W. Coil 10-20 Meters	
Lb	S.W. Coil 20-40 "	
Lc	S.W. Coil 40-80 "	
Ld	S.W. Coil 80-200 "	
T1	1st I.F. Transformer B-1	
T2	2nd I.F. Transformer B-2	
T3	3rd I.F. Transformer B-3	
T4	A-270 Input Transformer	
T5	10143 Output Transformer	
T6	10173-S Power Transformer	
C1-C2-C3	407 Mmfd. Max. (3-gang variable)	13124
C4	Variable 250-600 Mmfd.	16035
C5	750 Mmfd. ± 10% (Mica)	
C6	Triple 0.1 Mfd.	3316
C7	.1 Mfd.	3220
C8	.1 Mfd.	3220
C9	.5, .5, 1.0 Mfd.	13140
C10	.001 Mfd. (Mica)	7039
C11	0.15 Mfd.	13145
C12	.025 Mfd.	3333
C13	.1 Mfd.	3220
C14	Three 4 Mfd. units (dry Electrolytic) Potter	13120
C15	.1 Mfd.	3220
C16	.006 Mfd.	3114
C17	.006 Mfd.	3144
C18	.1 Mfd.	3220
C19	.1 Mfd.	3220
C20-C21	140 Mmfd. (2-gang variable)	13161
C22	80 Mmfd. (variable)	13162
C23	Compensating Cond.	13182
C24	.006 Mfd.	3144
C25	.006 Mfd.	3144
C26	.001 Mfd. (Mica)	7039
C27	.006 Mfd.	3144
C28	.006 Mfd.	3144
R1	30,000 ohms 1 watt	14693
R2	1/2 megohm tapered variable resistor	14368
R3	60,000 ohms 1 watt	4698
R4	100 ohms wire wound	4743
R5	4,500 ohms volume control (tapered)	14367
R6	13,500 ohms 1 watt	14694
R7	15,000 ohms 2 watt	14690
R8	400 ohms wire wound	4701
R9	60,000 ohms 1 watt	4698
R10	100 ohms wire wound	4743
R11	10,000 ohms 1 watt	14696
R12	220 ohms 2 watt	14692
R13	10,000 ohms 2 watt	4726
R14	60,000 ohms 1 watt	4698
R15	6,500 ohms 1 watt	14683
R16	10,000 ohms 2 watt	4726
R17	10,000 ohms 1 watt	14696
SW1-SW2-SW3	S.W. Change-over switch	15115
SW4-SW5	S.W.-BROADCAST SWITCH	15116
SW6	ON-OFF SWITCH (Combination with Pot.)	
S2-S10	'24 Tubes	
S3-S6-S11	'27 "	
S7-S8	'47 "	
S1-S4-S5	'51 "	
S9	'80 "	

Model 726 (S.W. & Broadcast)

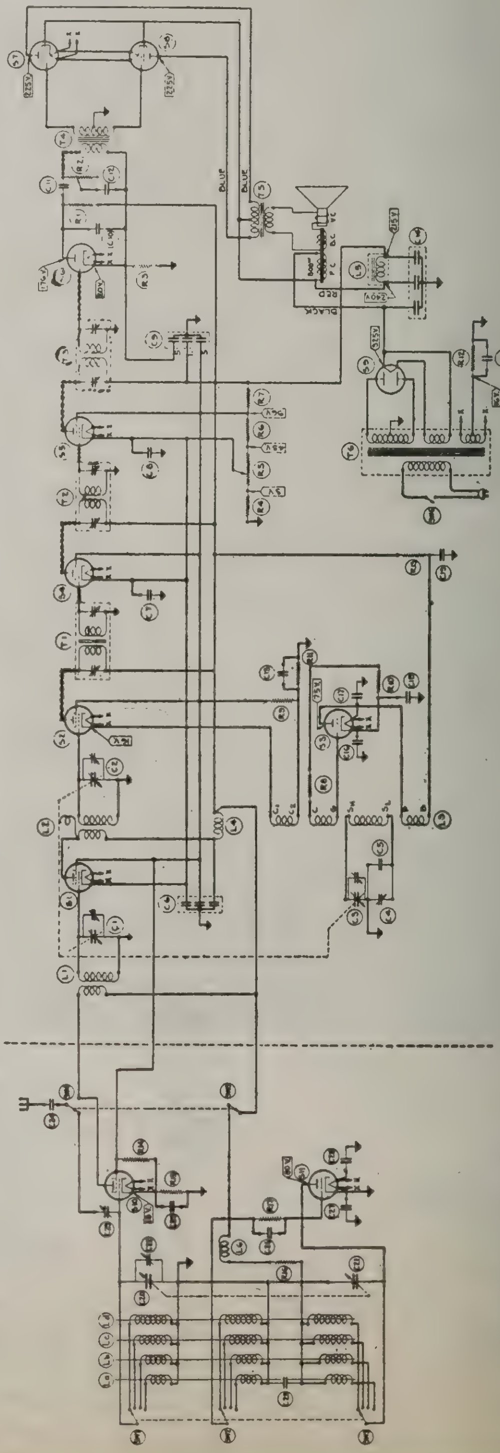


VOLTAGES WITH VOLOME CONTROL AT MAXIMUM

Tube Number		Type of Tube	"A" Volts	"B" Volts	Screen Volts	"C" Volts	Normal Plate Current Mills
S.W. Det	(S10)	'24	2.2	216	96	18	.08
S.W. Osc.	(S11)	'27	2.25	80	....	0	8.
R.F.	(S1)	'51	2.25	216	96	3	6.
1st Det	(S2)	'24	2.35	216	96	16	.1
Osc.	(S3)	'27	2.35	75	....	1.1	10.
1st I.F.	(S4)	'51	2.3	216	96	3	6.
2nd I.F.	(S5)	'51	2.35	216	96	3	6.
2nd Det.	(S6)	'27	2.35	178	....	20	.1
Audio (right)	(S7)	'47	2.4	224	240	16	32.
Audio (left)	(S8)	'47	2.4	220	240	16	32.
Rectifier	(S9)	'80	5.1	.....	....	.....	.....

As a broadcast receiver, the 726SW tunes from below 200 to above 550 meters and as a short wave receiver tunes from just under 10 meters to 200 meters without plug in coils.

As a short wave broadcast receiver, the circuit is as follows. By throwing a switch, the antenna is fed into the short wave detector circuit using a '24 type tube. A short wave oscillator of special design using a '27 tube, operating 650 kc. away from the short wave detector heterodynes the incoming signal to the frequency to which the r.f. stage of the broadcast receiver is tuned, the broadcast tuning dial being set on a clear channel at approximately 650 kc. for best results. As a short wave super, there are therefore three detectors and two oscillators, giving so-called double "suping"

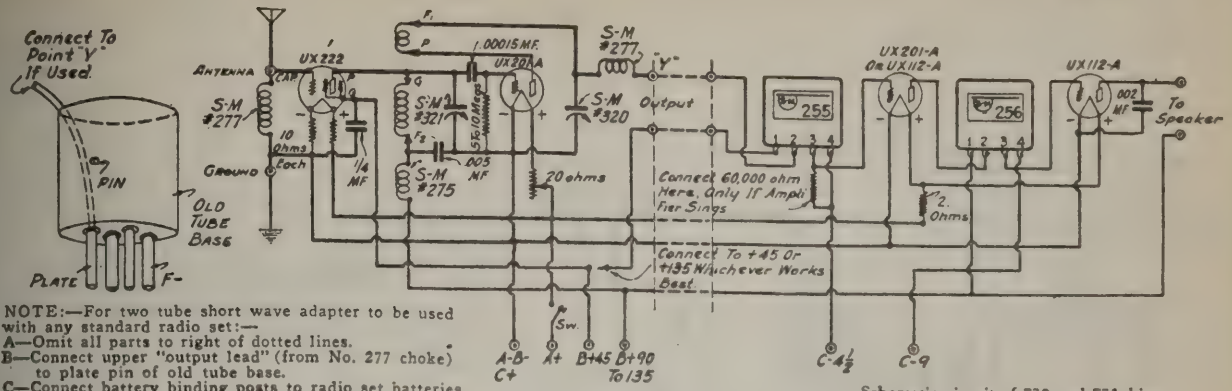


Model 726 S.W. and Broadcast Superhet.

IF PEAK 175 KC

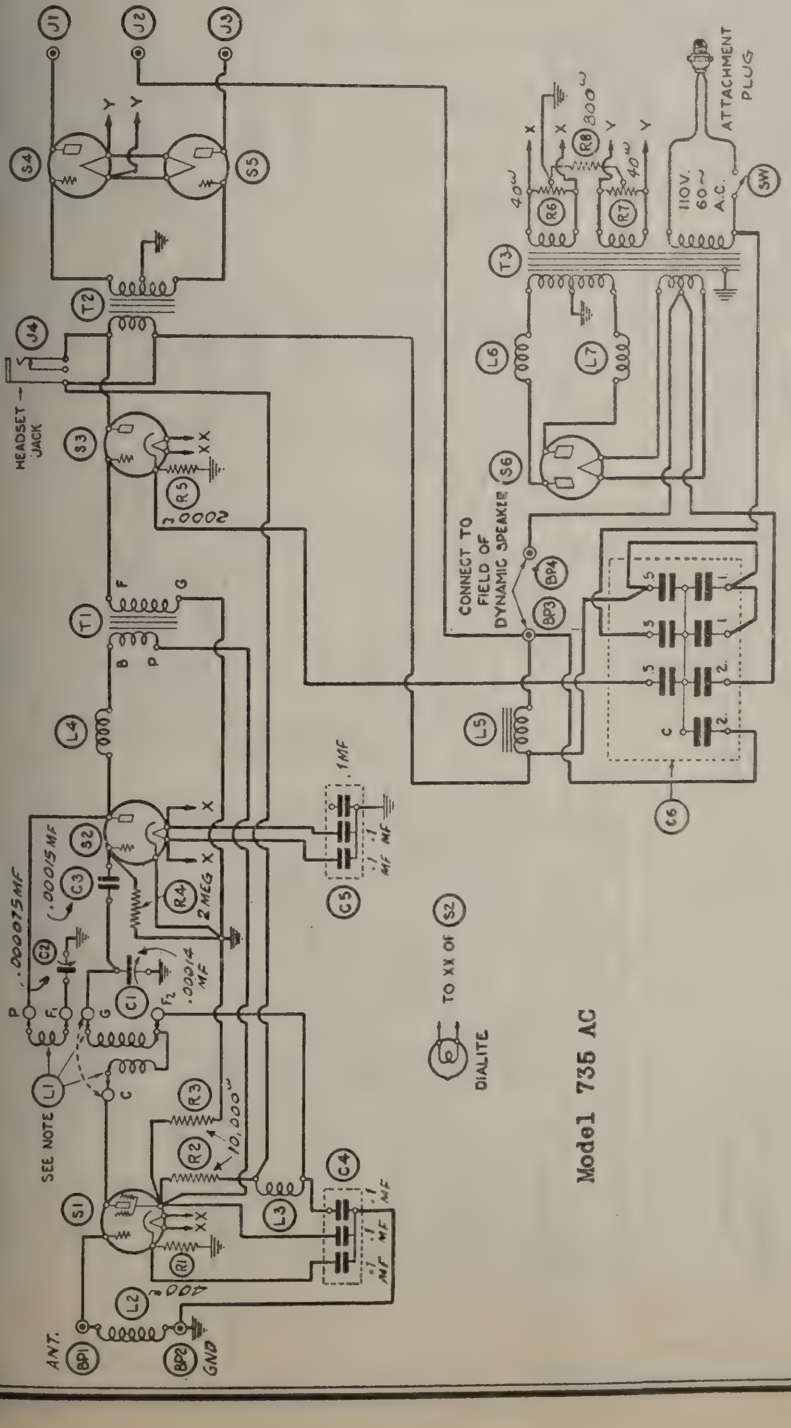
SILVER - MARSHALL, INC.

MODEL 730,731
MODEL 735 AC
MODEL 735 DC

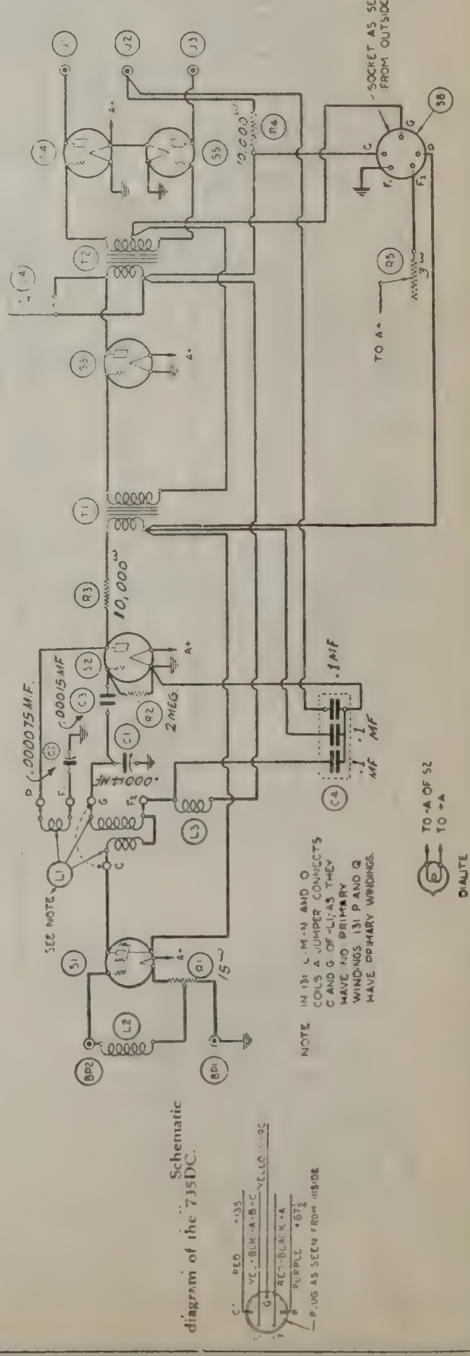

Connect To Point "Y" If Used
PIN
OLD TUBE BASE
PLATE
F-
ANTENNA
CAP.
UX222
S-M #277
10 Ohms Each
GROUND
1/4 MF
F1
P
G
F2
S-M #321
5 To 10 Megs
.00015 MF.
UX201-A
.005 MF
S-M #275
20 ohms
S-M #320
S-M #277
"Y"
Output
Connect 60,000 ohm Here, Only If Amplifier Sings
Connect To +45 Or +135 Whichever Works Best.
255
256
UX201-A Or UX112-A
UX112-A
2. Ohms
.002 MF
To Speaker
Sw.
A-B- C+
A+
B+45
B+90 To 135
C-4½
C-9

NOTE:—For two tube short wave adapter to be used with any standard radio set:—
A—Omit all parts to right of dotted lines.
B—Connect upper "output lead" (from No. 277 choke) to plate pin of old tube base.
C—Connect battery binding posts to radio set batteries.
D—Insert old tube base adapter in detector socket of regular radio set, which will join the two tube short wave adapter to the audio amplifier of set.

Schematic circuit of 730 and 731 kits, and details of adapter made from an old tube base.

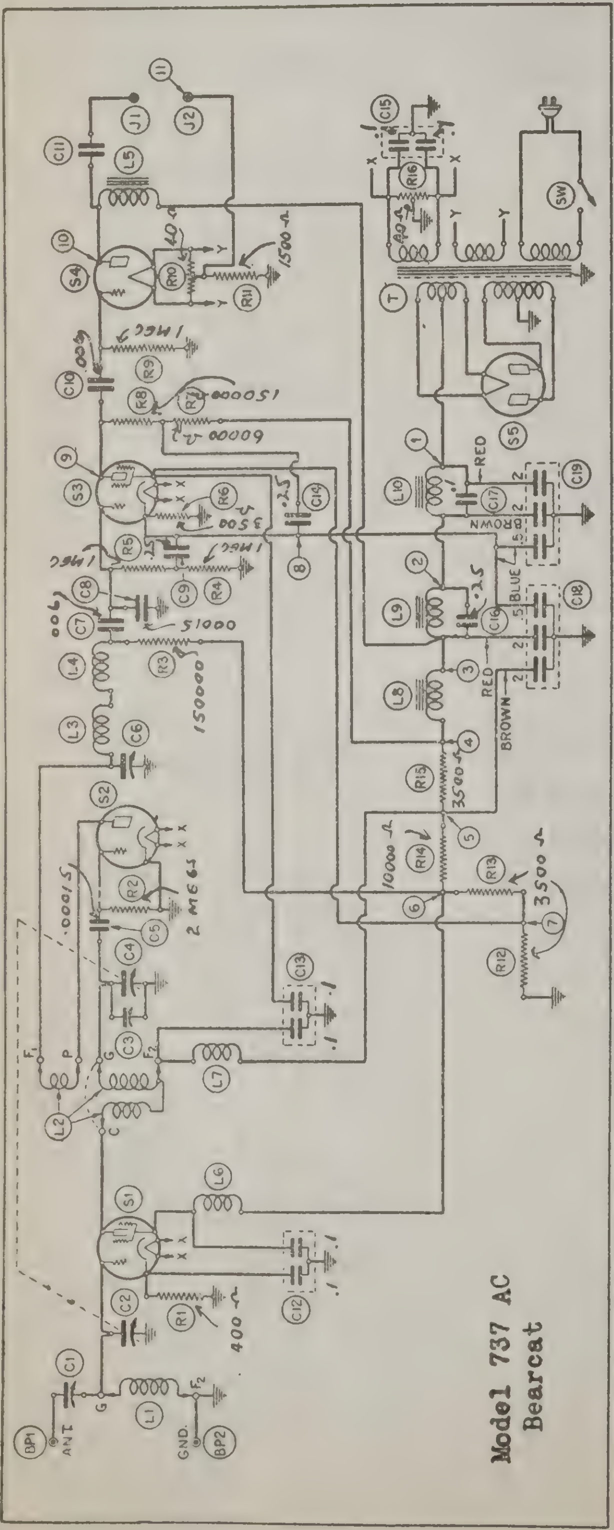

J1
J2
J3
Y
S4
S5
T2
J4
HEADSET JACK
S3
XX
R5
.0002
T1
F
G
B
P
L4
S2
X
.00015 MF
C3
R4
2 MEG
C5
.1 MF
.1 MF
.1 MF
.000075 MF
C2
P
F1
G
F2
C1
.00014 MF
L1
SEE NOTE
C
R3
10,000
R2
S1
R1
L3
C4
.1 MF
.1 MF
.1 MF
L2
.0004
ANT.
BP1
BP2
GND
TO XX OF S2
DIALITE
CONNECT TO FIELD OF DYNAMIC SPEAKER
BP3
BP4
L5
C6
S6
L6
L7
T3
R6
R7
R8
40
40
800
X
Y
110V. 60~ A.C.
SW
ATTACHMENT PLUG
5
1
2
C

Model 735 AC

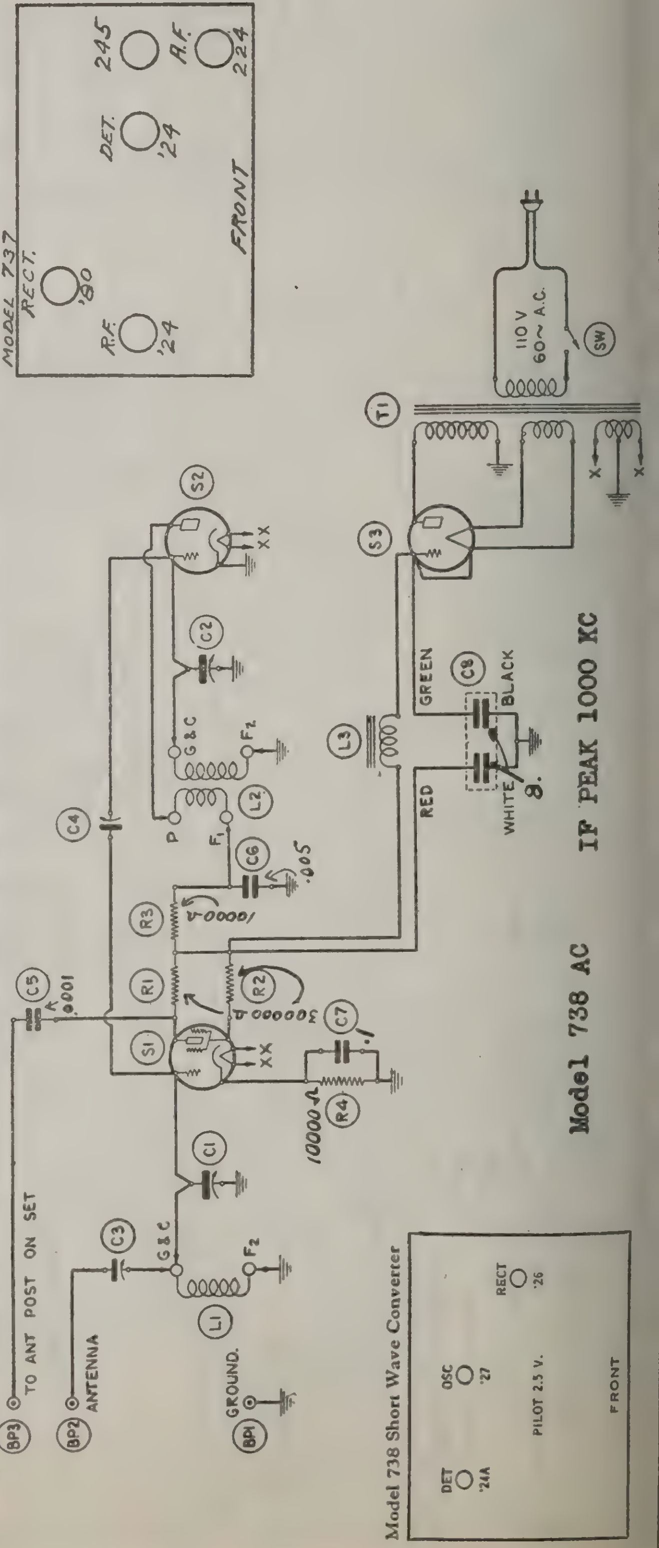

J1
J2
J3
S4
S5
R4
20,000
A+
SOCKET AS SEEN FROM OUTSIDE
S8
G
C
P
F1
F2
R5
3
TO A+
T2
J4
S3
T1
R3
10,000
S2
R2
2 MEG
.00015 M.F.
C3
.000075 M.F.
C2
C1
.00014
P
F1
G
F2
L1
SEE NOTE
C
L3
C4
.1 MF
.1 MF
.1 MF
S1
R1
15
L2
BP2
BP1
NOTE IN 131 L-M-N AND O COILS A JUMPER CONNECTS C AND G OF L1, AS THEY HAVE NO PRIMARY WINDINGS. 131 P AND Q HAVE PRIMARY WINDINGS.
TO -A OF S2
TO +A
DIALITE
RED +135
YEL.-BLK.-A-B-C
YELLO +90
RED-BLACK +A
PURPLE +67½
PLUG AS SEEN FROM INSIDE

Schematic diagram of the 735DC.

MODEL 737 AC Bearcat
MODEL 738 AC SW Converter SILVER - MARSHALL, INC.


BP1
ANT
GND.
BP2
C1
G
L1
F2
C2
R1
400 Ω
S1
C12
.1
.1
L6
L2
C
P
F1
G
C3
F2
C4
C5
.00015
R2
2 MEG
S2
L7
C13
.1
.1
L3
C6
L4
150000
R3
51000
C7
.006
C8
C9
R4
1 MEG
R5
1 MEG
.25
3500 Ω
R6
S3
9
60000 Ω
R7
150000 Ω
R8
R9
1 MEG
C10
.006
S4
10
R10
40 Ω
R11
1500 Ω
Y
L5
C11
J1
J2
11
R12
R13
3500 Ω
7
6
R14
10000 Ω
5
R15
3500 Ω
4
8
C14
.25
L8
3
RED
BROWN
2
L9
C16
.25
BLUE
C18
1
L10
C17
BROWN
RED
C19
5
S5
T
X
R16
80 Ω
C15
.1
SW

Model 737 AC
Bearcat


MODEL 737
FRONT
R.F.
'24
RECT.
'80
DET.
'24
245
A.F.
224

BP3
TO ANT POST ON SET
BP2
ANTENNA
BP1
GROUND.
C5
.0001
C3
G&C
L1
F2
C1
S1
XX
R1
R2
300000 Ω
C7
.1
R4
10000 Ω
R3
10000 Ω
C6
.005
C4
P
F1
L2
G&C
F2
C2
S2
XX
L3
RED
GREEN
C8
WHITE
BLACK
8.
S3
T1
X
X
110 V
60~ A.C.
SW
Model 738 Short Wave Converter
DET
'24A
OSC
'27
PILOT 2.5 V.
RECT
'26
FRONT

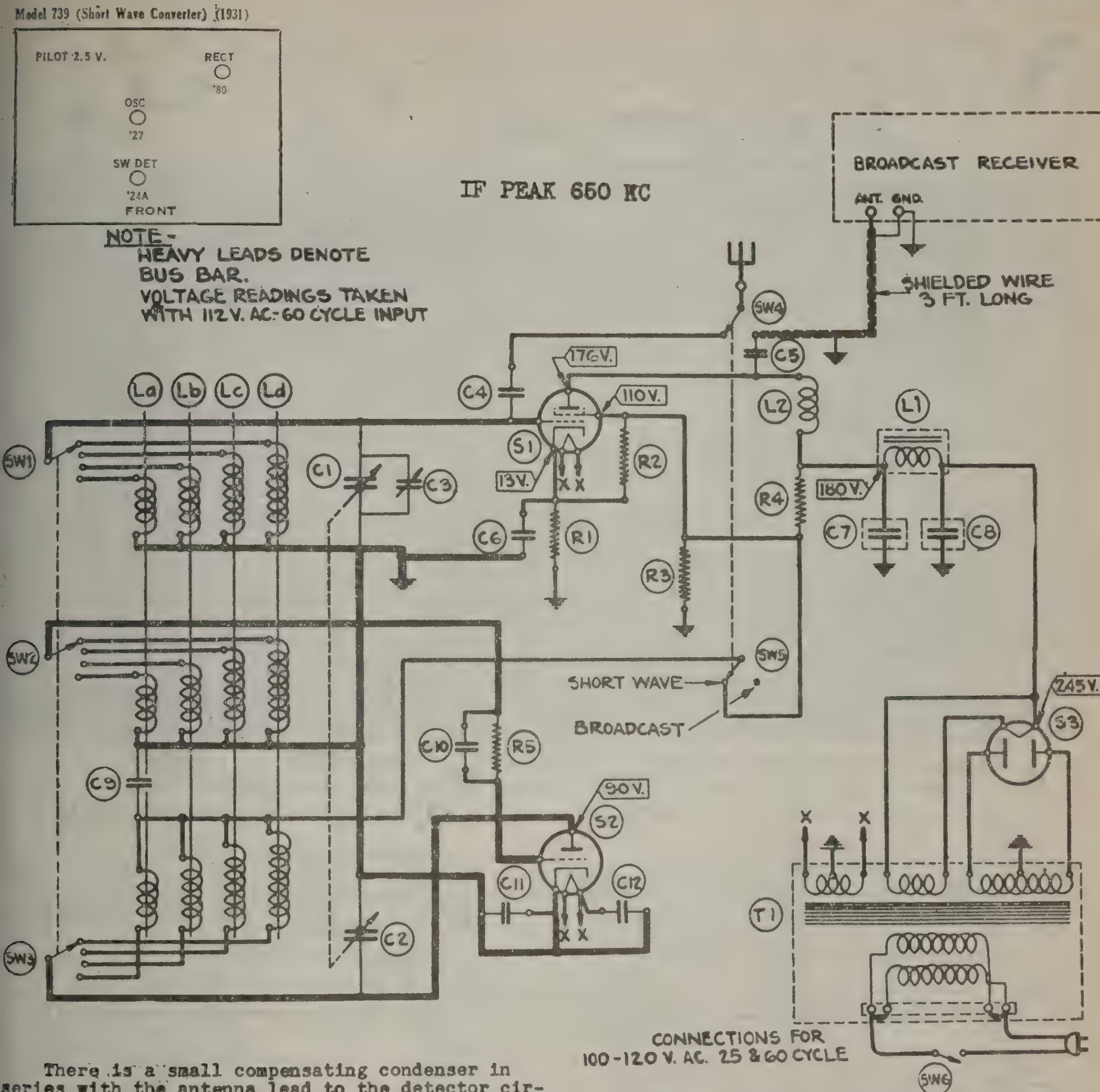
IF PEAK 1000 KC

Model 738 AC

SILVER - MARSHALL, INC.

MODEL 739
SW Superhet Converter

Model 739 (Short Wave Converter) (1931)


PILOT 2.5 V.
RECT
'80
OSC
'27
SW DET
'24A
FRONT
BROADCAST RECEIVER
ANT.
GND.
SHIELDED WIRE
3 FT. LONG
SW4
C5
C4
176V.
110V.
La
Lb
Lc
Ld
SW1
C1
C3
S1
R2
13V.
L2
L1
R4
160V.
C7
C8
C6
R1
R3
SW2
SW5
SHORT WAVE
BROADCAST
C10
R5
C9
245V.
S3
90V.
S2
C11
C12
X
X
T1
C2
SW3
CONNECTIONS FOR
100-120 V. AC. 25 & 60 CYCLE
SW6

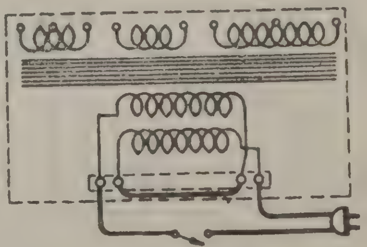
IF PEAK 650 KC

NOTE-
HEAVY LEADS DENOTE
BUS BAR.
VOLTAGE READINGS TAKEN
WITH 112 V. AC-60 CYCLE INPUT

There is a small compensating condenser in series with the antenna lead to the detector circuit (on rear of panel, at top center). This condenser is adjusted at the factory for best operation on a test antenna. It will be found that a slight adjustment of this condenser can be made (with a screw driver) for realigning to the particular antenna-ground combination, on which the 739 is to be operated, to give maximum results. To make this adjustment, the receiver should be tuned to a short wave station and without adjusting any controls, this compensating condenser readjusted a slight fraction of a turn at a time until the station comes in at its best.

C6,C11,C12	3	Polymet .006 condenser
C5,C10	2	Polymet .0001 "
C9	1	Sprague .1 mfd. condenser
R5	1	Durham 10,000 ohm resistor
R2	1	Durham 60,000 ohm resistor
R1	1	Durham 6500 ohm resistor
R3	1	Durham 6000 ohm resistor 2 watt.
R4	1	Durham 3500 ohm resistor, 2 watt.

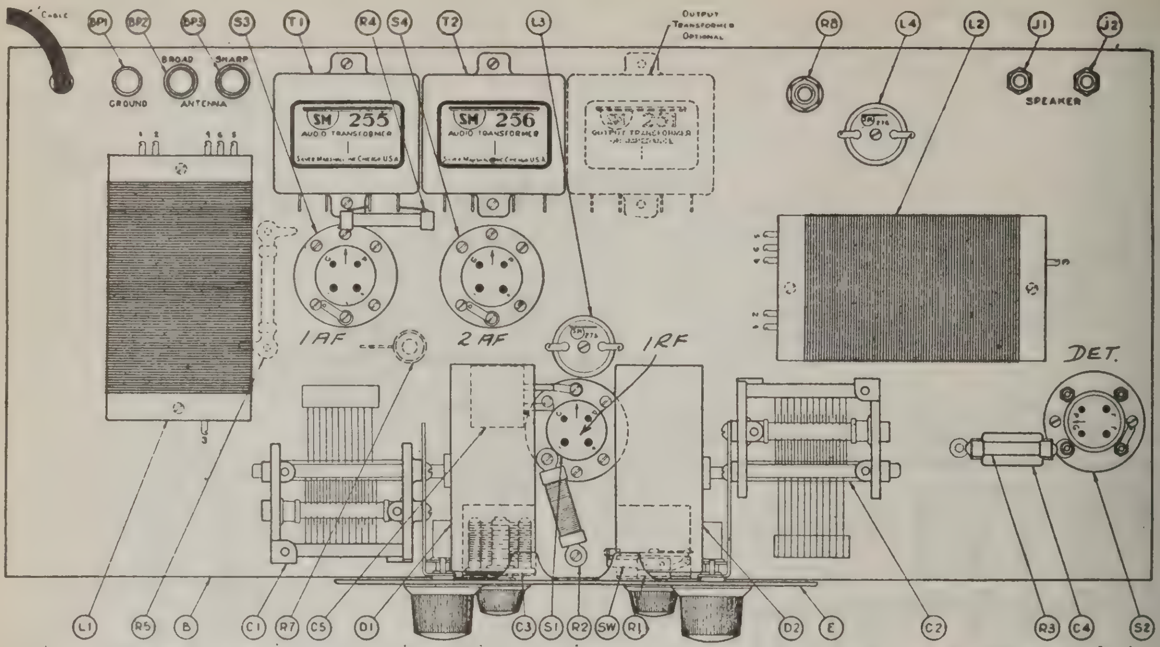
NOTE:-
PRIMARY NORMALLY WIRED &
SHIPPED FOR 100-120V. OPERATION



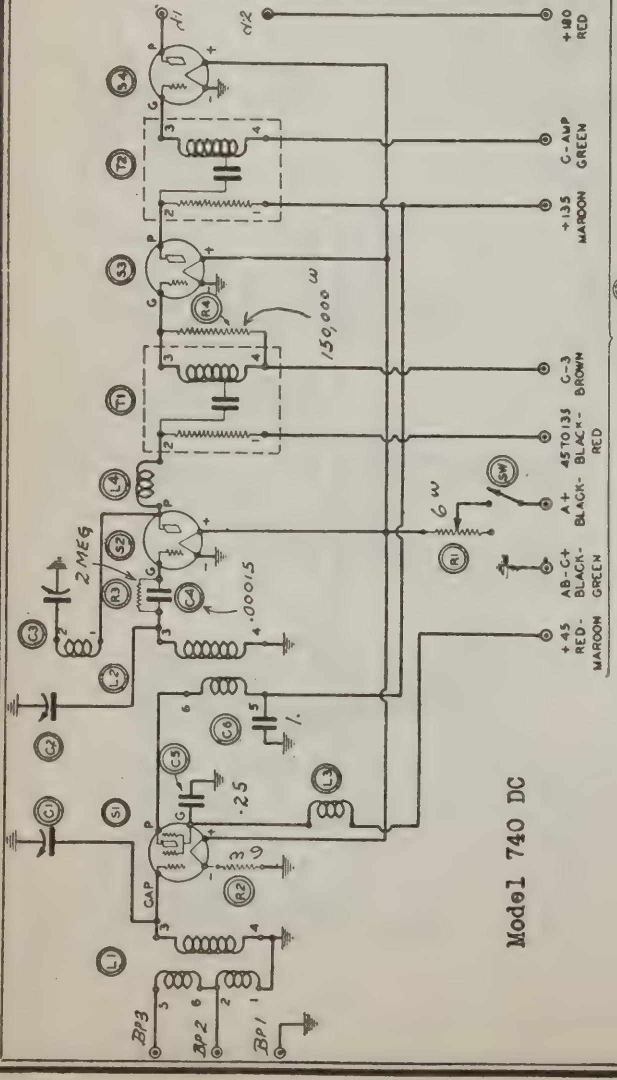
CONNECTIONS FOR
200-240 V. AC. 25 & 60 CYCLE

MODEL 740 DC
MODEL 740 AC
Schematic, Chassis

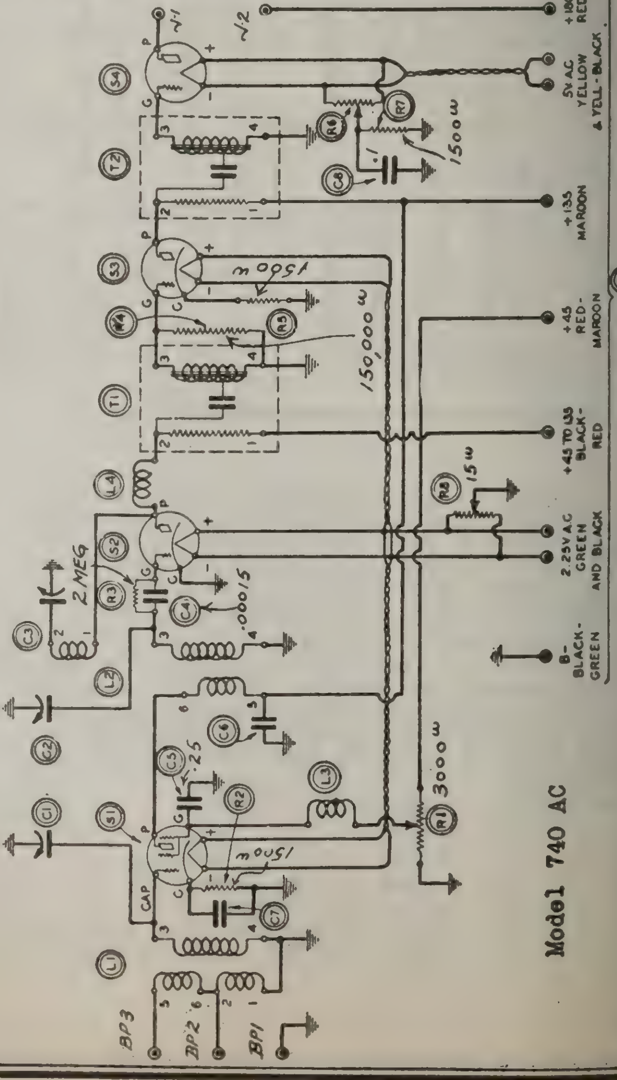
SILVER - MARSHALL, INC.


BP1
BP2
BP3
S3
T1
R4
S4
T2
L3
R8
L4
L2
J1
J2
Cable
GROUND
BROAD
SHARP
ANTENNA
SM 255
AUDIO TRANSFORMER
SM 256
AUDIO TRANSFORMER
Output Transformer Optional
SM 231
OUTPUT TRANSFORMER
SPEAKER
1 AF
2 AF
1 RF
DET.
L1
R5
B
C1
R7
C5
D1
C3
S1
R2
SW
R1
D2
E
C2
R3
C4
S2

This layout drawing for the 740 (D. C. tube) Receiver shows the exact positions of all parts, positions of different mounting lugs, and just where screw heads or mounting nuts fall. Additional parts for the 740 AC (A. C. tube) Receiver are shown in dotted lines. This diagram should be studied most carefully in assembling either receiver, for the position of every part down to the last screw and nut has been predetermined for maximum ease of assembly.


J1
J2
+180 RED
S4
T2
C-AMP GREEN
+135 MAROON
S3
R4
150,000 ω
T1
C-3 BROWN
45 TO 135 BLACK-RED
TO CABLE
W
L4
6 ω
R1
SW
A+ BLACK-
AB-C+ BLACK-GREEN
S2
2 MEG
R3
C4
.00015
C3
+45 RED-MAROON
L2
C2
C6
1.
C5
.25
L3
S1
C1
CAP
R2
3.9
L1
BP3
BP2
BP1

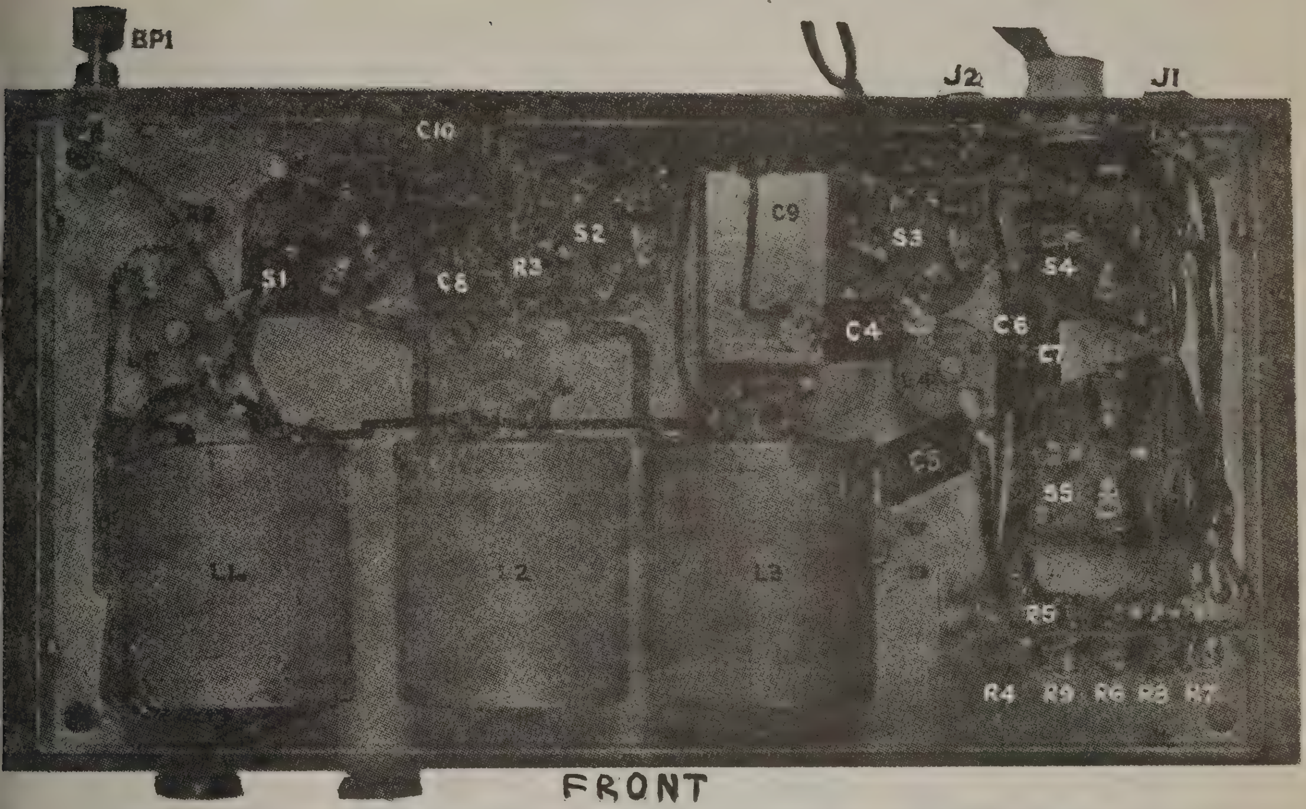
Model 740 DC


J1
J2
+180 RED
S4
5V AC YELLOW & YELL-BLACK
R6
R7
1500 ω
C8
.1
T2
+135 MAROON
S3
1500 ω
R4
R5
150,000 ω
+45 RED-MAROON
W
TO CABLE
T1
+45 TO 135 BLACK-RED
L4
R8
15 ω
2.25 V AC GREEN AND BLACK
S2
2 MEG
R3
C4
.00015
C3
B- BLACK-GREEN
L2
C2
C6
C5
.25
R2
L3
R1
3000 ω
S1
C1
1500 ω
CAP
C7
L1
BP3
BP2
BP1

Model 740 AC

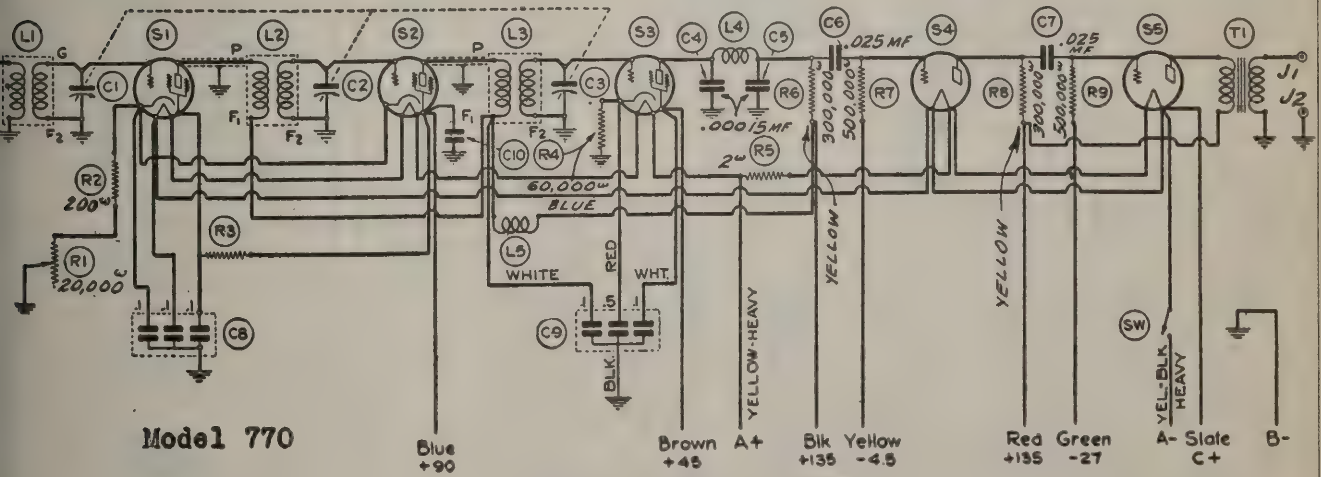
SILVER - MARSHALL, INC.

MODEL 770 Auto
Schematic, Chassis



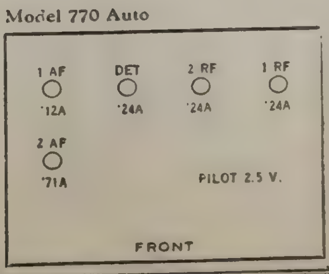
BP1
J2
J1
C10
R2
S1
C8
R3
S2
C9
S3
S4
C4
C6
C7
C5
S5
L1
L2
L3
R5
R4
R9
R6
R8
R7
FRONT

Bottom view of 770 chassis showing location of coils, resistors, and other material which will be of value in replacing parts.



L1
G
F2
C1
S1
P
L2
F1
C2
S2
L3
C3
F1
F2
S3
C4
L4
C5
C6
.025 MF
S4
C7
.025 MF
S5
T1
J1
J2
R2
200Ω
R1
20,000Ω
R3
C8
C10
R4
60,000Ω
BLUE
L5
WHITE
RED
WHT.
C9
BLK.
.00015 MF
R6
2Ω
R5
300,000Ω
500,000Ω
R7
R8
300,000Ω
500,000Ω
R9
YELLOW
YELLOW-HEAVY
YELLOW
SW
YEL-BLK HEAVY
Model 770
Blue +90
Brown +45
A+
Blk +135
Yellow -4.5
Red +135
Green -27
A-
Slate C+
B-

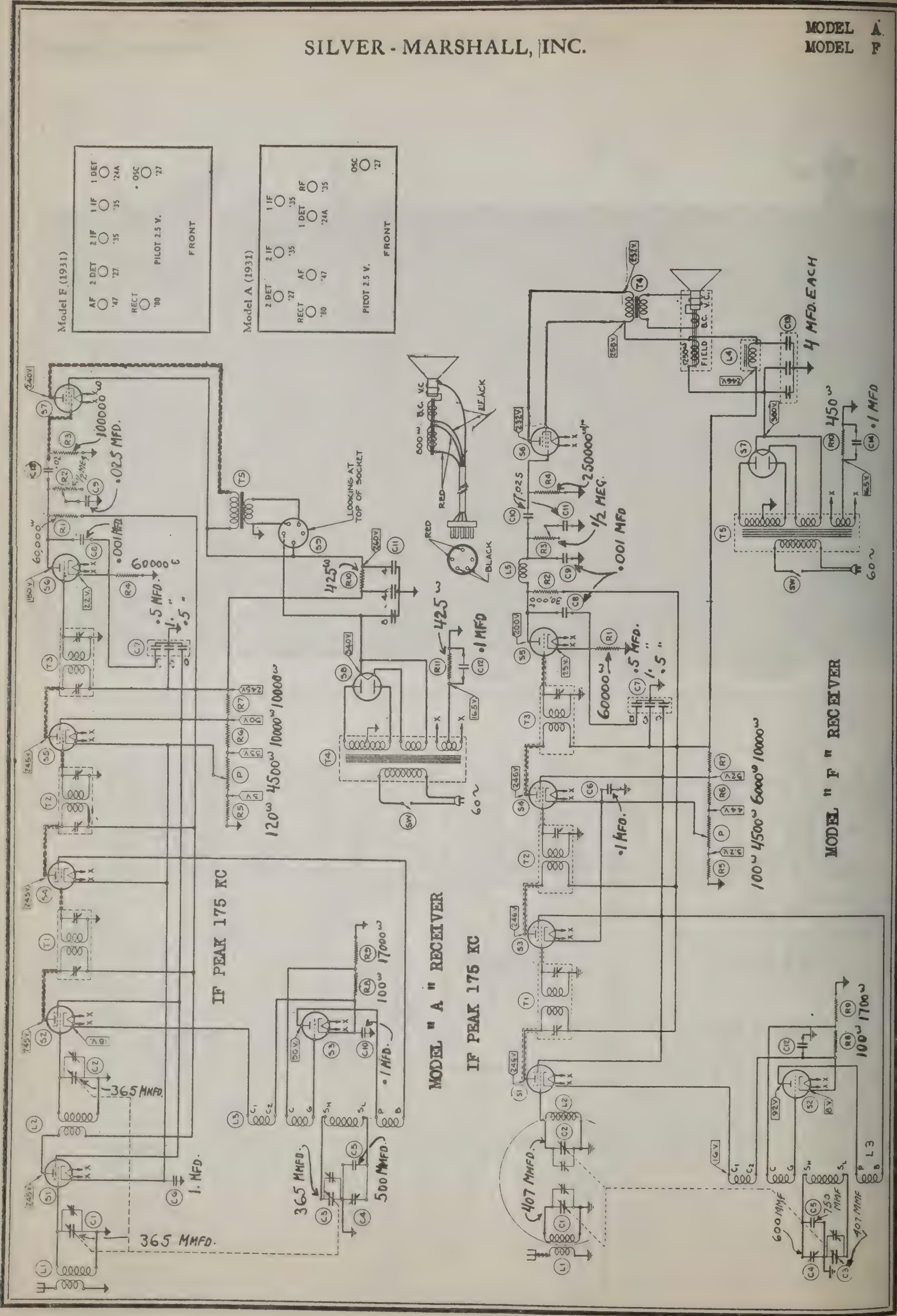
Schematic diagram of 770 Auto-Set.



Model 770 Auto
1 AF
'12A
DET
'24A
2 RF
'24A
1 RF
'24A
2 AF
'71A
PILOT 2.5 V.
FRONT

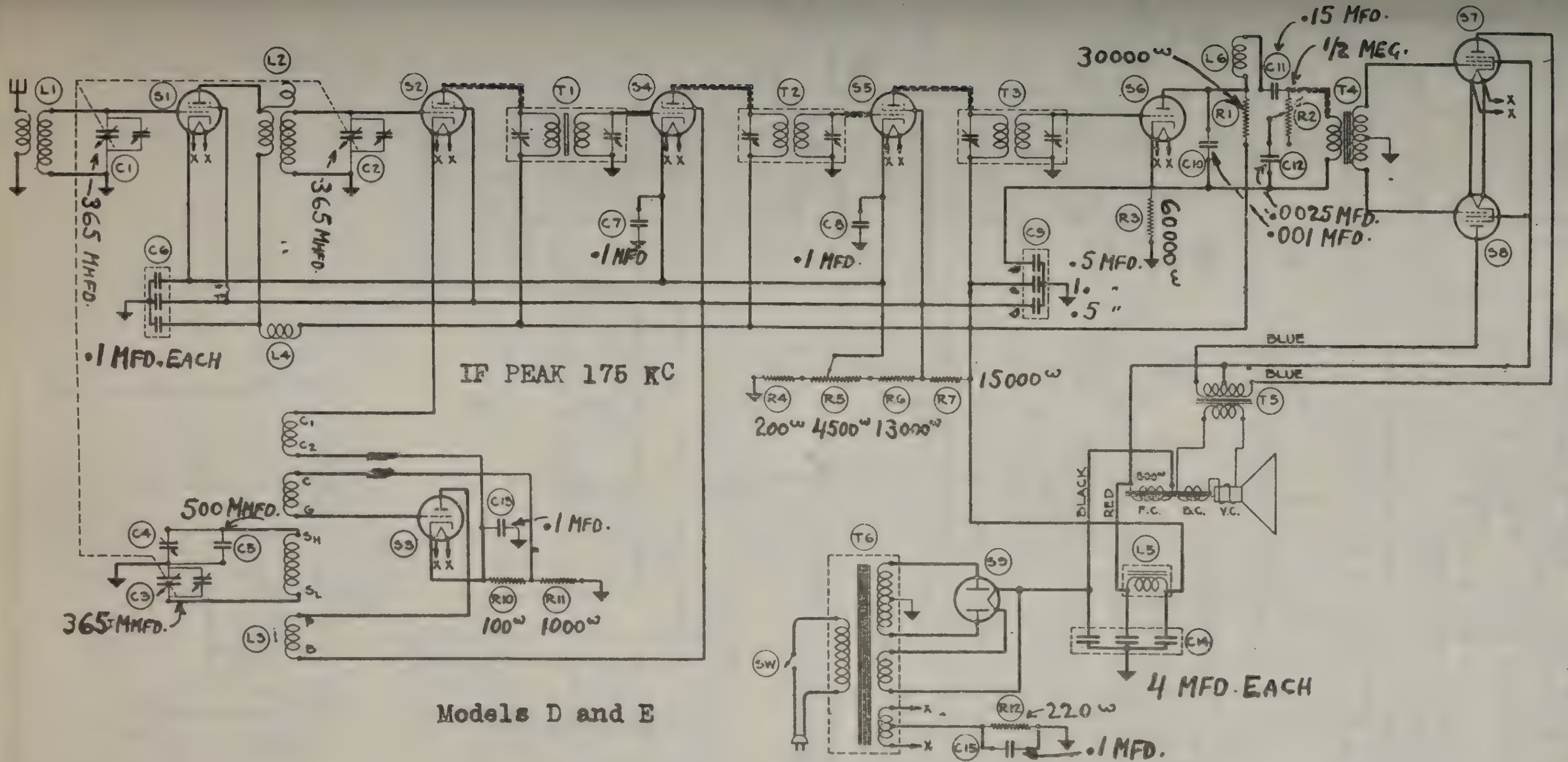
SILVER - MARSHALL, INC.

MODEL A
MODEL F


Model F (1931)
AF '47
2 DET '27
2 IF '35
1 IF '35
1 DET '24A
RECT '80
PILOT 2.5 V.
OSC '27
FRONT
Model A (1931)
2 DET '27
2 IF '35
1 IF '35
RECT '80
AF '47
1 DET '24A
RF '35
OSC '27
PILOT 2.5 V.
FRONT
LOOKING AT TOP OF SOCKET
RED
BLACK
B.C.
V.C.
FIELD
4 MFD. EACH
MODEL "A" RECEIVER
IF PEAK 175 KC
IF PEAK 175 KC
MODEL "F" RECEIVER
365 MMFD.
365 MMFD.
500 MMFD.
407 MMFD.
600 MMF
750 MMF
407 MMF
120ω 4500ω 10000ω 10000ω
100ω 4500ω 6000ω 10000ω
60~
60~

SILVER - MARSHALL, INC.

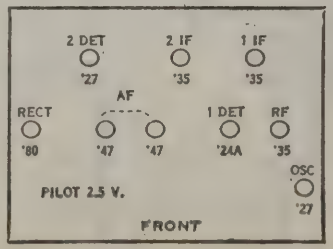
MODELS D,E
Schematic,Voltage


L1
C1
-365 MMFD.
S1
L2
C2
365 MMFD.
C6
•1 MFD. EACH
L4
S2
T1
S4
C7
•1 MFD
T2
S5
C8
•1 MFD.
T3
C9
•5 MFD.
1. "
•5 "
S6
R3
60000 ω
30000 ω
L6
C11
•15 MFD.
1/2 MEG.
R1
R2
C10
C12
•0025 MFD.
•001 MFD.
T4
S7
S8
X
X
IF PEAK 175 KC
R4
R5
R6
R7
200 ω
4500 ω
13000 ω
15000 ω
BLUE
BLUE
T5
BLACK
RED
500 ω
F.C.
D.C.
V.C.
L5
C14
4 MFD. EACH
C1
C2
C
G
SH
SL
L3
P
B
500 MMFD.
C4
C5
C3
365 MMFD.
S3
C13
•1 MFD.
R10
R11
100 ω
1000 ω
T6
S9
SW
R12
220 ω
C15
•1 MFD.

Models D and E

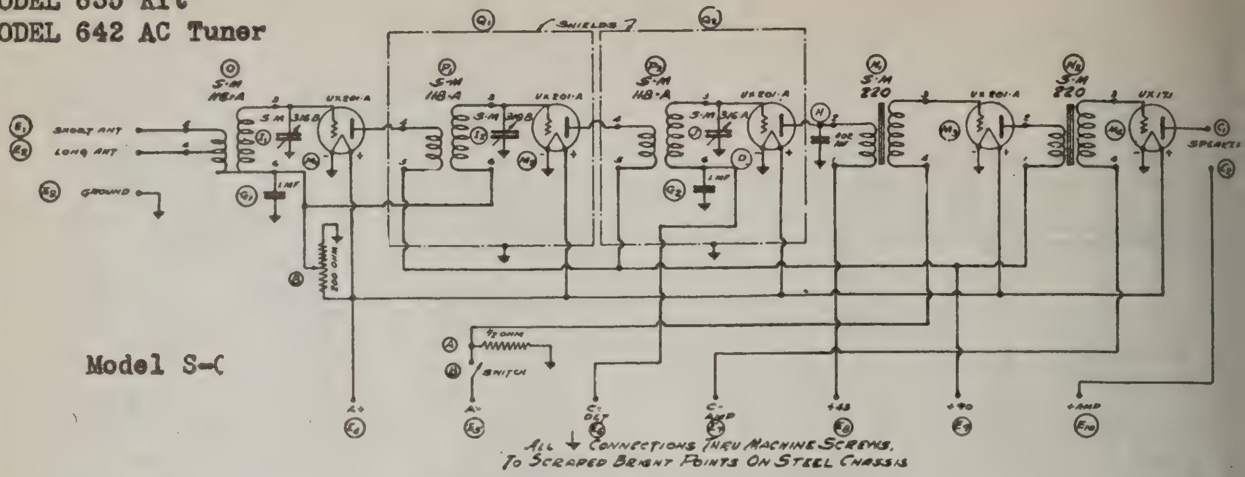
Tube No.	Type	A Volts	B Volts	Screen	C Volts
1st R.F.	551	2.3	225	80	3.2
1st Det.	224	2.3	225	80	12.
Osc.	227	2.3	80		6.2
1st I.F.	551	2.3	225	80	3.2
2nd I.F.	551	2.3	225	80	3.2
2nd Det.	227	2.3	220		20.
Pentodes	247	2.3	220	235	16.5
Rectifier	'280	5.0			

Models D, E (1931)


2 DET
'27
2 IF
'35
1 IF
'35
AF
RECT
'80
'47
'47
1 DET
'24A
RF
'35
OSC
'27
PILOT 2.5 V.
FRONT

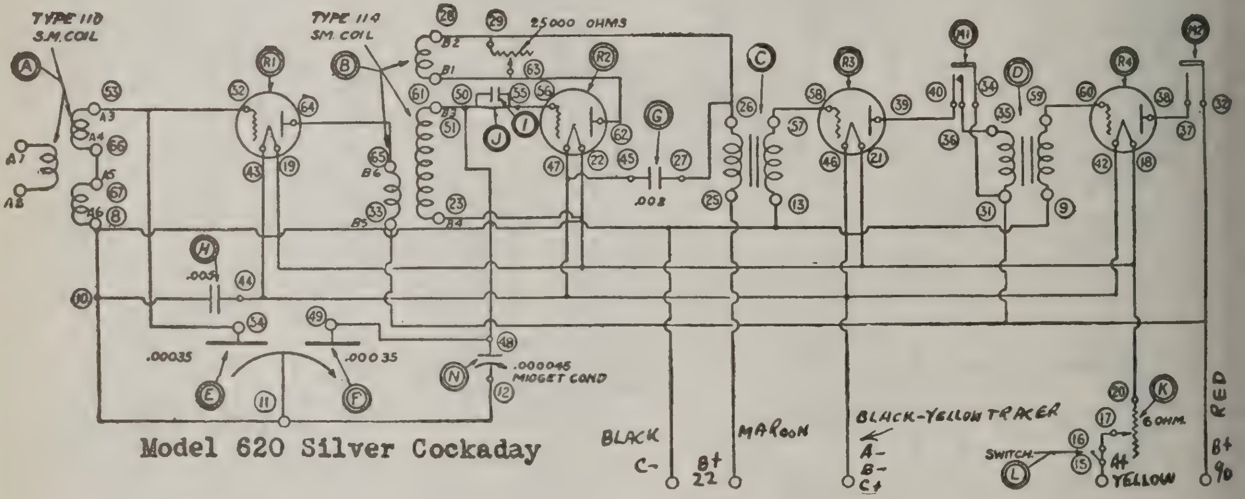
MODEL S-C II
MODEL 620 S-C
MODEL 635 Kit
MODEL 642 AC Tuner

SILVER - MARSHALL, INC.

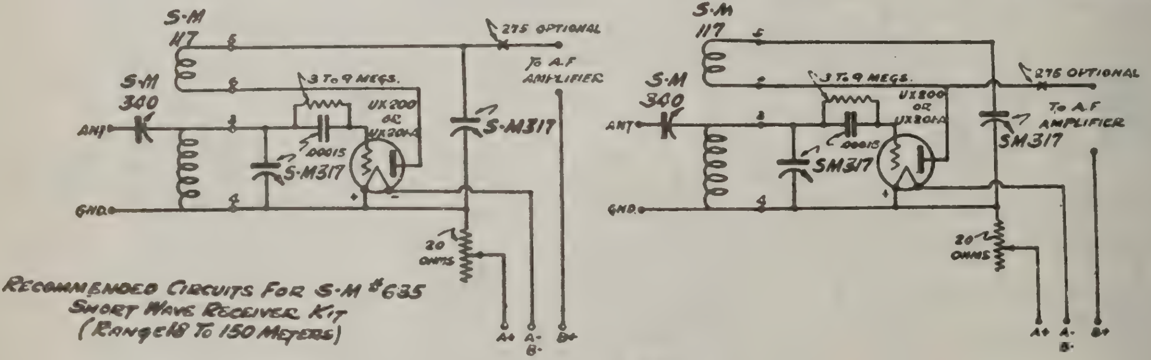

SHIELDS
S-M 118-A
UX201-A
S-M 220
UX171
SHORT ANT
LONG ANT
GROUND
1 MF
200 OHM
1/2 OHM
SWITCH
SPEAKER
A+
A-
C- DET
C- AMP
+45
+90
+AMP

Model S-C

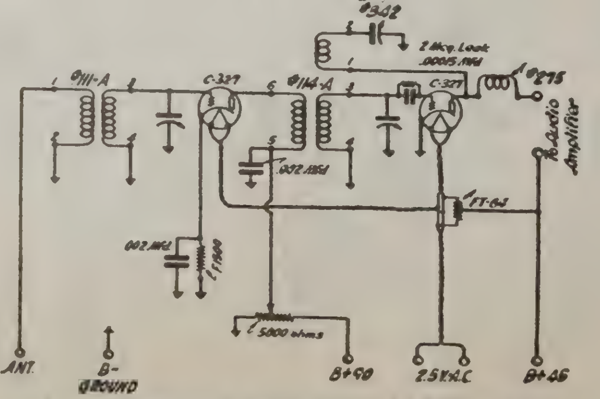
All ↓ Connections Thru Machine Screws, To Scraped Bright Points On Steel Chassis


TYPE 110 S.M. COIL
TYPE 114 S.M. COIL
25000 OHMS
.002
.0005
.00035
.00035
.000045 MIDGET COND
6 OHM
SWITCH
BLACK C-
B+ 22
MAROON
BLACK-YELLOW TRACER A- B- C+
A+ YELLOW
RED B+ 90

Model 620 Silver Cockaday


S-M 117
S-M 340
ANT
GND.
3 To 9 MEGS.
.00015
UX200 OR UX201-A
S-M317
275 OPTIONAL
To A.F AMPLIFIER
20 OHMS
A+
A-
B-
B+

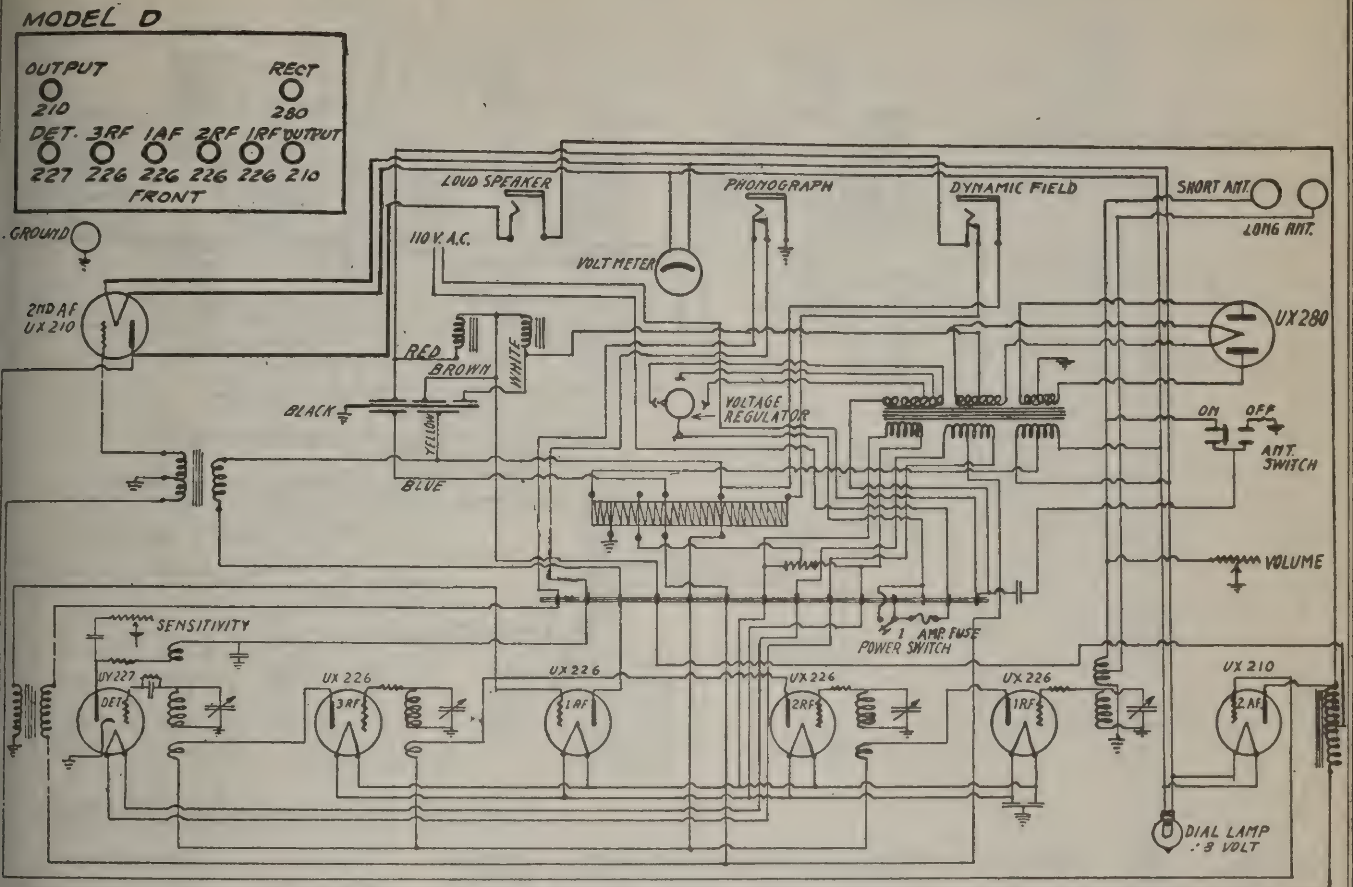
Recommended Circuits For S-M #635 Short Wave Receiver Kit (Range 18 To 150 Meters)


#342
2 Meg. Leak .00015 Mfd
#111-A
C-327
#114-A
C-327
#275
.002 Mfd
FT-64
.002 Mfd
F1800
5000 ohms
To Audio Amplifier
ANT.
B- GROUND
B+90
2.5V.A.C
B+45

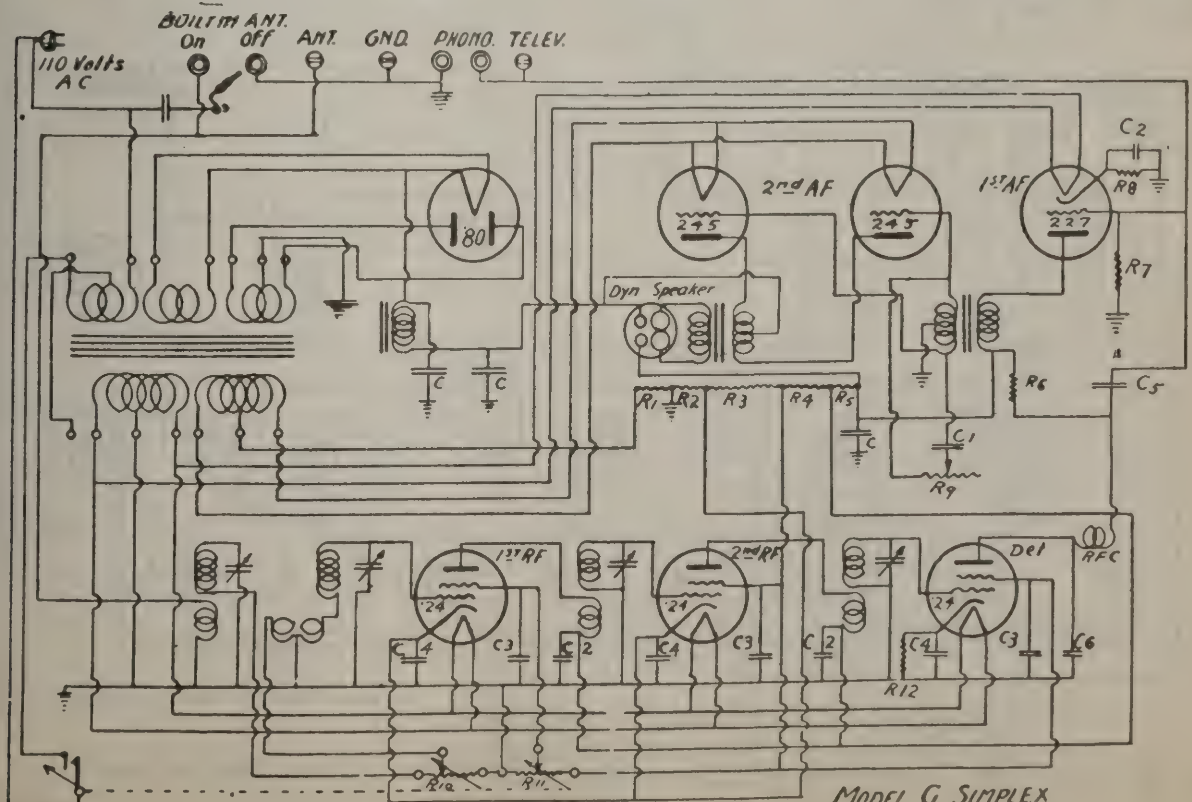
Schematic diagram of 642AC Universal All Wave Tuner

SIMPLEX RADIO CO.

MODEL D Schematic
MODEL G Schematic


MODEL D
OUTPUT
210
RECT
280
DET. 3RF 1AF 2RF 1RF OUTPUT
227 226 226 226 226 210
FRONT
GROUND
2ND AF UX 210
LOUD SPEAKER
PHONOGRAPH
DYNAMIC FIELD
SHORT ANT.
LONG ANT.
110 V. A.C.
VOLT METER
UX280
RED
BROWN
WHITE
BLACK
YELLOW
BLUE
VOLTAGE REGULATOR
ON
OFF
ANT. SWITCH
VOLUME
SENSITIVITY
1 AMP. FUSE
POWER SWITCH
UY227
DET
UX 226
3RF
UX226
1AF
UX226
2RF
UX226
1RF
UX210
2AF
DIAL LAMP
8 VOLT

CIRCUIT DIAGRAM, MODEL D, SIMPLEX ELECTRIC.

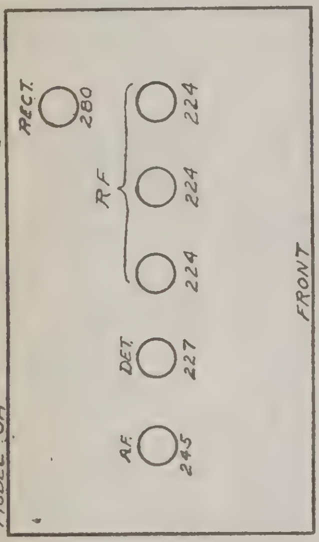

BUILT IN ANT.
On
Off
ANT.
GND.
PHONO.
TELEV.
110 Volts AC
80
2nd AF
245
245
1st AF
227
C2
R8
R7
Dyn Speaker
C
C
R1
R2
R3
R4
R5
C
C1
R9
R6
C5
1st RF
2nd RF
Det
RFC
24
24
24
C4
C3
C2
C4
C3
C2
C4
C3
C6
R12
R10
R11

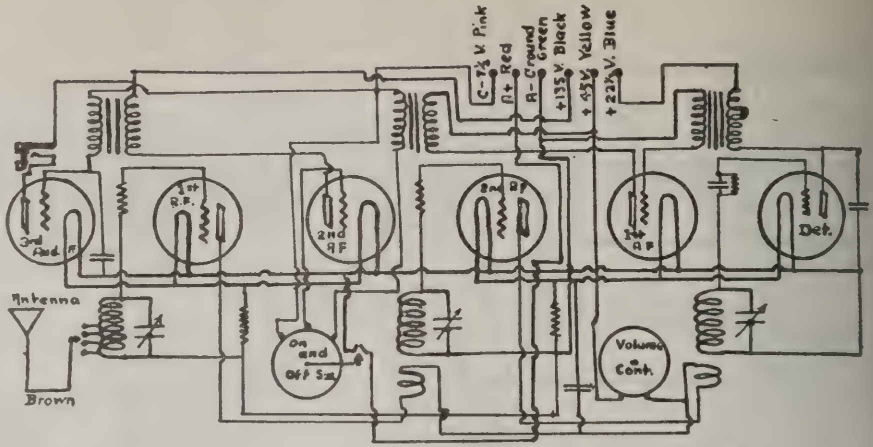
Model G Simplex
Circuit Diagram

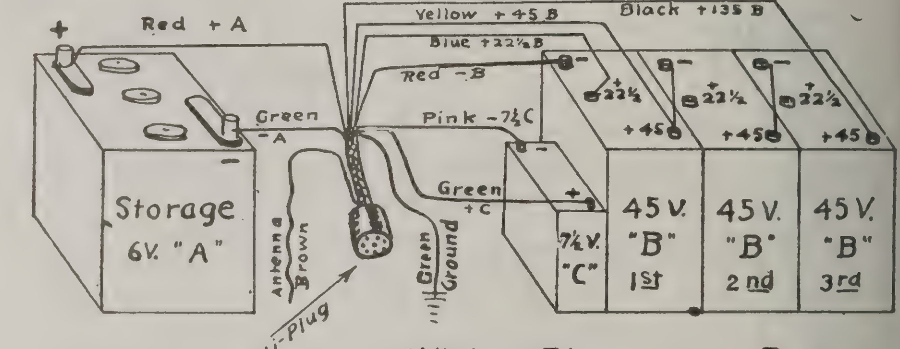
MODEL 6A
MODEL F

SIMPLEX RADIO CO.

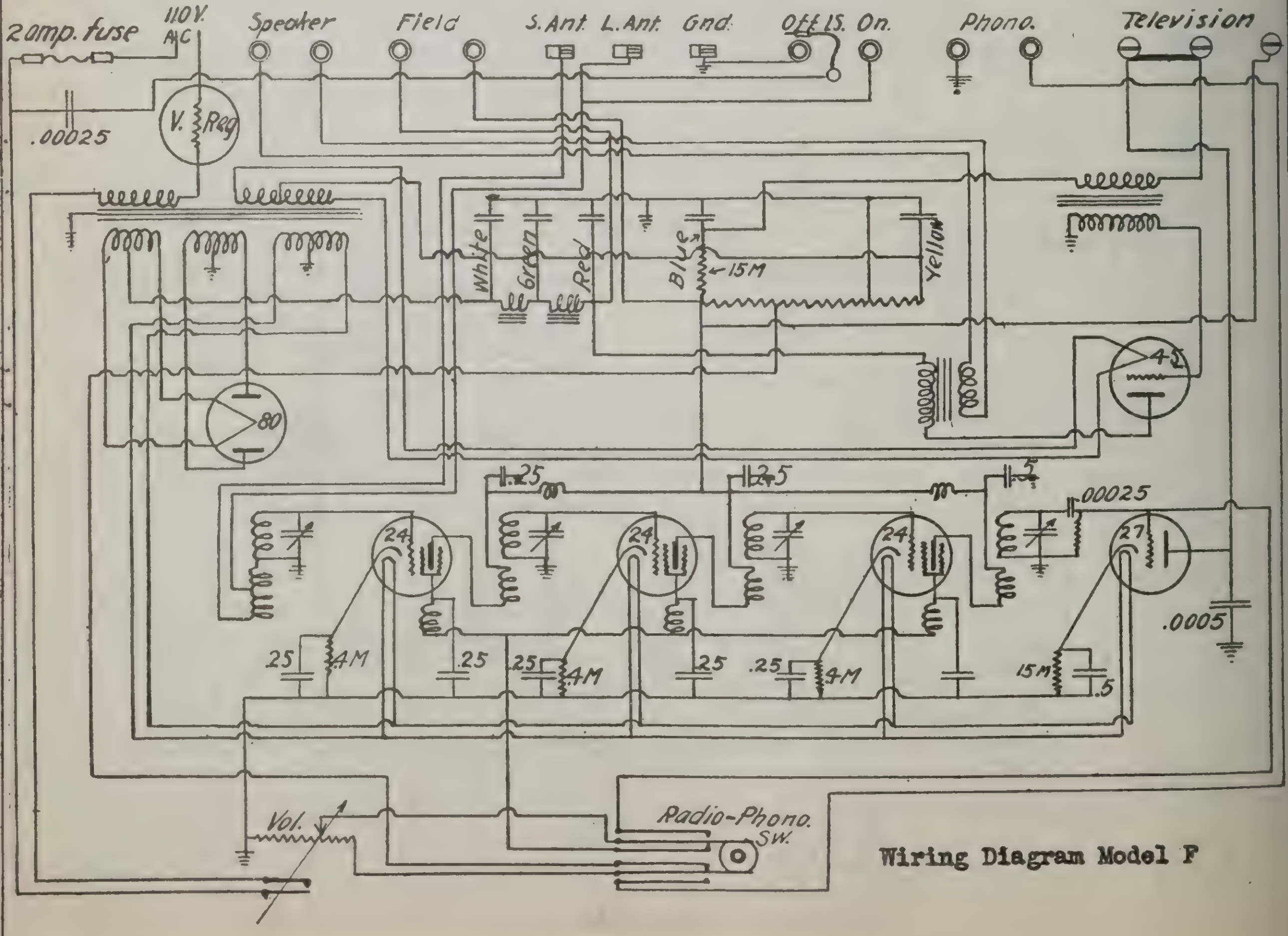
Wiring Diagram Model 6A


RECT. 280
RF 224
224
224
DET 227
A.F. 245
FRONT
MODEL 6A


C- 7½ V. Pink
A+ Red
A- Ground Green
+135 V. Black
+45 V. Yellow
+22½ V. Blue
3rd Aud. F.
1st R.F.
2nd RF
2nd RF
1st AF
Det.
Antenna
Brown
On and Off Sw.
Volume Cont.


Red +A
Yellow +45 B
Black +135 B
Blue +22½ B
Red -B
Pink -7½ C
Green -A
Green +C
Storage 6V. "A"
Antenna Brown
Green Ground
Multi-Plug
7½ V. "C"
45 V. "B" 1st
45 V. "B" 2nd
45 V. "B" 3rd
+22½
+45

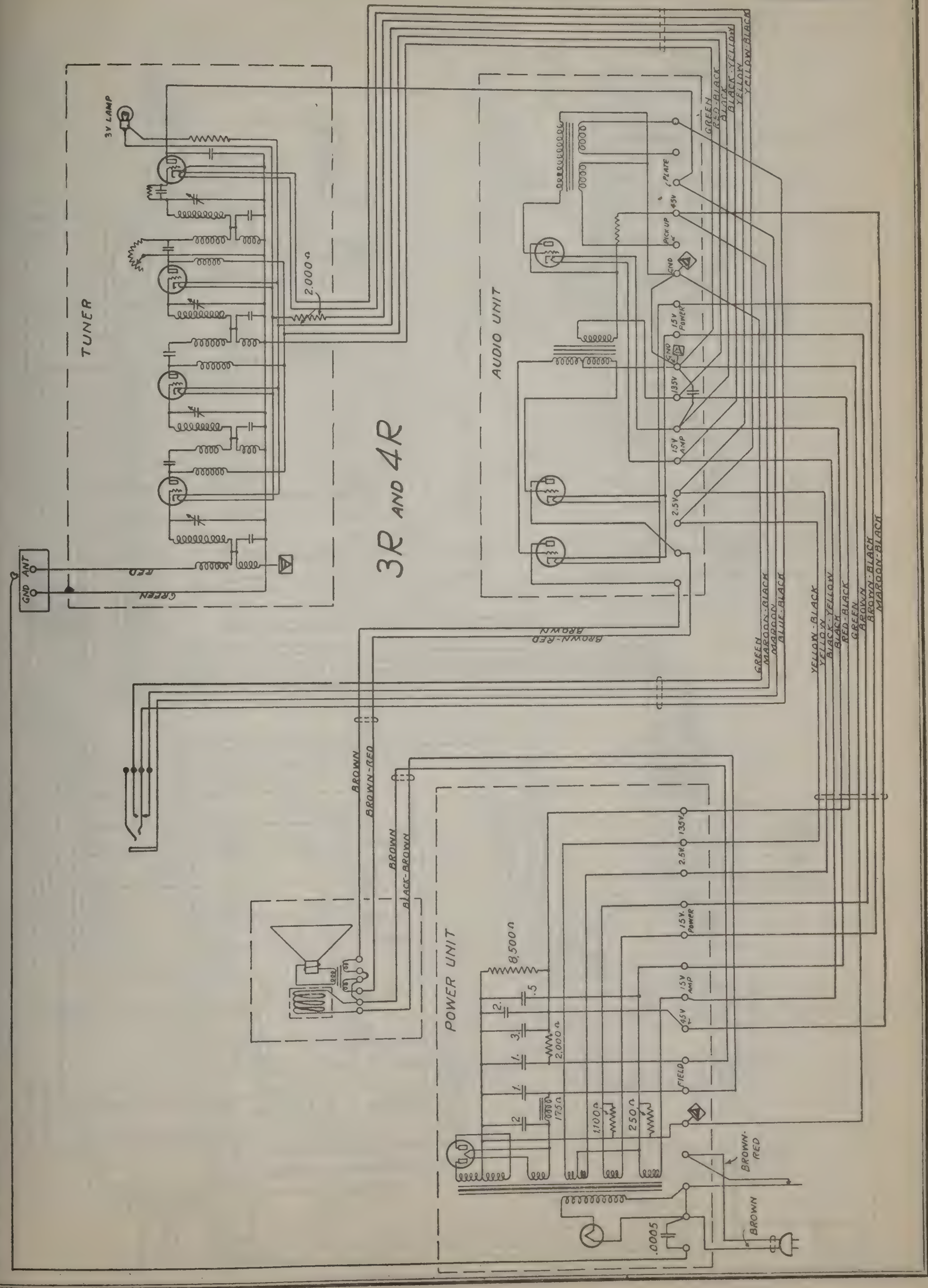
Wiring Diagram for Batteries


2amp. fuse
110V. AC
Speaker
Field
S. Ant.
L. Ant.
Gnd.
Off 1S. On.
Phono.
Television
.00025
V. Reg
White
Green
Red
Blue
15M
Yellow
80
45
.25
.25
.5
.00025
24
24
24
27
.0005
.25
4M
.25
.25
4M
.25
.25
4M
15M
.5
Vol.
Radio-Phono. SW.

Wiring Diagram Model F

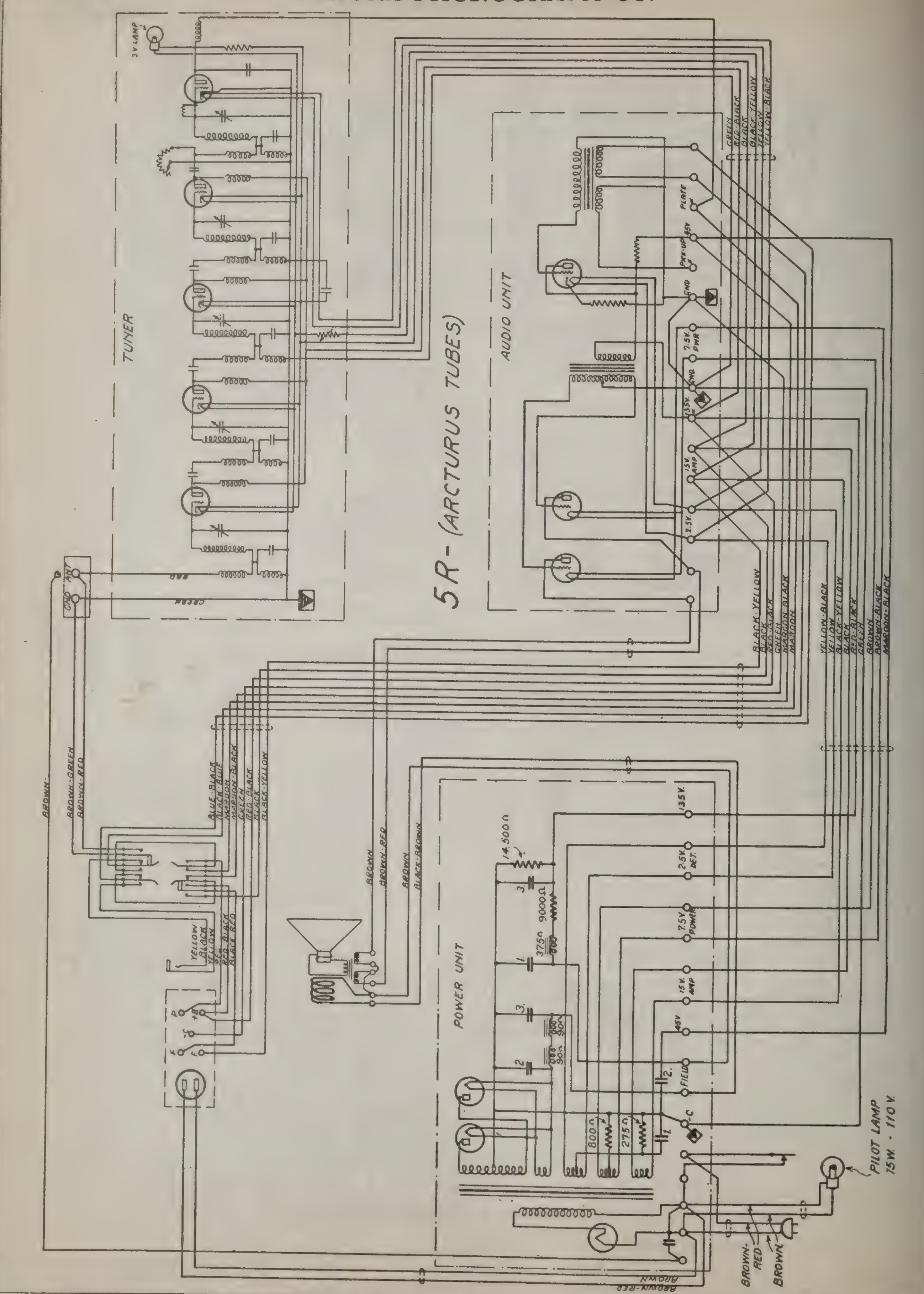
SONORA PHONOGRAPH CO.

MODEL 3R, 4R
Schematic


3V LAMP
TUNER
2,000 Ω
RED
GREEN
GND
ANT
3R AND 4R
AUDIO UNIT
PLATE
45V
PICK UP
GND
15V POWER
GND
135V
15V AMP
2.5V
GREEN
RED-BLACK
BLACK
BLACK-YELLOW
YELLOW
YELLOW-BLACK
BROWN
BROWN-RED
GREEN
MAROON-BLACK
MAROON
BLUE-BLACK
YELLOW-BLACK
YELLOW
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK
BROWN
BROWN-RED
BROWN
BLACK-BROWN
POWER UNIT
8,500 Ω
.5
2.
3.
2,000 Ω
1.
1.
2
175 Ω
1100 Ω
250 Ω
135V
2.5V
15V. POWER
15V AMP
45V
FIELD
BROWN-RED
BROWN
.0005

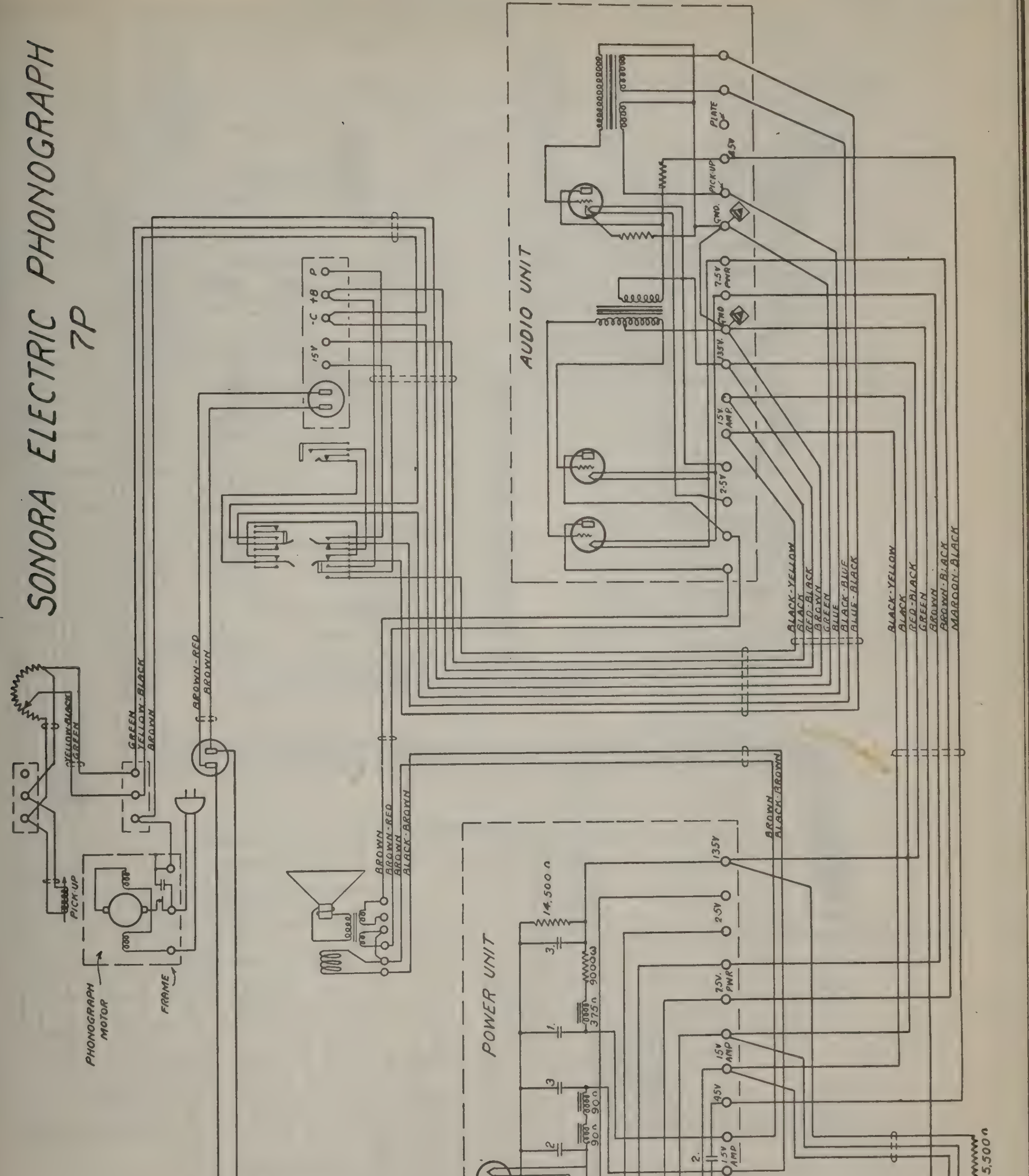
MODEL 5R
Schematic

SONORA PHONOGRAPH CO.


3V LAMP
TUNER
5R- (ARCTURUS TUBES)
AUDIO UNIT
POWER UNIT
GND
ANT
GREEN
RED-BLACK
BLACK
BLACK-YELLOW
YELLOW-BLACK
PLATE
45V
PICK-UP
GND
7.5V PWR
GND
135V
15V AMP
2.5V
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
MAROON-BLACK
MAROON
YELLOW-BLACK
YELLOW
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK
BROWN
BROWN-GREEN
BROWN-RED
BLUE-BLACK
BLACK-BLUE
MAROON
MAROON-BLACK
GREEN
RED-BLACK
BLACK
BLACK-YELLOW
YELLOW
BLACK
YELLOW
RED-BLACK
BLACK-RED
P
B+
F
F
BROWN
BROWN-RED
BROWN
BLACK-BROWN
135V.
14.500Ω
2.5V DET.
3
9000Ω
7.5V POWER
375Ω
1
15V AMP
3
90Ω
90Ω
45V
2
90Ω
90Ω
2.
FIELD
C
1.
800Ω
275Ω
PILOT LAMP
15W. - 110V.
BROWN-RED
BROWN
BROWN
BROWN-RED

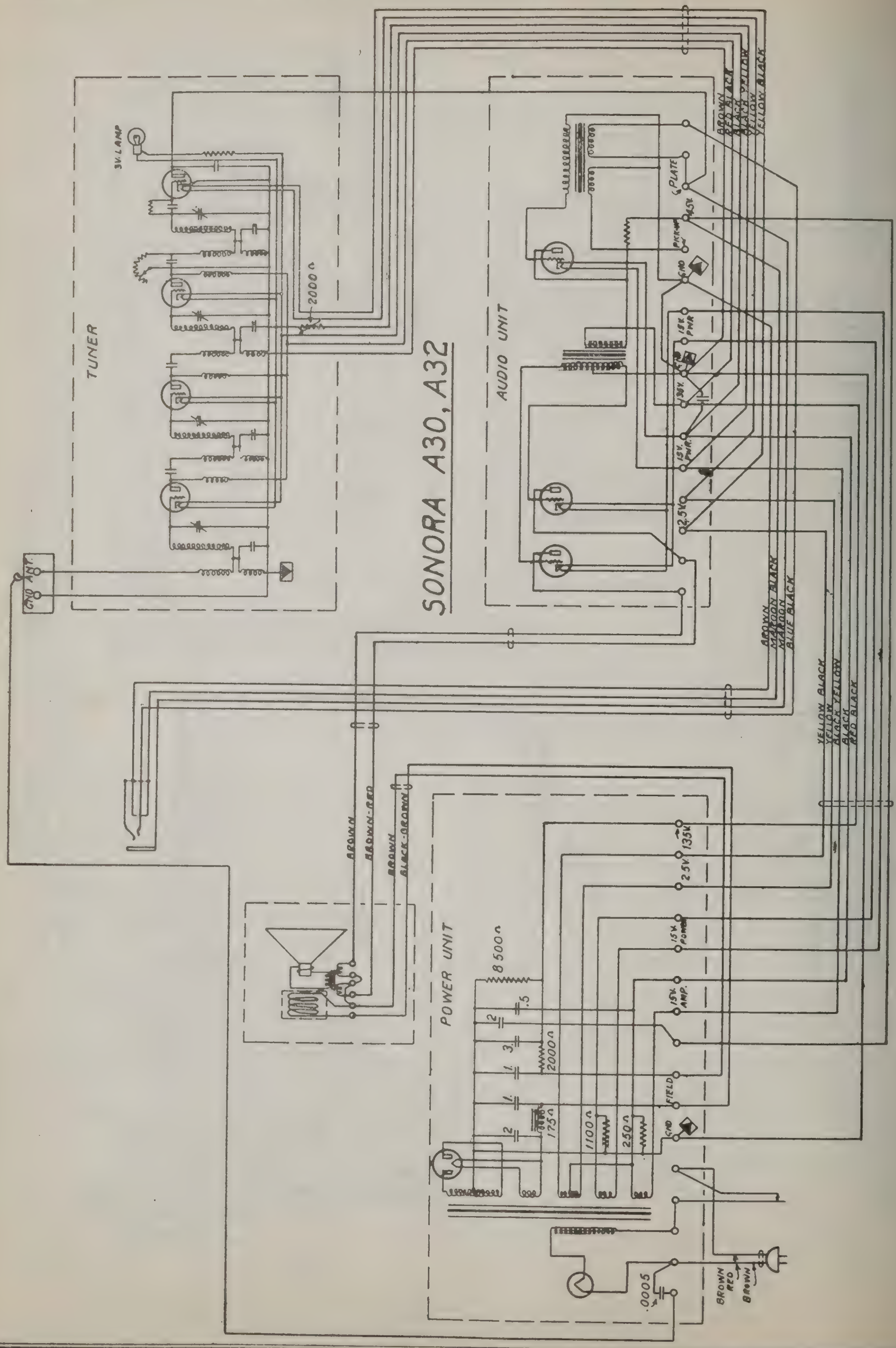
SONORA PHONOGRAPH CO.

MODEL 7P
Schematic


SONORA ELECTRIC PHONOGRAPH
7P
AUDIO UNIT
PLATE
45V
PICK-UP
GND.
7.5V PWR
GND
135V
15V AMP
2.5V
15V
-C
+B
P
BLACK-YELLOW
BLACK
RED-BLACK
BROWN
GREEN
BLUE
BLACK-BLUE
BLUE-BLACK
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK
BROWN-RED
BROWN
GREEN
YELLOW-BLACK
BROWN
YELLOW-BLACK
GREEN
PICK-UP
PHONOGRAPH MOTOR
FRAME
BROWN
BROWN-RED
BROWN
BLACK-BROWN
BROWN
BLACK-BROWN
POWER UNIT
14,500 Ω
3
9000 Ω
375 Ω
1
3
90 Ω
90 Ω
2
135V
2.5V
2.5V PWR
15V AMP
45V
15V AMP
2
-C GND
800 Ω
275 Ω
1
.0005
BROWN RED
10.7 Ω
5,500 Ω
BROWN-RED
BROWN

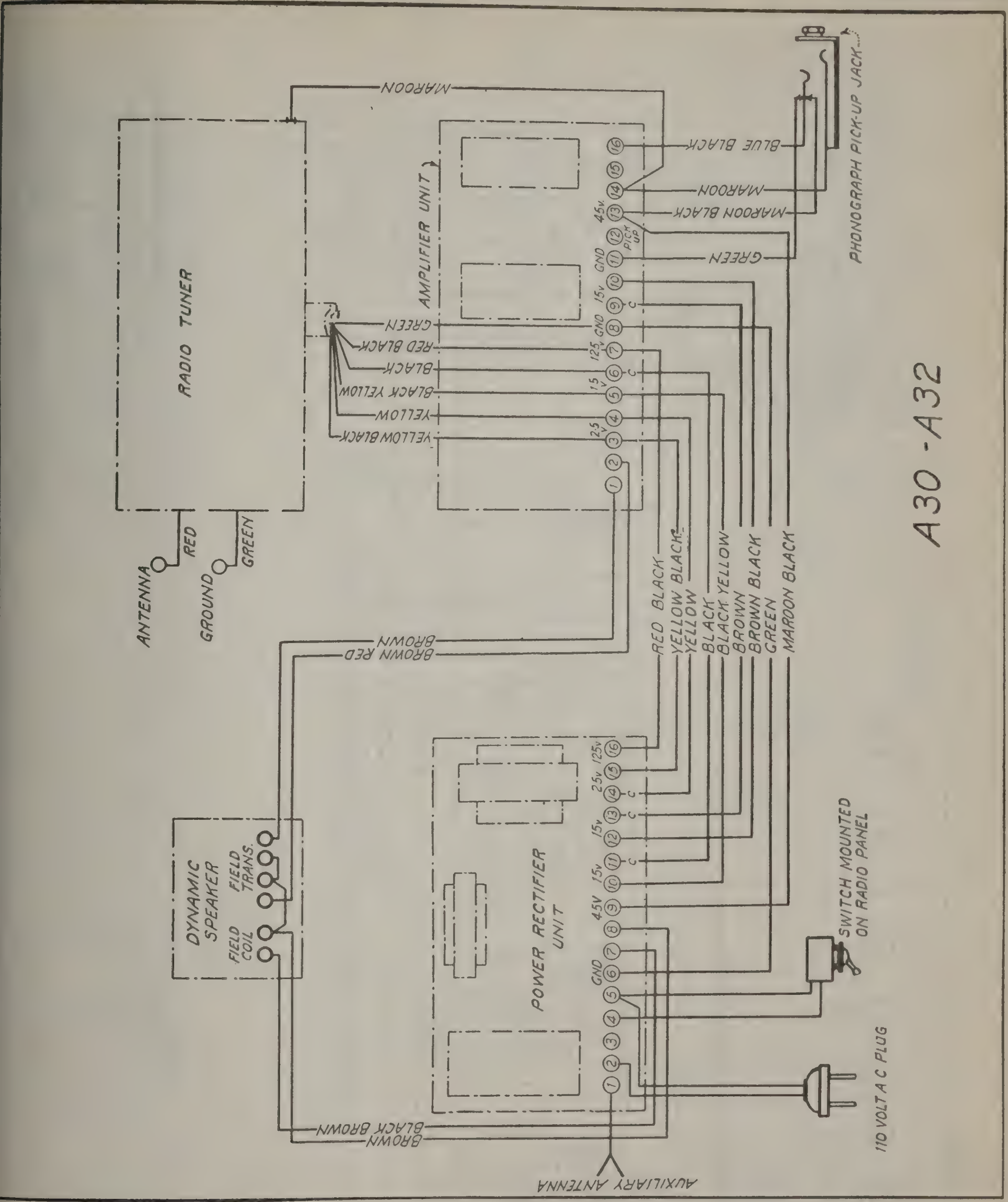
MODEL A30, A32
Schematic

SONORA PHONOGRAPH CO.

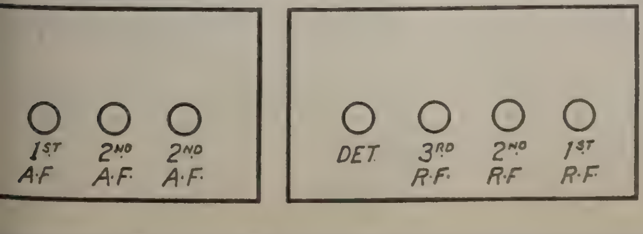

3V. LAMP
2000 Ω
TUNER
GND ANT.
SONORA A30, A32
AUDIO UNIT
PLATE
45V.
PWR.
GND
18V. PWR.
30V.
15V. PWR.
2.5V.
BROWN
RED BLACK
BLACK
BLACK YELLOW
YELLOW
YELLOW BLACK
BROWN
MAROON BLACK
MAROON
BLUE BLACK
YELLOW BLACK
YELLOW
BLACK YELLOW
BLACK
RED BLACK
BROWN
BROWN-RED
BROWN
BLACK-BROWN
POWER UNIT
8500 Ω
.5
2
3
1
1
2
2000 Ω
175 Ω
1100 Ω
250 Ω
135V.
2.5V.
15V. POWER
15V. AMP.
FIELD
GND
.0005
BROWN
RED
BROWN

MODEL A30, A32
Wiring Diagram

SONORA PHONOGRAPH CO.


RADIO TUNER
AMPLIFIER UNIT
POWER RECTIFIER UNIT
DYNAMIC SPEAKER
FIELD COIL
FIELD TRANS.
ANTENNA
RED
GROUND
GREEN
MAROON
BLUE BLACK
MAROON
MAROON BLACK
GREEN
GREEN
RED BLACK
BLACK
BLACK YELLOW
YELLOW
YELLOW BLACK
45v
PICK UP
GND
15v
C
125v
25v
RED BLACK
YELLOW BLACK
YELLOW
BLACK
BLACK YELLOW
BROWN
BROWN BLACK
GREEN
MAROON BLACK
BROWN
BROWN RED
BLACK BROWN
BROWN
PHONOGRAPH PICK-UP JACK
SWITCH MOUNTED ON RADIO PANEL
110 VOLT A C PLUG
AUXILIARY ANTENNA
A30 -A32

30, 32, 40

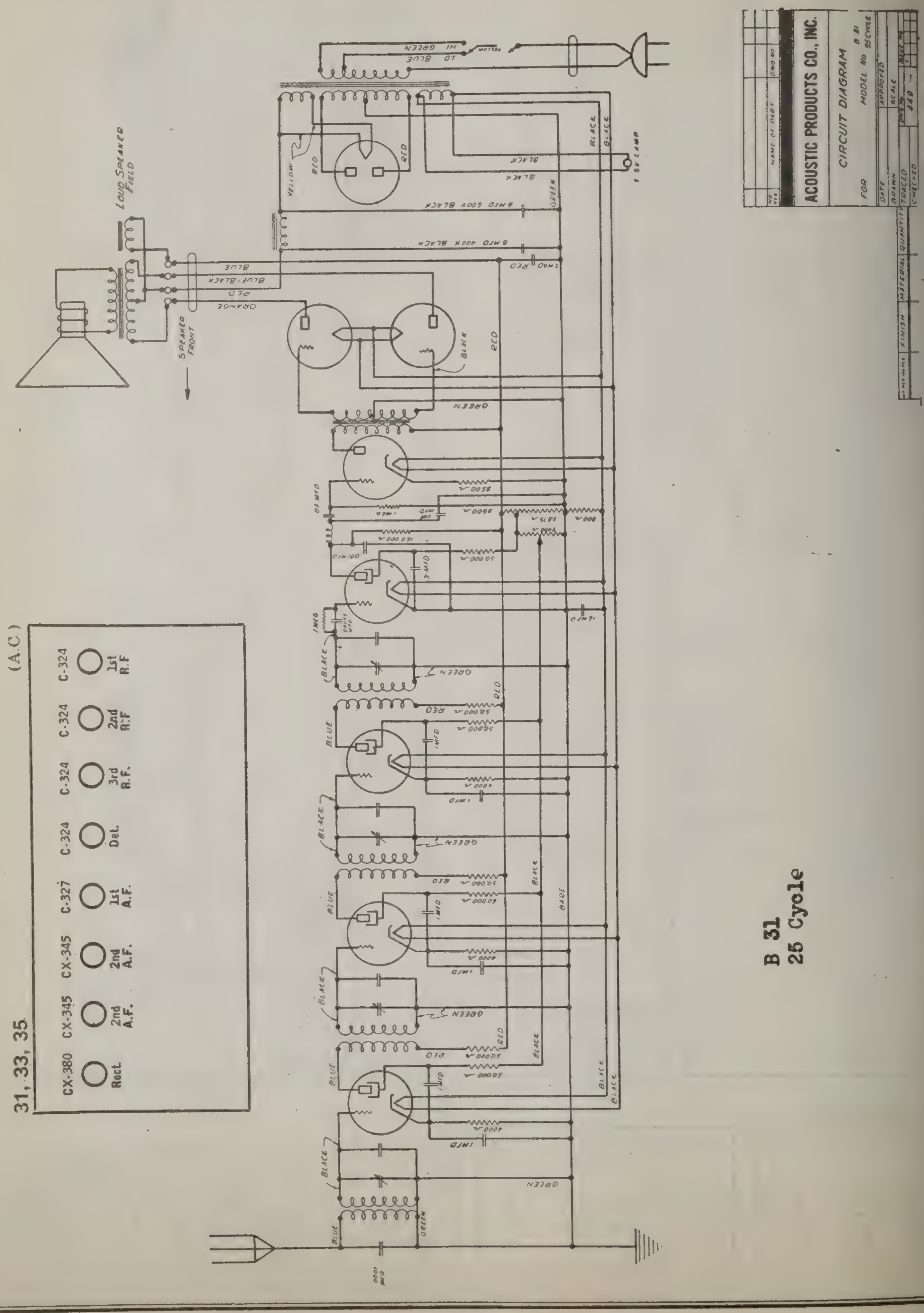

1ST A·F
2ND A·F
2ND A·F
DET
3RD R·F
2ND R·F
1ST R·F

(A.C.)

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET.. ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	RA-1	1st.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
2	RA-1	2nd.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
3	RA-1	3rd.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
4	DE-1	Detector	2.5	88	2.1	20	-	6	.8	1.0	0.2
5	RA-1	1st.A.F.	15.0	130	14.0	120	6	-	6.6	12.0	5.4
6	SO-1	2ndA.F.Push	15.0	200	14.0	180	40	-	18.0	22.0	4.0
7	SO-1	2ndA.F.Pull	15.0	200	14.0	180	40	-	18.0	22.0	4.0

MODEL B31 25 Cycle
Schematic

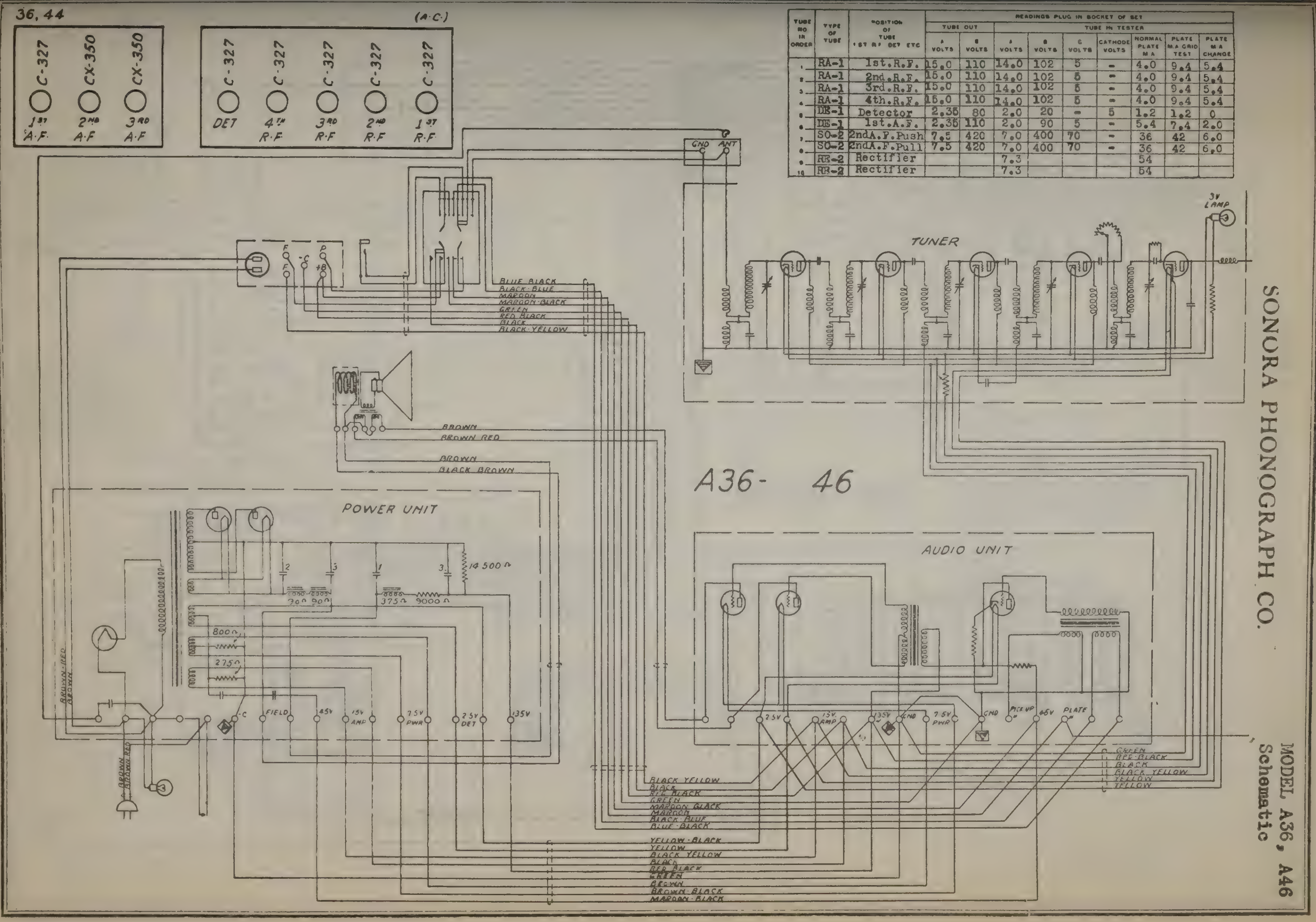
SONORA PHONOGRAPH CO.


31, 33, 35
(A.C.)
CX-380 Rect
CX-345 2nd A.F.
CX-345 2nd A.F.
C-327 1st A.F.
C-324 Det.
C-324 3rd R.F.
C-324 2nd R.F
C-324 1st R.F
LOUD SPEAKER FIELD
SPEAKER FRONT
HI GREEN
LO BLUE
YELLOW
RED
BLACK
GREEN
BLUE
BLUE-BLACK
ORANGE
8 MFD 500V BLACK
8 MFD 400V BLACK
1 MFD RED
1.5V LAMP
1 MFD
B 31
25 Cycle
ACOUSTIC PRODUCTS CO., INC.
CIRCUIT DIAGRAM
FOR MODEL No B 31 25 CYCLE

MODEL A36, A46
Schematic

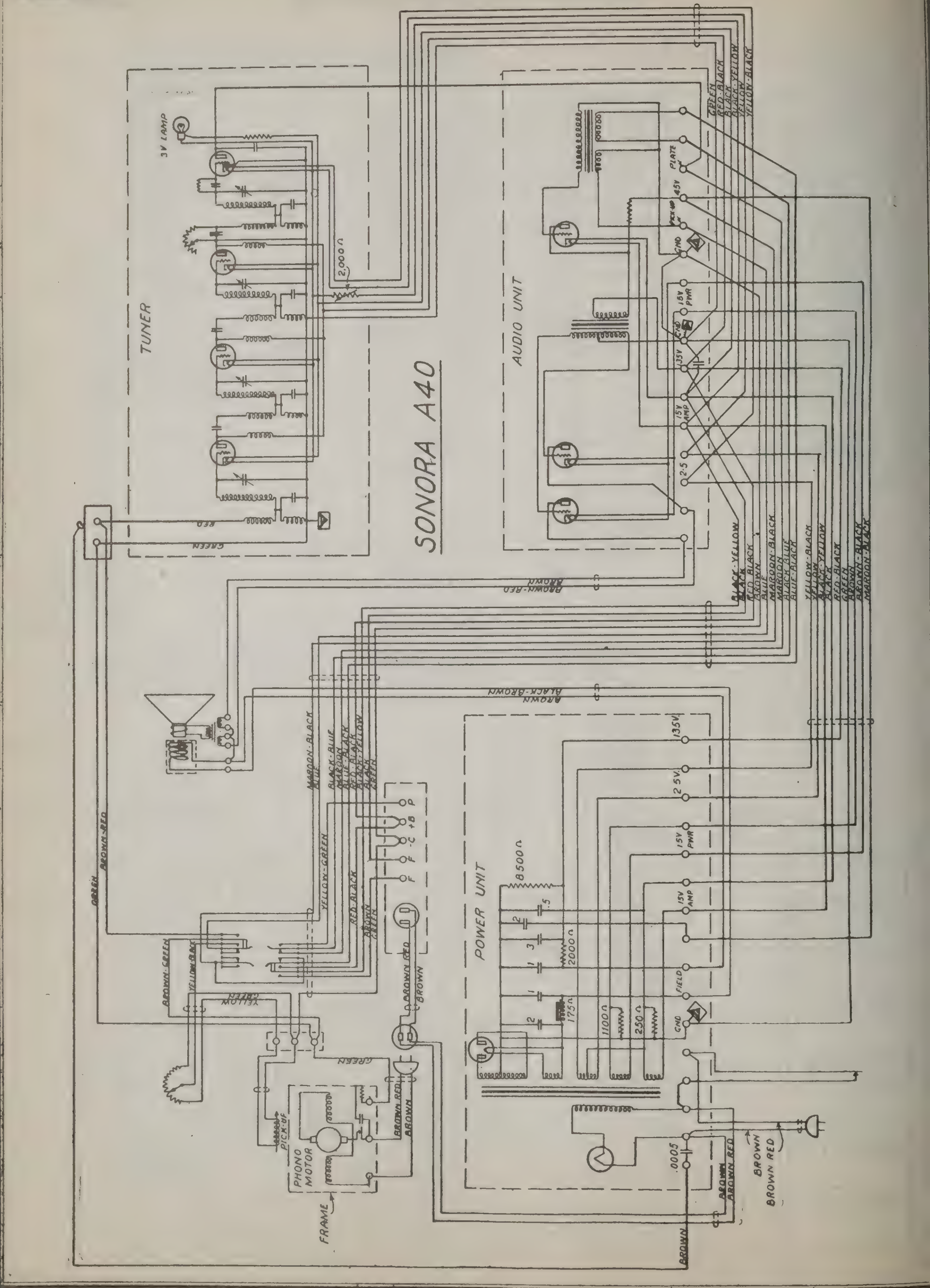
SONORA PHONOGRAPH CO.

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A GRID TEST	PLATE M A CHANGE
1	RA-1	1st.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
2	RA-1	2nd.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
3	RA-1	3rd.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
4	RA-1	4th.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
5	DE-1	Detector	2.35	80	2.0	20	-	5	1.2	1.2	0
6	DE-1	1st.A.F.	2.35	110	2.0	90	5	-	5.4	7.4	2.0
7	SO-2	2ndA.F.Push	7.5	420	7.0	400	70	-	36	42	6.0
8	SO-2	2ndA.F.Pull	7.5	420	7.0	400	70	-	36	42	6.0
9	RB-2	Rectifier			7.3				54		
10	RB-2	Rectifier			7.3				54		


36, 44
C-327
CX-350
CX-350
1ST A·F
2ND A·F
3RD A·F
(A·C·)
C-327
C-327
C-327
C-327
C-327
DET
4TH R·F
3RD R·F
2ND R·F
1ST R·F
GND
ANT
TUNER
3V LAMP
F
F
-C
P
+B
BLUE BLACK
BLACK-BLUE
MAROON
MAROON-BLACK
GREEN
RED BLACK
BLACK
BLACK-YELLOW
BROWN
BROWN RED
BROWN
BLACK BROWN
A36- 46
POWER UNIT
14 500 Ω
2
3
1
3
30Ω
90Ω
375Ω
9000 Ω
800Ω
275Ω
C
FIELD
45V
15V AMP
7.5V PWR
2.5V DET
135V
BROWN-RED
BROWN
BROWN
BROWN RED
AUDIO UNIT
2.5V
15V AMP
135V
GND
7.5V PWR
GND
PICK UP
45V
PLATE
GREEN
RED BLACK
BLACK
BLACK YELLOW
YELLOW
YELLOW
BLACK YELLOW
BLACK
RED BLACK
GREEN
MAROON BLACK
MAROON
BLACK BLUE
BLUE BLACK
YELLOW-BLACK
YELLOW
BLACK YELLOW
BLACK
RED BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK

MODEL A40
Schematic

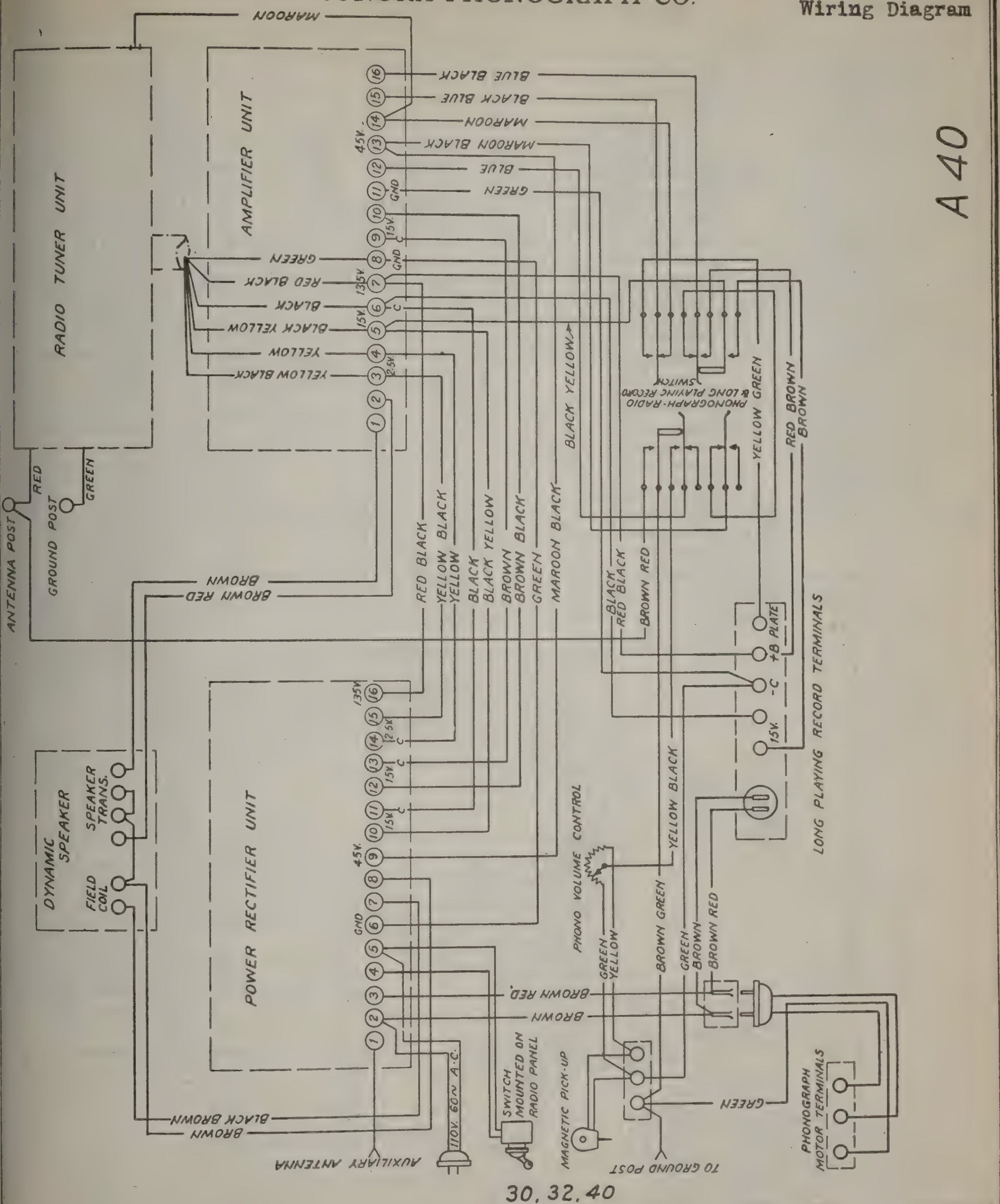
SONORA PHONOGRAPH CO.


SONORA A40
TUNER
3V LAMP
2,000Ω
RED
GREEN
AUDIO UNIT
PLATE
45V
PICK-UP
GND
15V PWR
135V
15V AMP
2.5
GREEN
RED BLACK
BLACK
BLACK-YELLOW
YELLOW
YELLOW-BLACK
BLACK-YELLOW
BLACK
RED BLACK
BROWN
BLUE
MAROON-BLACK
MAROON
BLACK BLUE
BLUE-BLACK
YELLOW-BLACK
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK
BROWN
BROWN-RED
BLACK-BROWN
BROWN
MAROON-BLACK
BLUE
BLACK-BLUE
MAROON
BLUE-BLACK
RED-BLACK
BLACK-YELLOW
BLACK
GREEN
YELLOW-GREEN
RED-BLACK
BROWN
GREEN
P
+B
-C
F
F
GREEN
BROWN-RED
BROWN-GREEN
YELLOW-BLACK
YELLOW
GREEN
BROWN RED
BROWN
GREEN
PICK-UP
PHONO MOTOR
FRAME
BROWN RED
BROWN
POWER UNIT
135V
2.5V
15V PWR
15V AMP
FIELD
GND
8500Ω
.5
2
3
1
1
2
2000Ω
175Ω
1100Ω
250Ω
.0005
BROWN
BROWN RED
BROWN
BROWN RED
BROWN

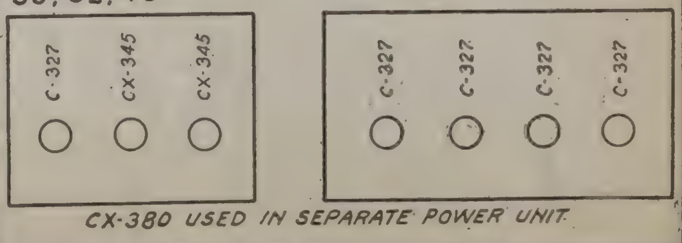
SONORA PHONOGRAPH CO.

MODEL A40
Wiring Diagram

A 40


MAROON
RADIO TUNER UNIT
AMPLIFIER UNIT
BLUE BLACK
BLACK BLUE
MAROON
MAROON BLACK
BLUE
GREEN
GREEN
RED BLACK
BLACK
BLACK YELLOW
YELLOW
YELLOW BLACK
45V.
GND
15V.
C
135V.
2.5V.
PHONOGRAPH-RADIO & LONG PLAYING RECORD SWITCH
BLACK YELLOW
YELLOW GREEN
RED BROWN
BROWN
RED
GREEN
ANTENNA POST
GROUND POST
BROWN
BROWN RED
RED BLACK
YELLOW BLACK
YELLOW
BLACK
BLACK YELLOW
BROWN
BROWN BLACK
GREEN
MAROON BLACK
BLACK
RED BLACK
BROWN RED
PLATE
+B
-C
15V.
LONG PLAYING RECORD TERMINALS
YELLOW BLACK
DYNAMIC SPEAKER
SPEAKER TRANS.
FIELD COIL
POWER RECTIFIER UNIT
135V
12.5V.
PHONO VOLUME CONTROL
BROWN GREEN
GREEN
BROWN
BROWN RED
GREEN
YELLOW
BROWN RED.
BROWN
BLACK BROWN
BROWN
110V. 60~ A.C.
SWITCH MOUNTED ON RADIO PANEL
MAGNETIC PICK-UP
GREEN
PHONOGRAPH MOTOR TERMINALS
AUXILIARY ANTENNA
TO GROUND POST
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

30, 32, 40


C-327
CX-345
CX-345
C-327
C-327
C-327
C-327

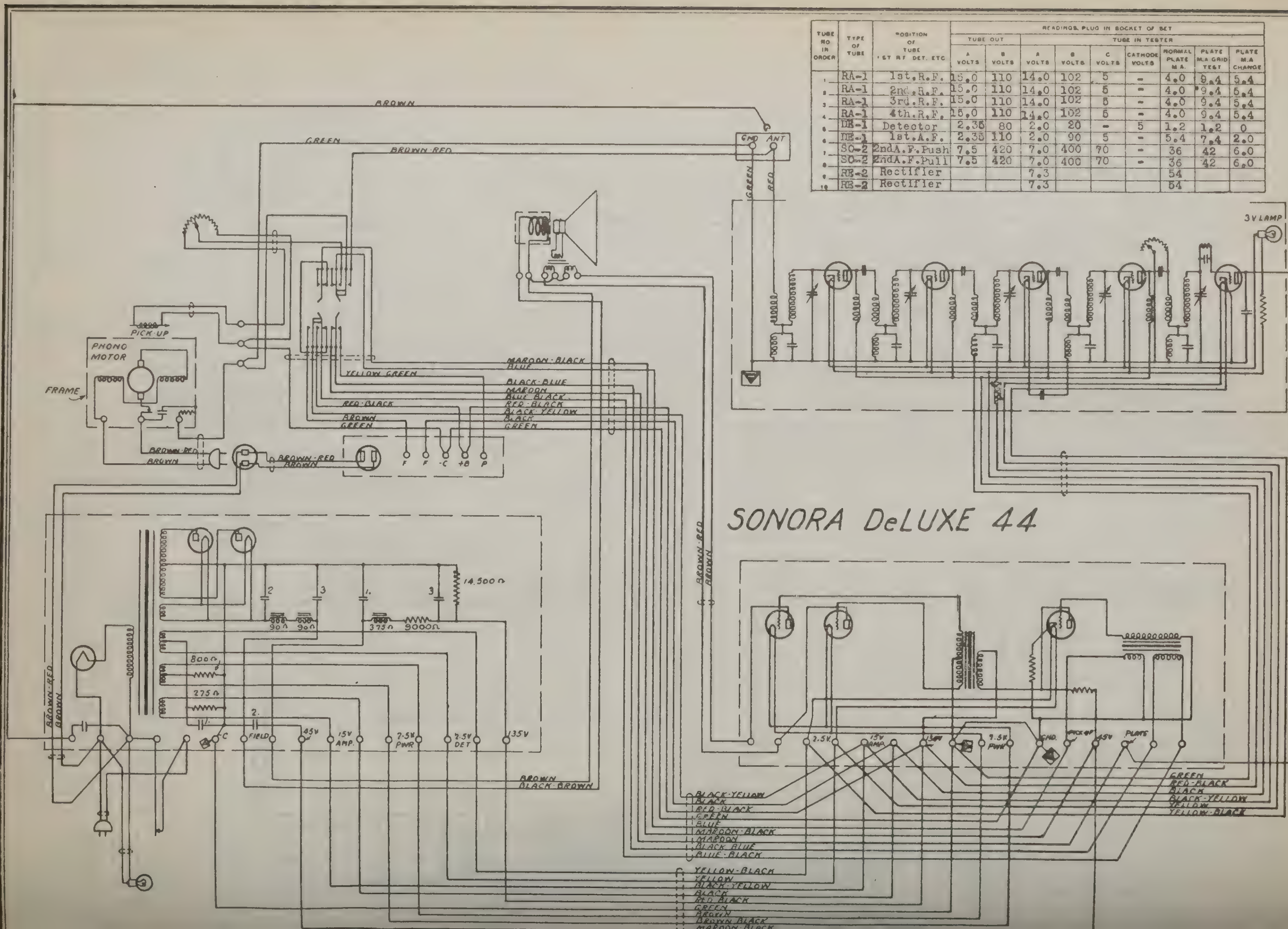
CX-380 USED IN SEPARATE POWER UNIT

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F. DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A. GRID TEST	PLATE M.A CHANGE
1	RA-1	1st.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
2	RA-1	2nd.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
3	RA-1	3rd.R.F.	15.0	136	14.0	130	6	-	6.6	12.0	5.4
4	DE-1	Detector	2.5	88	2.1	20	-	6	.8	1.0	0.2
5	RA-1	1st.A.F.	15.0	130	14.0	120	6	-	6.6	12.0	5.4
6	SO-1	2ndA.F.Push	15.0	200	14.0	180	40	-	18.0	22.0	4.0
7	SO-1	2ndA.F.Pull	15.0	200	14.0	180	40	-	18.0	22.0	4.0

MODEL De Luxe 44
Schematic

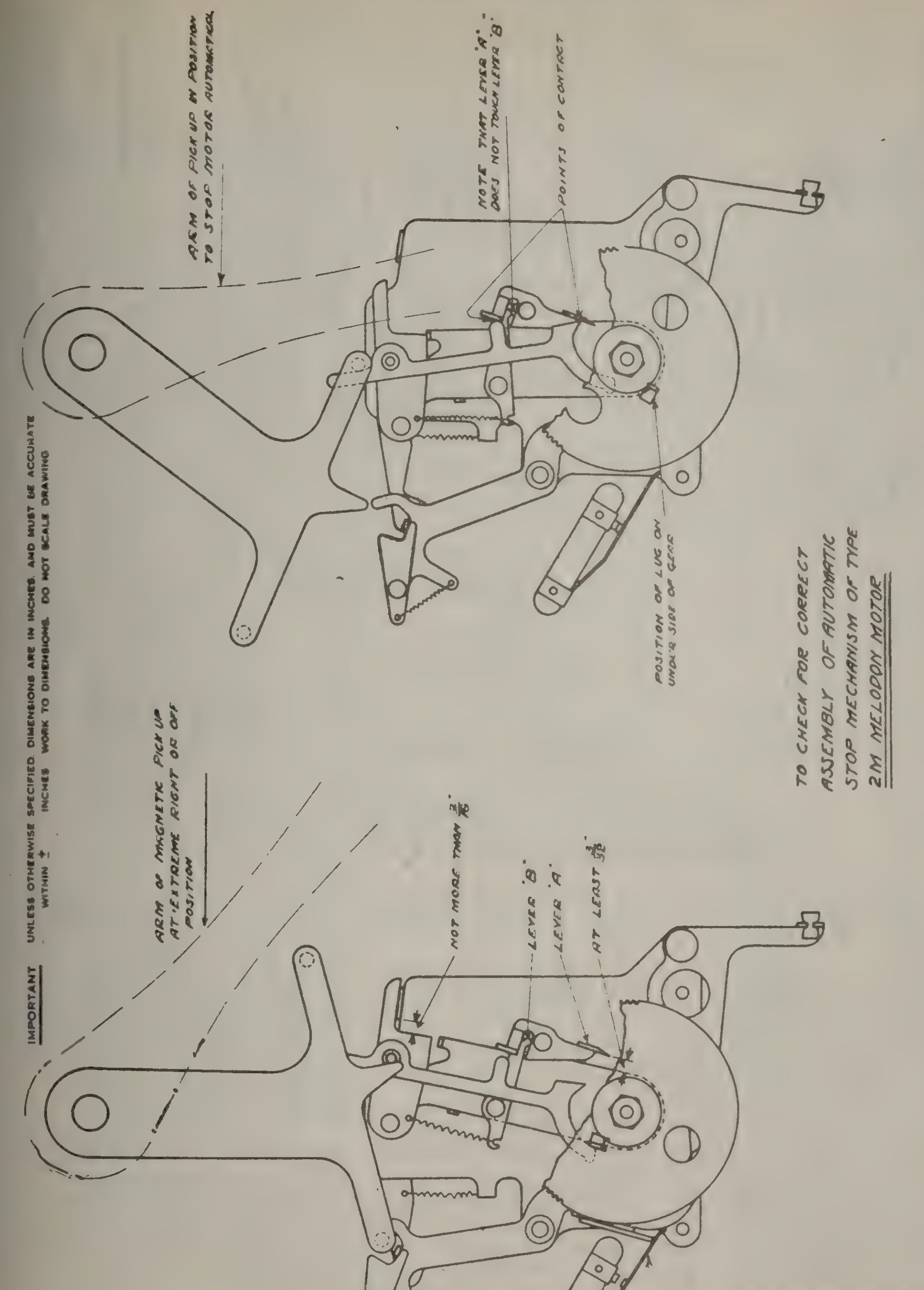
SONORA PHONOGRAPH CO.

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET. ETC	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	RA-1	1st.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
2	RA-1	2nd.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
3	RA-1	3rd.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
4	RA-1	4th.R.F.	15.0	110	14.0	102	5	-	4.0	9.4	5.4
5	DE-1	Detector	2.35	80	2.0	20	-	5	1.2	1.2	0
6	DE-1	1st.A.F.	2.35	110	2.0	90	5	-	5.4	7.4	2.0
7	SO-2	2ndA.F.Push	7.5	420	7.0	400	70	-	36	42	6.0
8	SO-2	2ndA.F.Pull	7.5	420	7.0	400	70	-	36	42	6.0
9	RE-2	Rectifier			7.3				54		
10	RE-2	Rectifier			7.3				54		

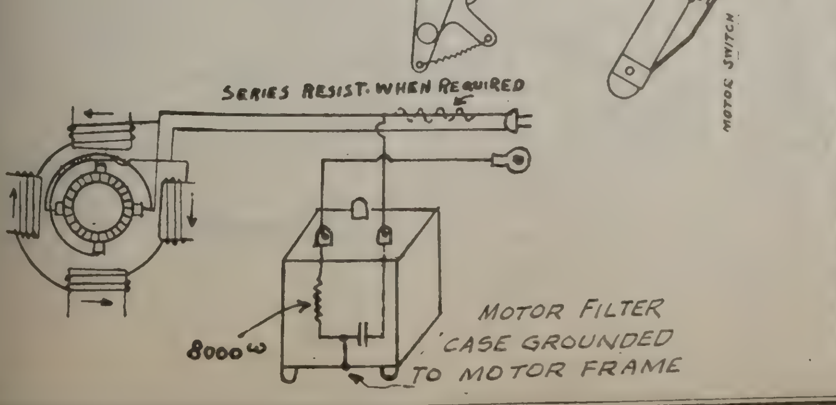

SONORA DeLUXE 44
3V LAMP
GND
ANT
GREEN
RED
BROWN
BROWN-RED
PICK-UP
PHONO MOTOR
FRAME
MAROON-BLACK
BLUE
YELLOW GREEN
BLACK-BLUE
MAROON
BLUE-BLACK
RED-BLACK
BLACK-YELLOW
BLACK
GREEN
BROWN
F
F
-C
+B
P
14.500 Ω
9000Ω
375Ω
90Ω
90Ω
800Ω
275Ω
2
3
1.
3
2.
1.
C
FIELD
45V
15V AMP.
7.5V PWR
7.5V DET
135V
BLACK-BROWN
2.5V
15V AMP
15V
7.5V PWR
GND.
PICK-UP
45V
PLATE
GREEN
RED-BLACK
BLACK
BLACK-YELLOW
YELLOW
YELLOW-BLACK
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BLUE
MAROON-BLACK
MAROON
BLACK-BLUE
BLUE-BLACK
YELLOW-BLACK
YELLOW
BLACK-YELLOW
BLACK
RED-BLACK
GREEN
BROWN
BROWN-BLACK
MAROON-BLACK

SONORA PHONOGRAPH CO.

MODEL 2M
Automatic Stop


ARM OF PICK UP IN POSITION TO STOP MOTOR AUTOMATICAL
NOTE THAT LEVER 'A' DOES NOT TOUCH LEVER 'B'
POINTS OF CONTACT
POSITION OF LUG ON UNDER SIDE OF GEAR
TO CHECK FOR CORRECT ASSEMBLY OF AUTOMATIC STOP MECHANISM OF TYPE 2M MELODON MOTOR
ARM OF MAGNETIC PICK UP AT EXTREME RIGHT OR OFF POSITION
NOT MORE THAN 3/16"
LEVER 'B'
LEVER 'A'
AT LEAST 1/32"

IMPORTANT UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN INCHES. AND MUST BE ACCURATE WITHIN ± INCHES WORK TO DIMENSIONS. DO NOT SCALE DRAWING

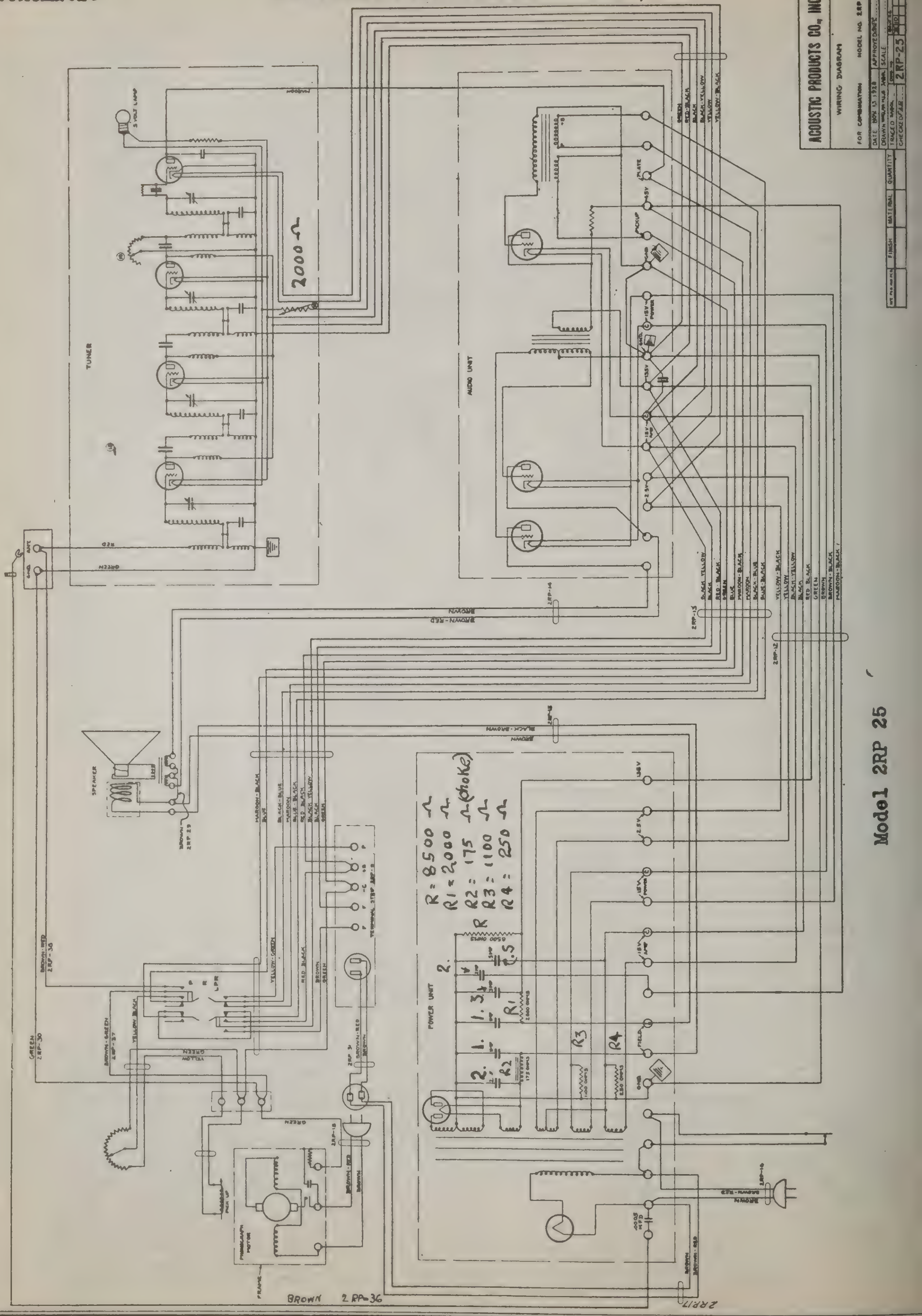

MOTOR SWITCH
SERIES RESIST. WHEN REQUIRED
8000 ω
MOTOR FILTER
CASE GROUNDED
TO MOTOR FRAME

SERIES RESISTANCES REQUIRED FOR DIFFERENT VOLTAGES.			
VOLTS	CYCLES	OHMS	WATTS
110	60	NONE	
110	50	25	100
110	40	60	100
110	25	110	100
110	DC.	165	100
220	60	210	200
220	25	330	200
32	DC.	NONE	

MATERIAL AND SPECIFICATION
LENGTH PER 1000 PCS
WEIGHT PER
FIRST MADE FOR
AUMATIC STOP MECHANISM OF TYPE 2M MOTOR
SCALE
PART NO
ED. SERVICE DEPT DWG #38
SONORA PHONOGRAPH CO. INC
NEW YORK NY
DATE 12-24-35
DR BY
CH BY
APPROVED BY

MODEL 2RP 25 Cycle
Schematic

SONORA PHONOGRAPH CO.,

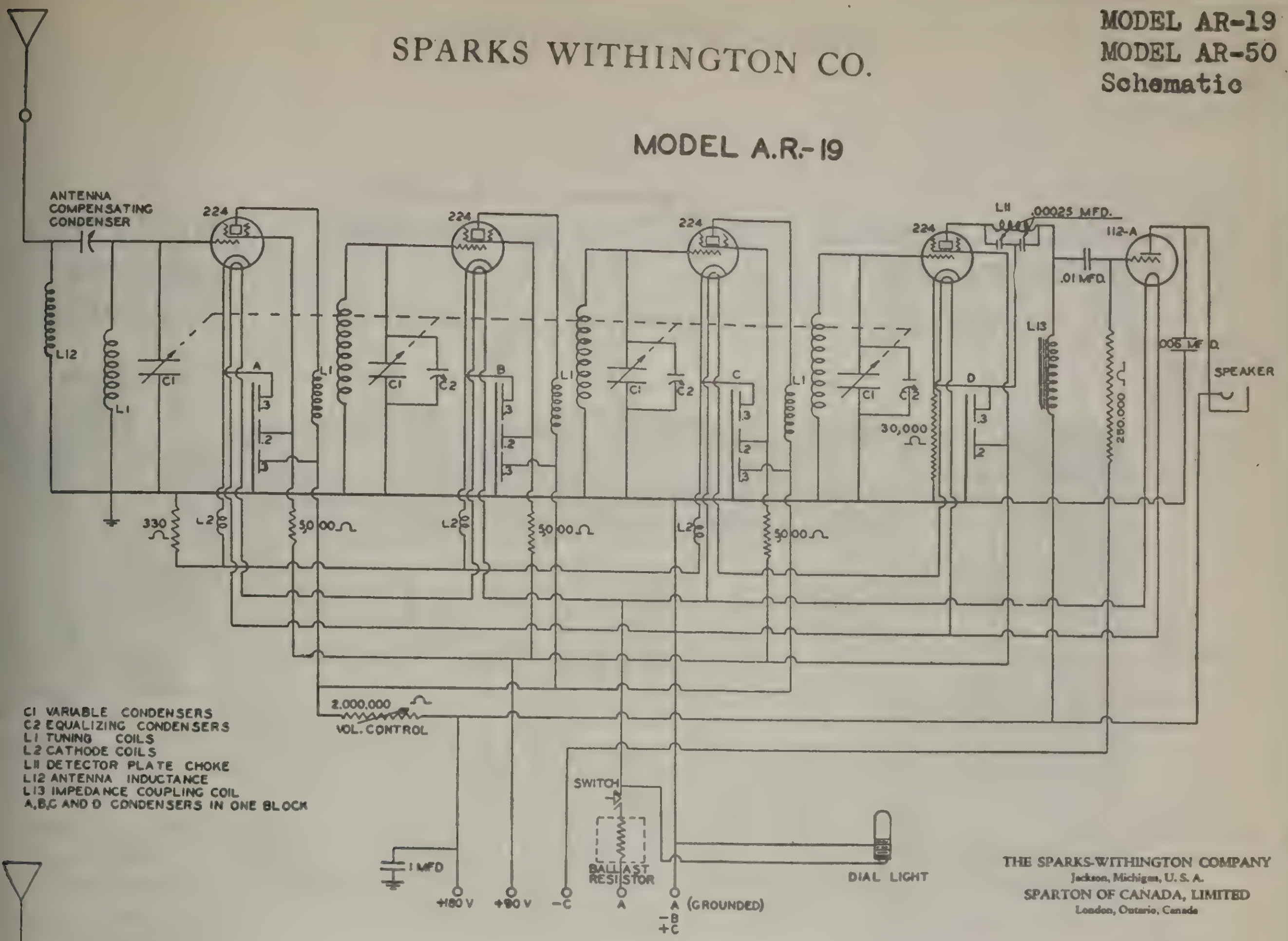

ACOUSTIC PRODUCTS CO., INC.
WIRING DIAGRAM
FOR COMBINATION MODEL NO. 2RP
2RP-25
TUNER
AUDIO UNIT
POWER UNIT
SPEAKER
2000 Ω
R = 8500 Ω
R1 = 2,000 Ω (choke)
R2 = 175 Ω
R3 = 1100 Ω
R4 = 250 Ω
R
R1
R2
R3
R4
PLATE
PICKUP
FIELD
GND
ANT
BROWN
BROWN-RED
BLACK-BROWN
GREEN
YELLOW
BROWN 2RP-36
2RP17
PICK UP
PHONOGRAPH MOTOR
FRAME

Model 2RP 25

MODEL AR-19
MODEL AR-50
Schematic

SPARKS WITHINGTON CO.

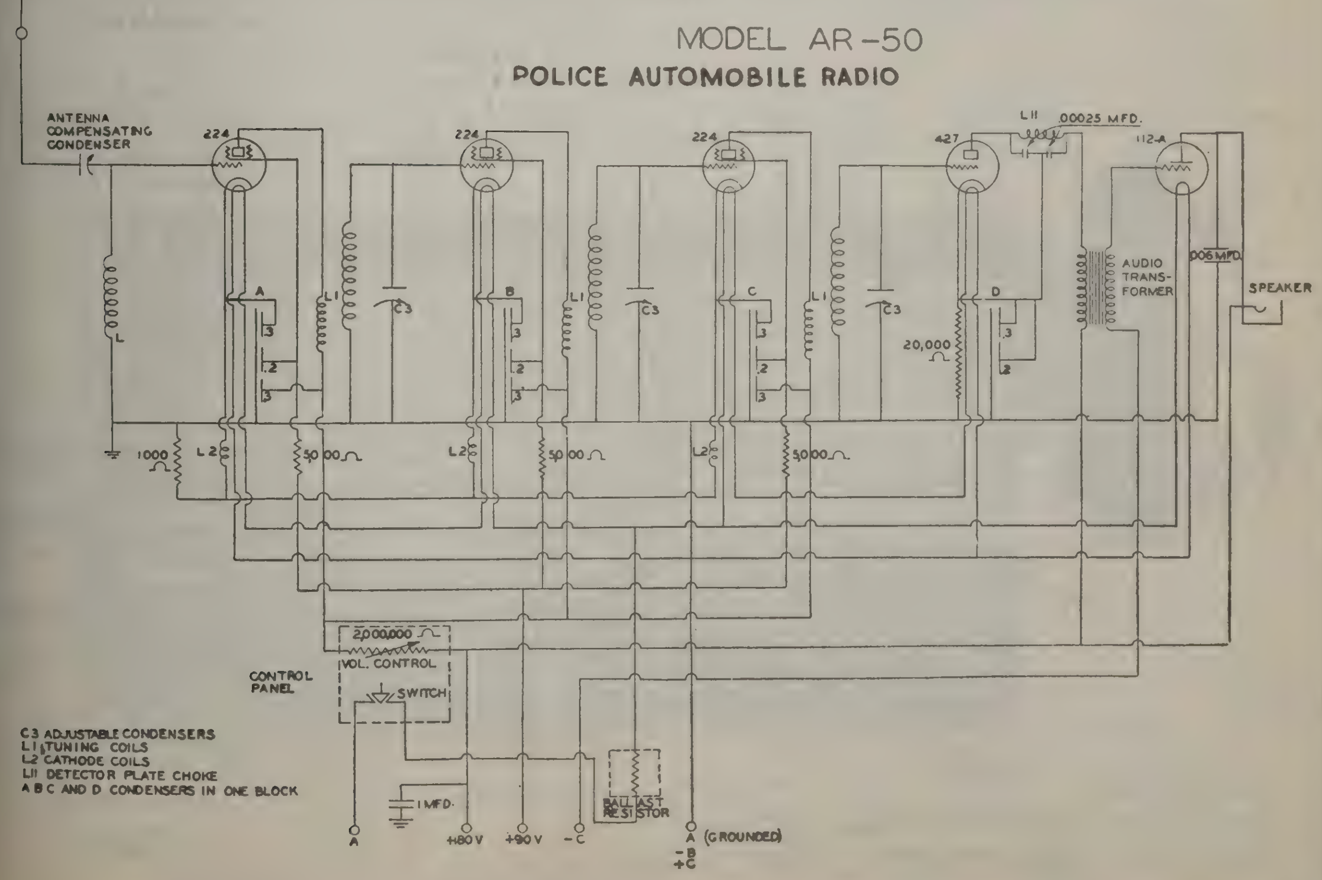
MODEL A.R.-19


ANTENNA COMPENSATING CONDENSER
224
224
224
224
L11
.00025 MFD.
112-A
.01 MFD.
L12
L1
C1
C2
L13
.005 MFD.
SPEAKER
A
B
C
D
.3
.2
30,000 Ω
250,000 Ω
330 Ω
L2
50,000 Ω
2,000,000 Ω
VOL. CONTROL
SWITCH
BALLAST RESISTOR
DIAL LIGHT
1 MFD
+180 V
+90 V
-C
A
A (GROUNDED)
-B
+C

C1 VARIABLE CONDENSERS
C2 EQUALIZING CONDENSERS
L1 TUNING COILS
L2 CATHODE COILS
L11 DETECTOR PLATE CHOKE
L12 ANTENNA INDUCTANCE
L13 IMPEDANCE COUPLING COIL
A,B,C AND D CONDENSERS IN ONE BLOCK

THE SPARKS-WITHINGTON COMPANY
Jackson, Michigan, U. S. A.
SPARTON OF CANADA, LIMITED
London, Ontario, Canada

MODEL AR-50
POLICE AUTOMOBILE RADIO


ANTENNA COMPENSATING CONDENSER
224
224
224
427
L11
.00025 MFD.
112-A
L
L1
C3
AUDIO TRANSFORMER
.005 MFD.
SPEAKER
A
B
C
D
.3
.2
20,000 Ω
1000 Ω
L2
50,000 Ω
2,000,000 Ω
VOL. CONTROL
SWITCH
CONTROL PANEL
BALLAST RESISTOR
1 MFD.
A
+180 V
+90 V
-C
A (GROUNDED)
-B
+C

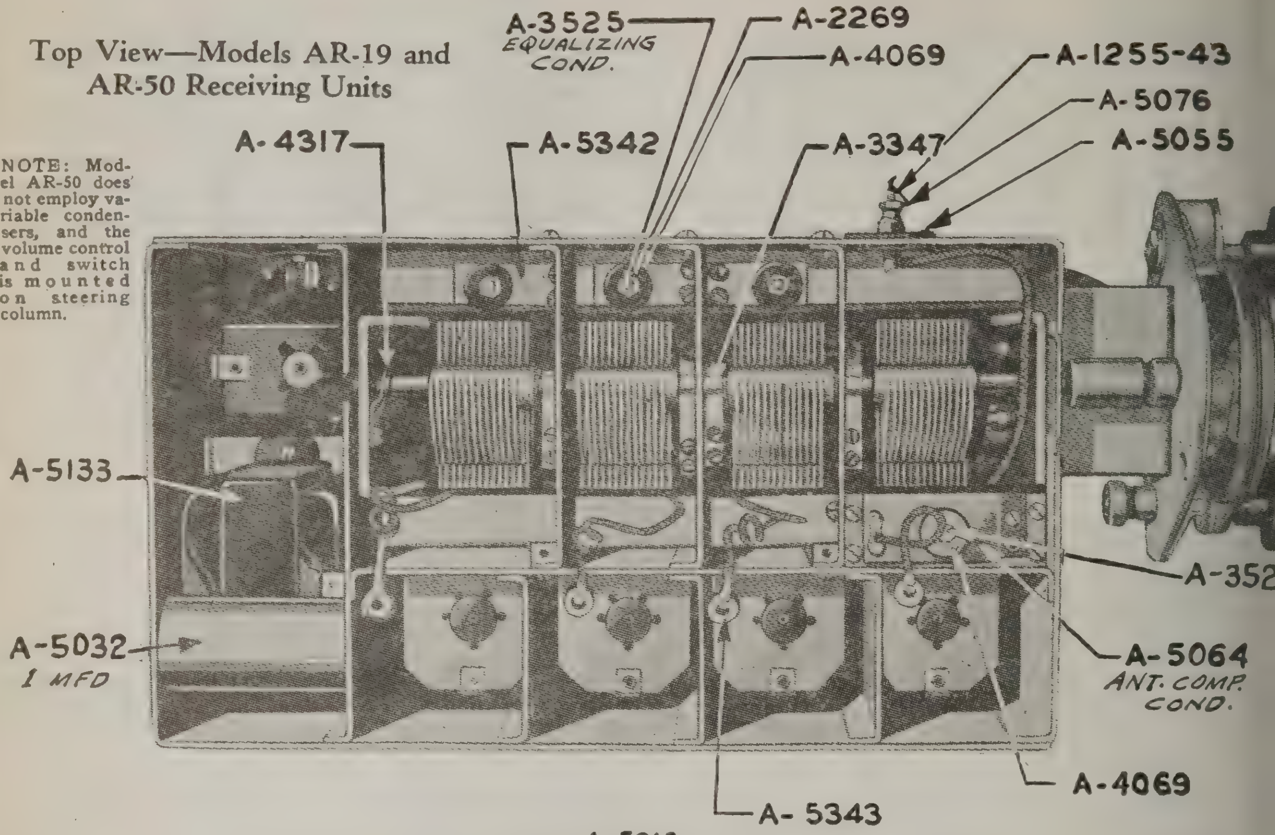
C3 ADJUSTABLE CONDENSERS
L1 TUNING COILS
L2 CATHODE COILS
L11 DETECTOR PLATE CHOKE
A B C AND D CONDENSERS IN ONE BLOCK

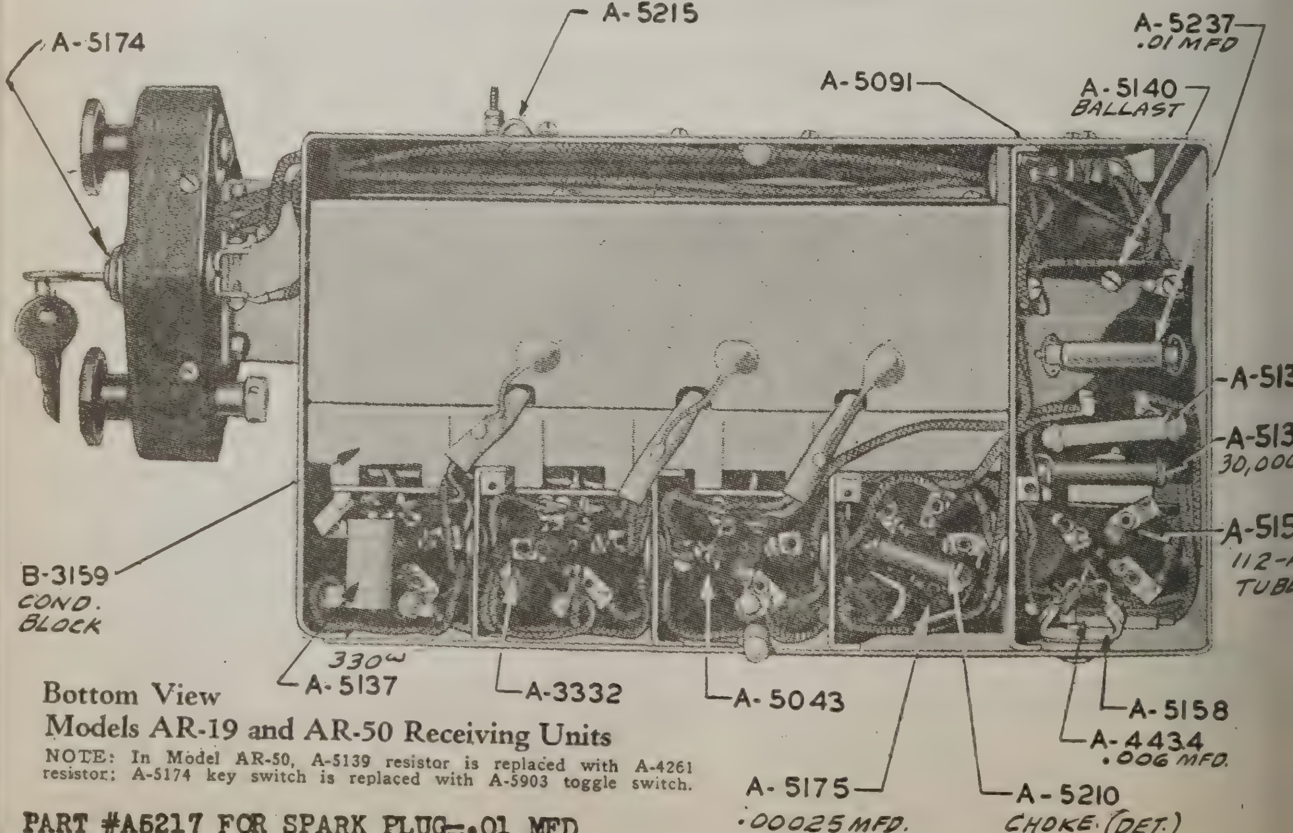
MODEL AR-19
MODEL AR-50
Chassis

SPARKS WITHINGTON CO.

Top View—Models AR-19 and AR-50 Receiving Units

NOTE: Model AR-50 does not employ variable condensers, and the volume control and switch is mounted on steering column.


A-3525
EQUALIZING COND.
A-2269
A-4069
A-1255-43
A-5076
A-5055
A-4317
A-5342
A-3347
A-5133
A-5032
1 MFD
A-352
A-5064
ANT. COMP. COND.
A-4069
A-5343


A-5215
A-5174
A-5091
A-5237
.01 MFD
A-5140
BALLAST
A-513
A-513
30,00
A-515
112-
TUB
B-3159
COND. BLOCK
330ω
A-5137
A-3332
A-5043
A-5175
.00025 MFD.
A-5210
CHOKE (DET.)
A-5158
A-4434
.006 MFD.

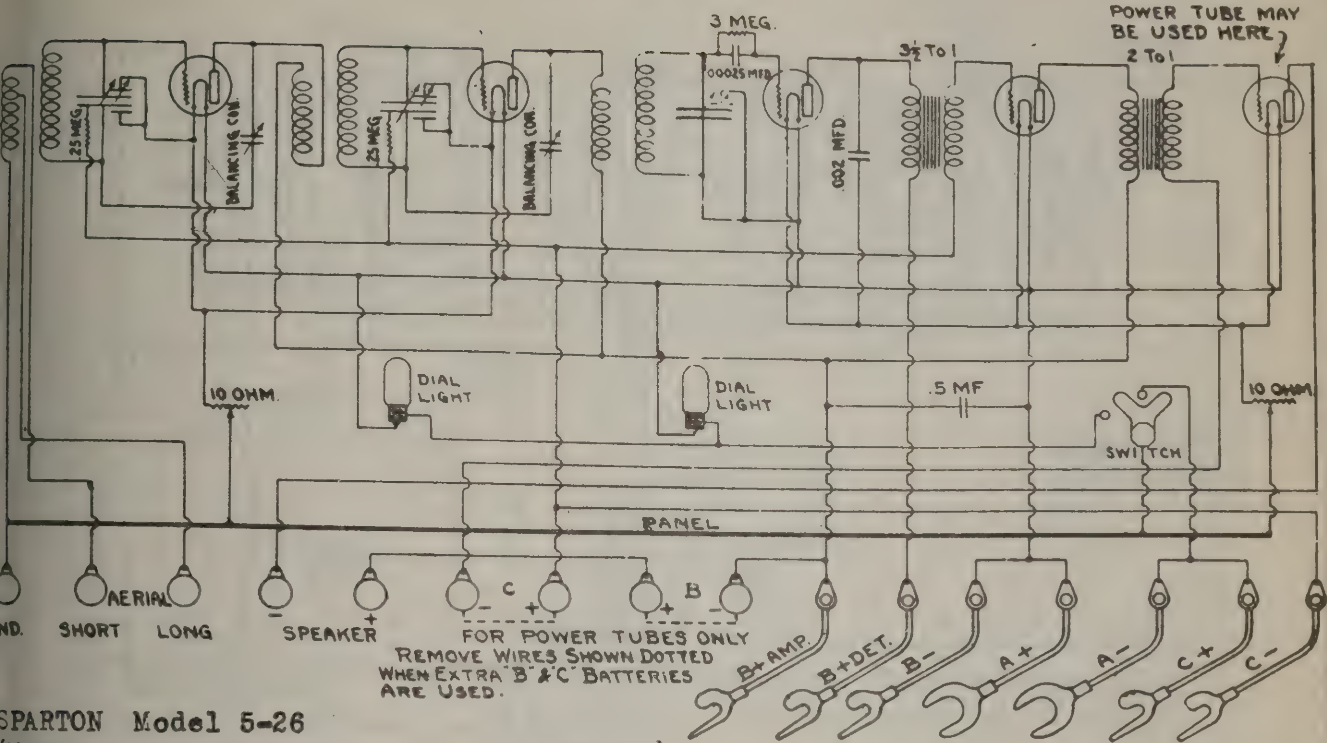
Bottom View
Models AR-19 and AR-50 Receiving Units

NOTE: In Model AR-50, A-5139 resistor is replaced with A-4261 resistor; A-5174 key switch is replaced with A-5903 toggle switch.

PART #A5217 FOR SPARK PLUG=.01 MFD
PART #A5238 FOR GENERATOR=.01 MFD

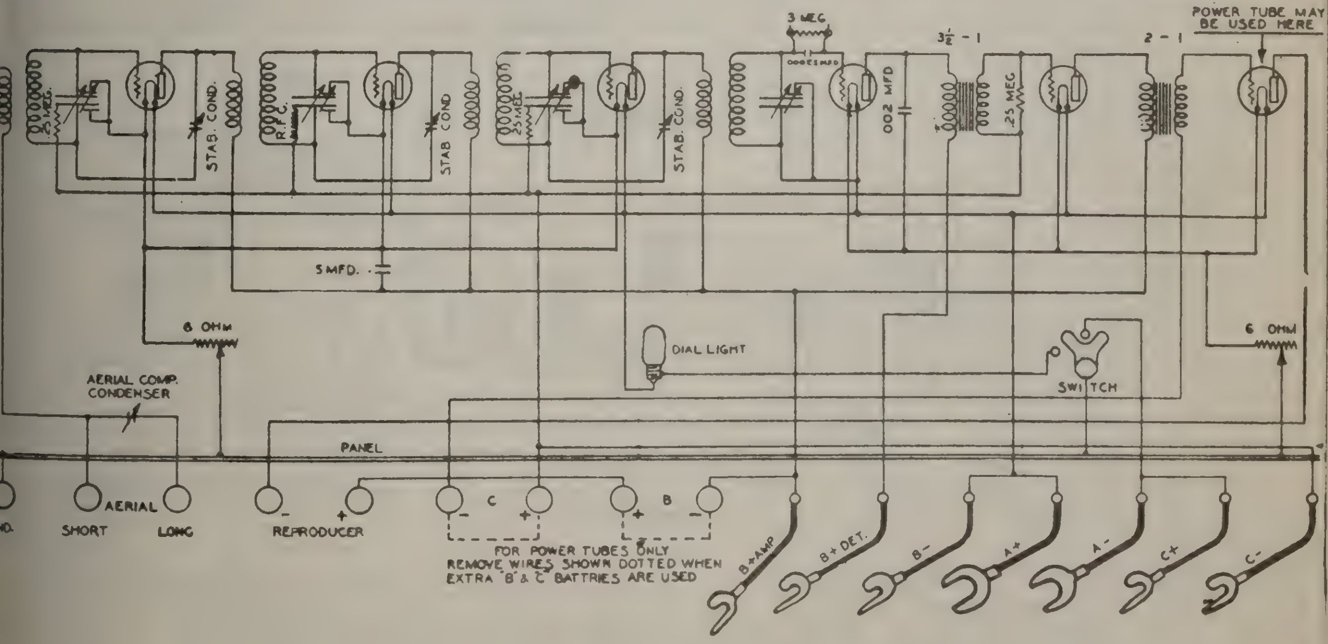
SPARKS WITHINGTON CO.

MODEL 5-15
MODEL 5-26
MODEL 6-15
MODEL 6-26


3 MEG.
.00025 MFD
3½ TO 1
POWER TUBE MAY BE USED HERE
2 TO 1
.25 MEG.
BALANCING CON.
.002 MFD.
DIAL LIGHT
10 OHM.
.5 MF
SWITCH
10 OHM
PANEL
ND.
AERIAL
SHORT
LONG
-
SPEAKER
+
C
B
B+AMP.
B+DET.
B-
A+
A-
C+
C-

FOR POWER TUBES ONLY
REMOVE WIRES SHOWN DOTTED
WHEN EXTRA "B" & "C" BATTERIES
ARE USED.

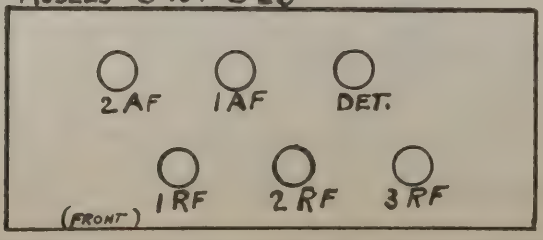
SPARTON Model 5-26
(Model 5-15 same except for dial light.)


3 MEG
.00025 MFD
3½ - 1
2 - 1
POWER TUBE MAY BE USED HERE
.25 MEG.
R.F.C.
STAB. COND.
.002 MFD
.25 MEG
5 MFD.
6 OHM
DIAL LIGHT
SWITCH
6 OHM
AERIAL COMP. CONDENSER
PANEL
D.
AERIAL
SHORT
LONG
-
+
REPRODUCER
C
B
B+AMP
B+DET.
B-
A+
A-
C+
C-

FOR POWER TUBES ONLY
REMOVE WIRES SHOWN DOTTED WHEN
EXTRA 'B' & 'C' BATTRIES ARE USED

PARTON MODEL 6-26
ODEL 6-15 SAME EXCEPT FOR
IAL LIGHT & A.F. RHEOSTAT

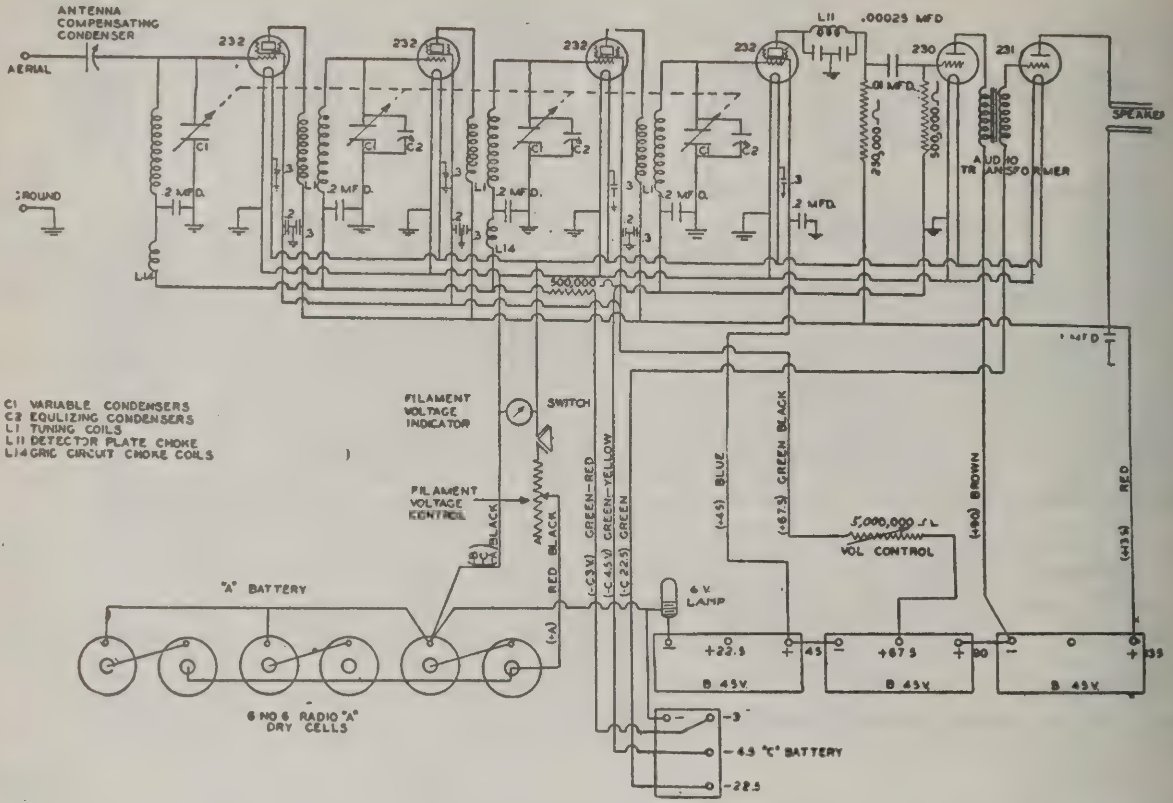
MODELS 6-15, 6-26


2AF
1AF
DET.
1RF
2RF
3RF
(FRONT)

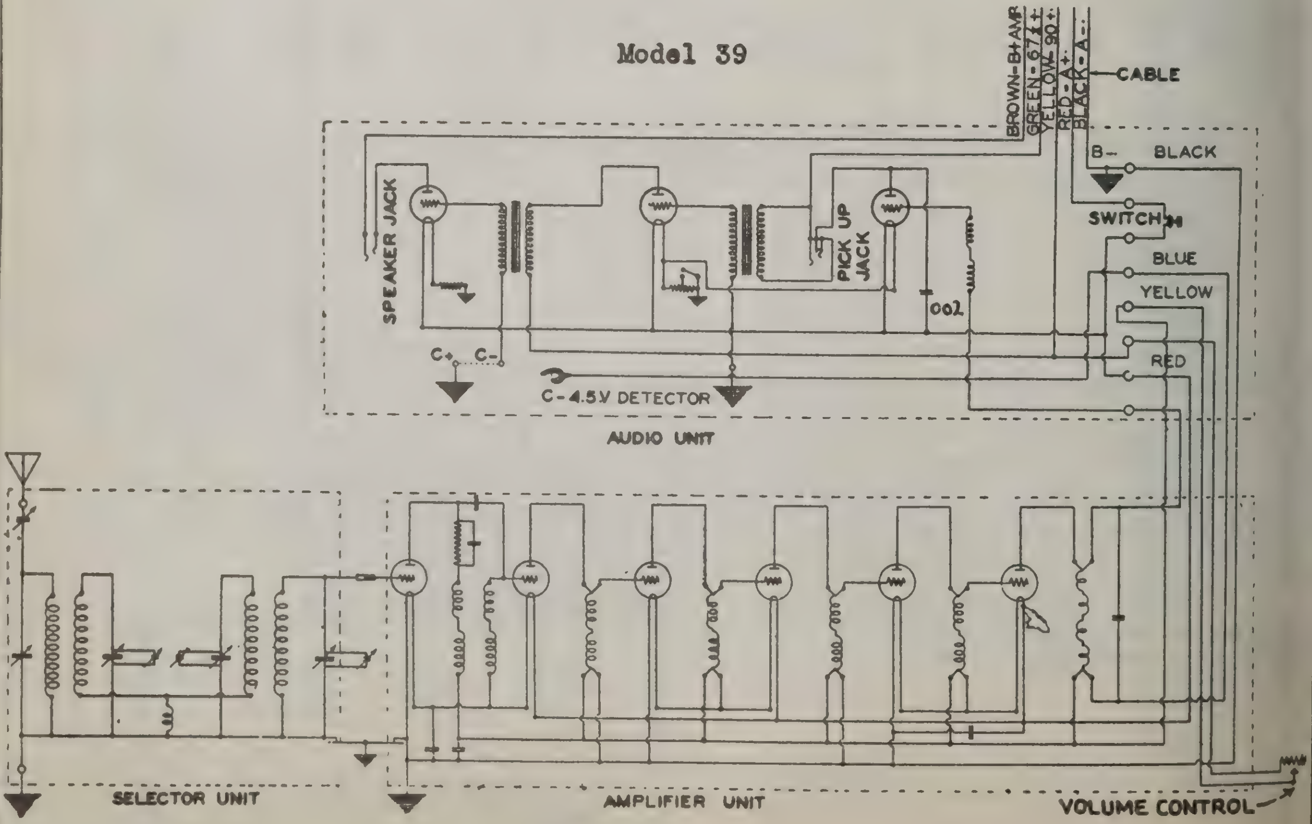
MODEL 31,32
MODEL 39
Schematic

SPARKS WITHINGTON CO.

Model 31,32

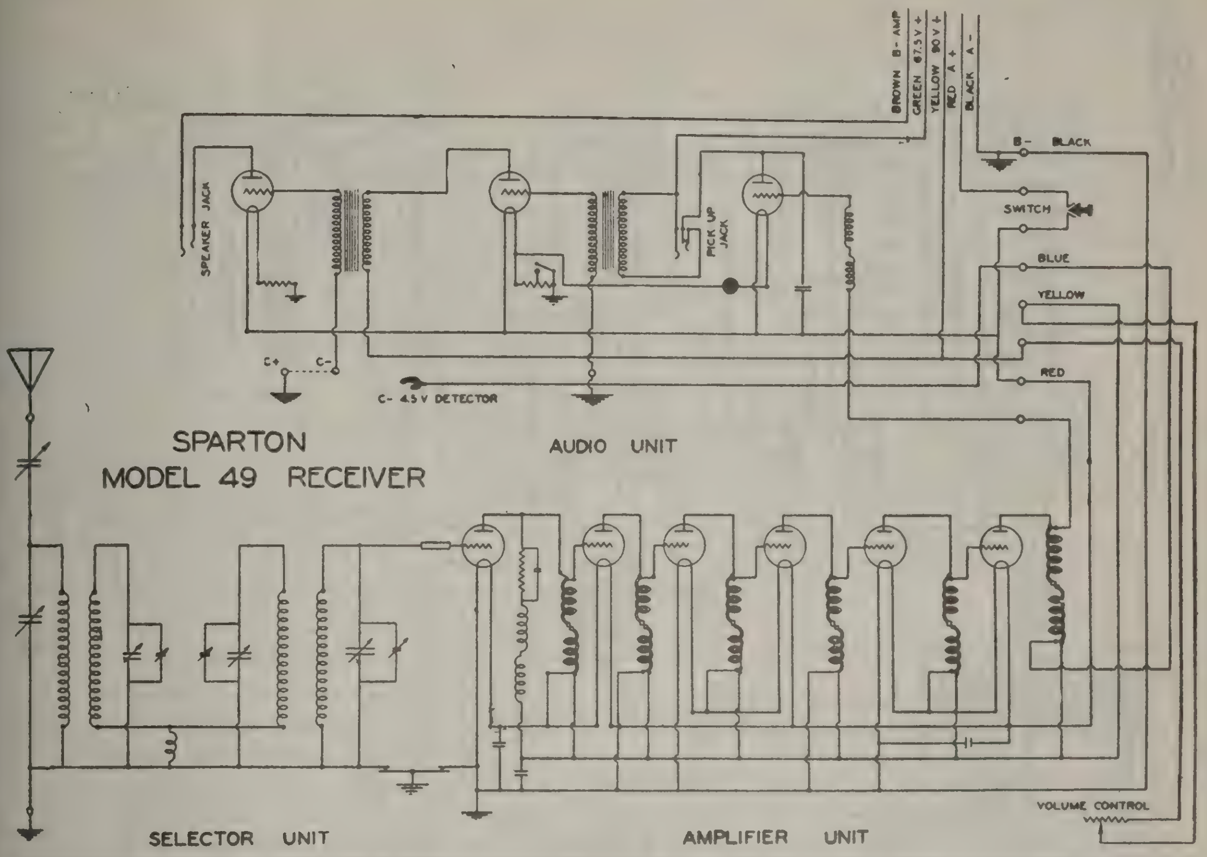

ANTENNA COMPENSATING CONDENSER
AERIAL
GROUND
232
232
232
232
230
231
L11
.00025 MFD
.01 MFD.
250,000
500,000
AUDIO TRANSFORMER
SPEAKER
C1
C2
.2 MFD.
L1
L14
.3
500,000
1 MFD
C1 VARIABLE CONDENSERS
C2 EQULIZING CONDENSERS
L1 TUNING COILS
L11 DETECTOR PLATE CHOKE
L14 GRID CIRCUIT CHOKE COILS
FILAMENT VOLTAGE INDICATOR
SWITCH
FILAMENT VOLTAGE CONTROL
(-B) BLACK
RED BLACK
(+A)
(-C 3V) GREEN-RED
(-C 4.5 V) GREEN-YELLOW
(-C 22.5) GREEN
(-45) BLUE
(+67.5) GREEN BLACK
(+90) BROWN
(+135) RED
5,000,000 Ω
VOL CONTROL
6 V. LAMP
"A" BATTERY
6 NO 6 RADIO "A" DRY CELLS
+22.5
+45
+67.5
+90
+135
B 45V.
B 45V.
B 45V.
-3
-4.5 "C" BATTERY
-22.5

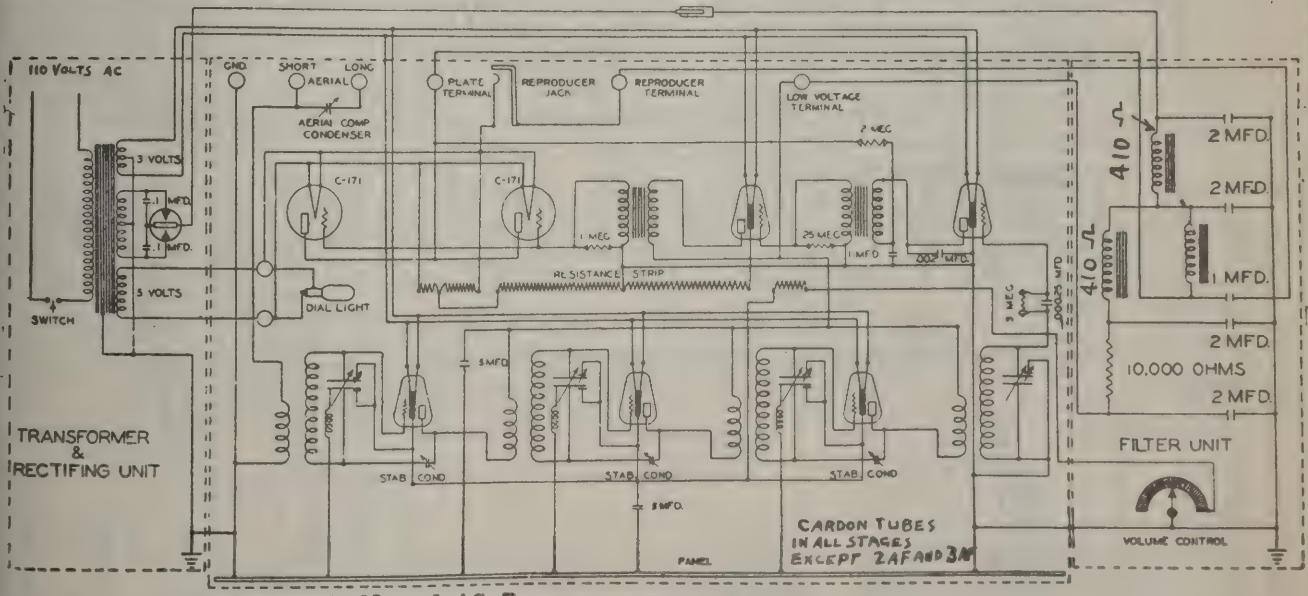
Model 39


BROWN-B+AMP.
GREEN-67½+
YELLOW-90+
RED-A+
BLACK-A-
CABLE
B-
BLACK
SWITCH
BLUE
YELLOW
RED
SPEAKER JACK
PICK UP JACK
.002
C+
C-
C-4.5V DETECTOR
AUDIO UNIT
SELECTOR UNIT
AMPLIFIER UNIT
VOLUME CONTROL

SPARKS WITHINGTON CO.

MODEL 49
MODEL AC-7, 62, 63
Schematic, Voltage


BROWN B- AMP
GREEN 67.5V+
YELLOW 90V+
RED A+
BLACK A-
B- BLACK
SWITCH
BLUE
YELLOW
RED
SPEAKER JACK
PICK UP JACK
C+
C-
C- 4.5V DETECTOR
AUDIO UNIT
SPARTON
MODEL 49 RECEIVER
SELECTOR UNIT
AMPLIFIER UNIT
VOLUME CONTROL

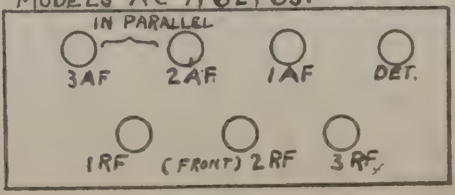

110 VOLTS AC
3 VOLTS
.1 MFD.
.1 MFD.
5 VOLTS
SWITCH
TRANSFORMER & RECTIFING UNIT
GND
SHORT
AERIAL
LONG
AERIAL COMP CONDENSER
PLATE TERMINAL
REPRODUCER JACK
REPRODUCER TERMINAL
LOW VOLTAGE TERMINAL
2 MEG
C-171
C-171
1 MEG
25 MEG
1 MFD
.002 MFD.
RESISTANCE STRIP
DIAL LIGHT
3 MEG
.00025 MFD
5 MFD
STAB. COND
STAB. COND
STAB. COND
5 MFD.
PANEL
CARDON TUBES IN ALL STAGES EXCEPT 2AF AND 3AF
410 Ω
410 Ω
2 MFD.
2 MFD.
1 MFD.
2 MFD.
10.000 OHMS
2 MFD.
FILTER UNIT
VOLUME CONTROL

SPARTON AC-62-63&AC-7 RECEIVER

SPARTON AC 62,62 and AC 7.

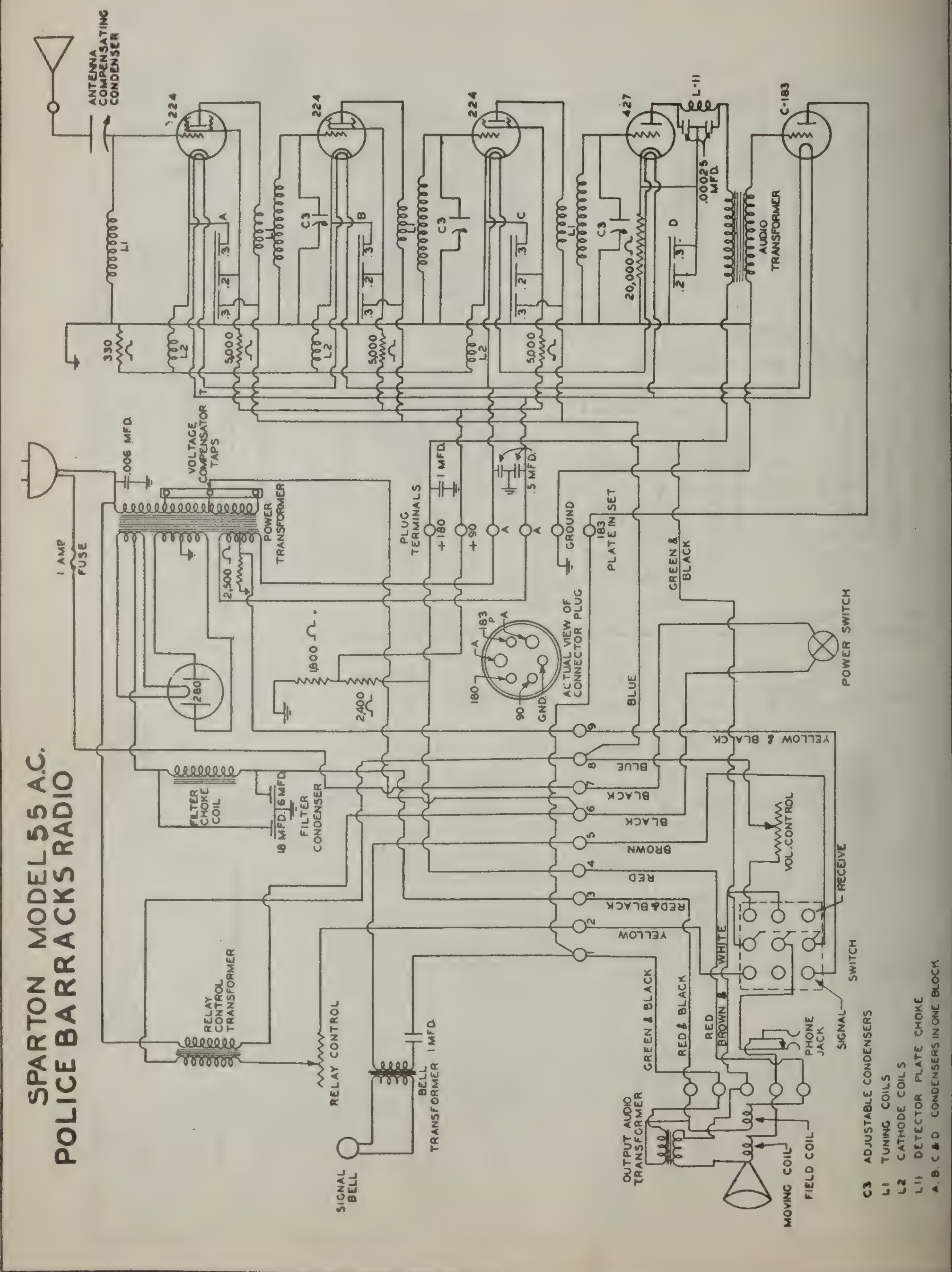
Tube	Fil.V.	Grid.V.	Plt.V.
1RF	3	2	150
2RF	3	2	150
3RF	3	2	150
Det	3	-	30
1AF	3	6	150
2AFP	5	40	210
3AFP	5	40	210

MODELS AC-7, 62, 63.


IN PARALLEL
3AF
2AF
1AF
DET.
1RF
(FRONT) 2RF
3 RF

MODEL 55
Police Desk
Schematic

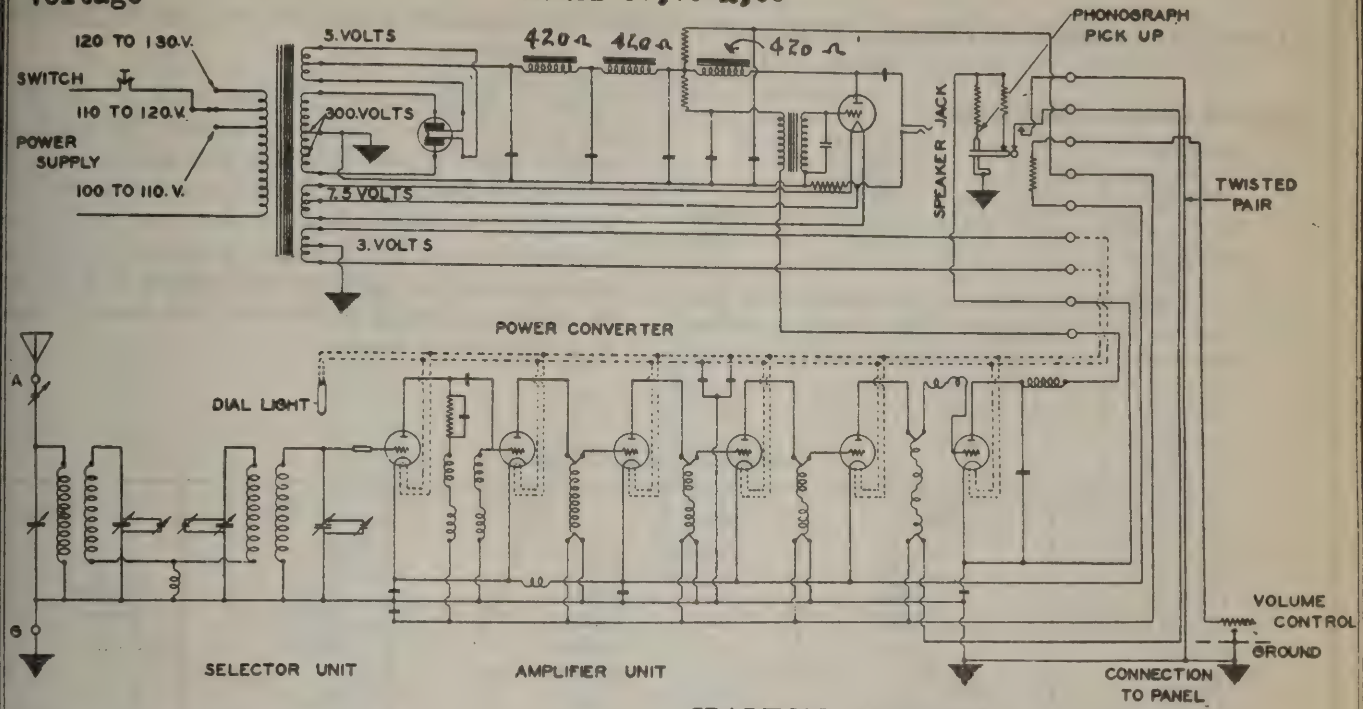
SPARKS WITHINGTON CO.
SPARTON OF CANADA LTD.


SPARTON MODEL 55 A.C.
POLICE BARRACKS RADIO
ANTENNA COMPENSATING CONDENSER
224
224
224
427
C-183
L-11
.00025 MFD.
L1
C3
A
B
C
D
.3
.2
.1
20,000
AUDIO TRANSFORMER
330
L2
5,000
T
.006 MFD.
VOLTAGE COMPENSATOR TAPS
POWER TRANSFORMER
1 AMP FUSE
2,500
280
1800
2,400
1 MFD.
.5 MFD.
PLUG TERMINALS
+180
+90
A
A
GROUND
183 PLATE IN SET
GREEN & BLACK
ACTUAL VIEW OF CONNECTOR PLUG
183 P
180
90
GND.
BLUE
POWER SWITCH
FILTER CHOKE COIL
18 MFD.
6 MFD.
FILTER CONDENSER
YELLOW & BLACK
BLUE
BLACK
BLACK
BROWN
RED
RED & BLACK
YELLOW
1
2
3
4
5
6
7
8
9
VOL. CONTROL
RECEIVE
SWITCH
SIGNAL
WHITE
GREEN & BLACK
RED & BLACK
RED
BROWN & WHITE
PHONE JACK
RELAY CONTROL TRANSFORMER
RELAY CONTROL
1 MFD.
BELL TRANSFORMER
SIGNAL BELL
OUTPUT AUDIO TRANSFORMER
MOVING COIL
FIELD COIL
C3 ADJUSTABLE CONDENSERS
L1 TUNING COILS
L2 CATHODE COILS
L11 DETECTOR PLATE CHOKE
A. B. C. & D CONDENSERS IN ONE BLOCK

MODEL 69,79-A,89
Schematic
MODEL 89-A
Schematic
Voltage

SPARKS WITHINGTON CO.

Model 69,79-A,89

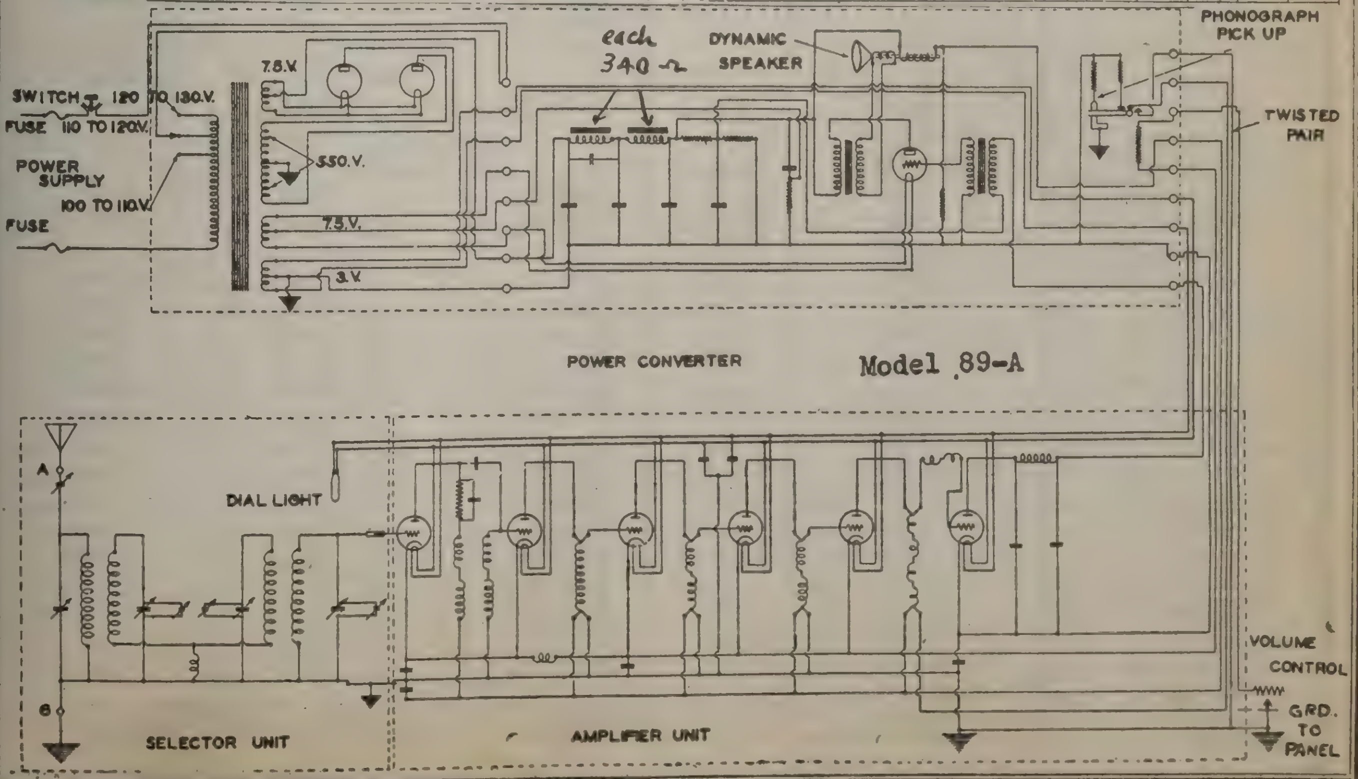

120 TO 130.V.
SWITCH
110 TO 120.V.
POWER SUPPLY
100 TO 110. V.
5.VOLTS
300.VOLTS
7.5 VOLTS
3.VOLTS
420 Ω
420 Ω
420 Ω
PHONOGRAPH PICK UP
SPEAKER JACK
TWISTED PAIR
POWER CONVERTER
DIAL LIGHT
A
G
SELECTOR UNIT
AMPLIFIER UNIT
VOLUME CONTROL
GROUND
CONNECTION TO PANEL

SPARTON—Model 79-A-89 - 69
Line Voltage 120—Volume Control Full

TUBE NO. IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST R.F DET.,ETC. ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE M.A.	⑪ PLATE M.A. GRID TEST	⑫ PLATE CHANGE M.A.	⑬ SCREEN GRID VOLTS
1	C-484	1st RF	3.2	158	3	128	9		7.	10.6	3.6	
2	C-484	2nd RF	3.2	160	3	158	9		7.[illegible]	13.	5.2	
3	C-484	3rd RF	3.2	158	3	158	9		5.5	10.8	5.3	
4	C-484	4th RF	3.2	160	3	158	9		7.9	14.4	6.5	
5	C-484	5th RF	3.2	160	3	158	9		7.4	13.2	5.8	
6	C-484	Det.	3.2	245	3	220	10		1.7	6.	4.3	
7	585	P. Aud.	7.6	310	7.4	220	38		25	29	4	
8	280	Rect.	5.5	-	5.1	-	-		28	-	-	

SPARTON—Model 89-A
Line Voltage 120—Volume Control Full

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST R.F DET.,ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B. VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE M.A.	⑪ PLATE M.A. GRID TEST	⑫ PLATE CHANGE M.A.	⑬ SCREEN GRID VOLTS
1	C-484	1st RF	3.1	145	3	120	9		6.7	10.7	4	
2	C-484	2nd RF	3.1	145	3	140	9		7.5	12.5	5	
3	C-484	3rd RF	3.1	145	3	138	9		8	13.3	5.3	
4	C-484	4th RF	3.1	145	3	138	9		6.5	12.2	5.7	
5	C-484	5th RF	3.1	145	3	138	9		7.6	13	5.4	
6	C-484	Det.	3.1	260	3	240	25		1.5	7.2	5.7	
7	585	Audio	7.7	535	7.4	380	62		52	57	5	
8	281	Rect.	7.7	-	7.4	-	-		58	-	-	
9	281	Rect.	7.7	-	7.4	-	-		58	-	-	


SWITCH
120 TO 130.V.
FUSE
110 TO 120V.
POWER SUPPLY
100 TO 110V.
FUSE
7.5.V
550.V.
7.5.V.
3.V.
each 340 Ω
DYNAMIC SPEAKER
PHONOGRAPH PICK UP
TWISTED PAIR
POWER CONVERTER
Model 89-A
DIAL LIGHT
A
G
SELECTOR UNIT
AMPLIFIER UNIT
VOLUME CONTROL
GRD. TO PANEL

SPARKS WITHINGTON CO.

STANDARD RESISTOR COLOR CODE AND RESISTORS USED IN SPARTON RADIO RECEIVING SETS AND SPARTON ENSEMBLES

Standard Resistor Color Code

0—Black	5—Green
1—Brown	6—Blue
2—Red	7—Violet.
3—Orange	8—Gray
4—Yellow	9—White

To determine the value of a resistor, the first significant figure of resistance value is represented by the color of the body of the resistor, and the second figure of resistance value by the color of the tip o the resistor. The number of ciphers following the second figure is determined by the color of the dot or stripe in the center of the body of the resistor. For example, a 20,000 ohm resistor has a red body, black tip, with orange dot or orange stripe. A 2,200 ohm resistor would be red body, with red tip and red dot, or red stripe, and as all colors are the same, it would be a single color resistor.

CARBON RESISTORS

Part No.	Ohms	Watts	Body	Tip	Dot Stripe
B-4114-11	200	.5	Red	Black	Brown
B-4114-3	250	.5	Red	Green	Brown
B-4114-1	500	.5	Green	Black	Brown
B-4114-13	1,000	.5	Brown	Black	Red
A-3397	1,000	2	Light Brown		
A-3397	1,000	2	Brown	Black	Red
A-3750	1,250	3	Brown	Orange	Red
A-3750	1,250	3	Black	Silver	Orange
A-3750	1,250	3	Black		
A-3750	1,250	3	Slate		
A-3325	1,700	2	Dark Brown		
A-3639	1,700	5	Gray	Silver	
A-4613	1,700	1	Brown	Violet	Red
A-5550	2,000	.5	Red	Black	Red
B-4114-6	Use A-5550				
A-5622	2,500	3	Red	Green	Red
A-3232	2,800	.5	Black	Paper Label	
A-4122	2,800	.5	Gray		
A-4122	2,800	.5	Red		
A-4653	2,800	.5	Red	Gray	Red
A-5180	5,000	.5	Green	Black	Red
B-4114-16	Use A-5180				
B-4114-20	Use A-5180				
B-4114-25	7,000	.5	Violet	Black	Red
B-4114-2	8,000	.5	Gray	Black	Red
A-3764-C	10,000	4	Blue		
A-3735	10,000	5	Brown	Black	Orange
A-3735	10,000	5	Gray	Silver	Blue
A-4614	10,000	1	Brown	Black	Orange
B-4114-7	10,000	.5	Brown	Black	Orange
B-4114-5	10,000	.3	Brown	Black	Orange
A-4107	15,000	5	Brown	Green	Orange
A-4107	15,000	5	Gray	Silver	
B-4114-23	15,000	.5	Yellow	Black	Orange
A-2934	20,000	2	Green		
A-2934	20,000	2	Red	Black	Orange
A-3422	20,000	3	Gray		Green
A-3422	20,000	3	Red	Black	Orange
A-4261	20,000	5	Red	Black	Orange
A-4261	20,000	5	Gray	Silver	Blue
B-4114-14	20,000	.5	Red	Black	Orange
B-4114-24	Use B-4114-14				
A-7111	25,000	4.5	Red	Green	Orange

SPARKS WITHINGTON CO.

CARBON RESISTORS—Continued

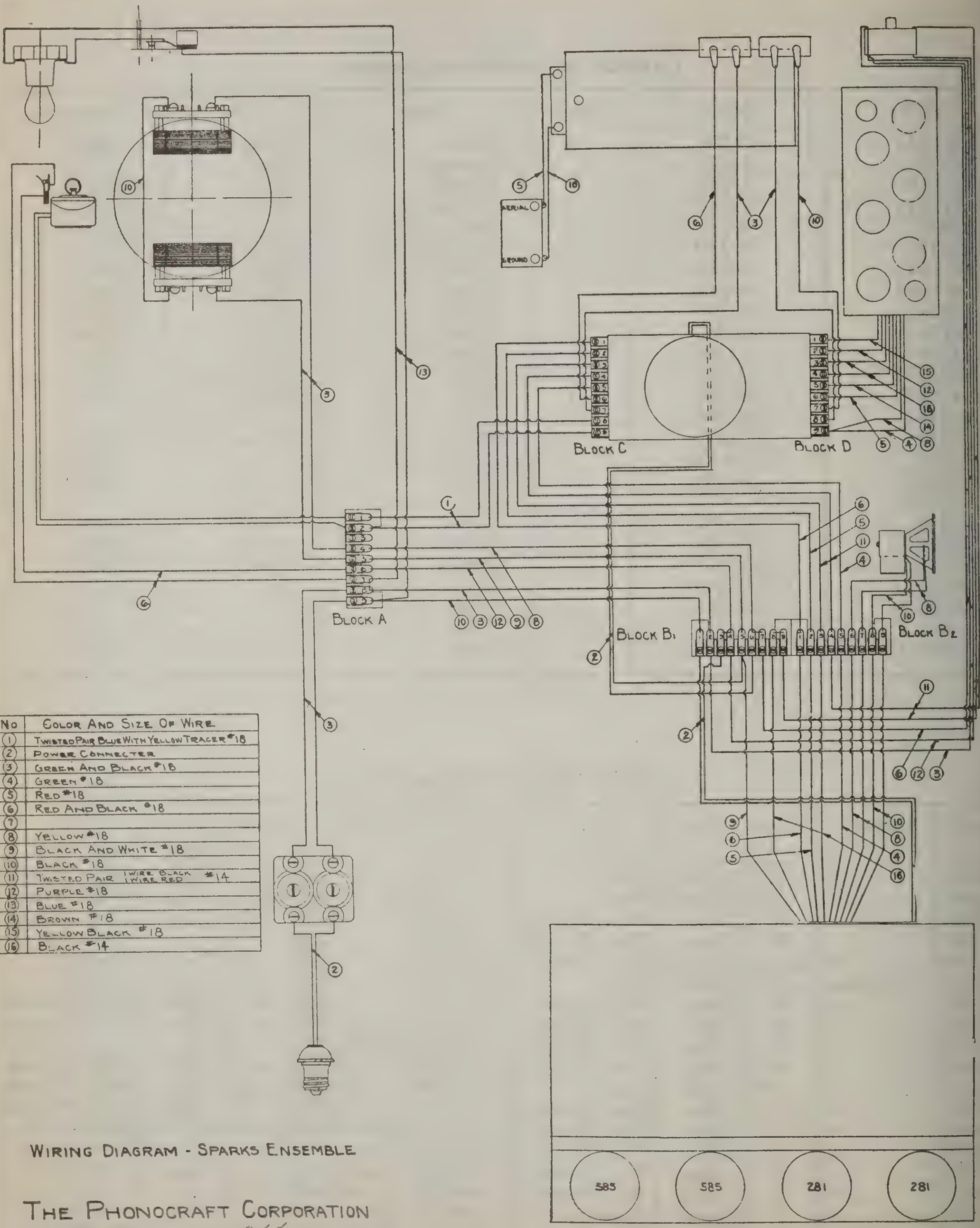
Part No.	Ohms	Watts	Body	Tip	Dot Stripe
B-4114-18	25,000	.5	Red	Green	Orange
A-5139	30,000	1	Orange	Black	
B-4114-19	30,000	.5	Orange	Black	Orange
B-4114-22	40,000	.5	Yellow	Black	Orange
A-3423	50,000	3	Gray		Red
A-3423	50,000	3	Green	Black	Orange
B-4114-12	50,000	.5	Green	Black	Orange
B-4114-15	60,000	.5	Blue	Black	Orange
A-5354	100,000	1	Brown	Black	Yellow
B-4114-10	100,000	.5	Brown	Black	Yellow
B-4114-8	150,000	.5	Brown	Green	Yellow
A-2702-5	200,000		Glass		
B-4114-17	200,000	.5	Red	Black	Yellow
A-1514	250,000		Glass		
A-4234	250,000	1	Red	Green	Yellow
A-5270	Use A-4234				
B-4114-4	250,000	.5	Red	Green	Yellow
A-2702-6	Use A-1514				
A-5269	500,000	1	Green	Black	Yellow
B-4114-9	500,000	.5	Green	Black	Yellow
A-5138	1,000,000	1	Brown	Black	Green
B-4114-21	1,000,000	.5	Brown	Black	Green
A-2702-11	1,000,000		Glass		
A-1515	3,000,000		Glass		
A-2702-13	Use A-1515		Glass		

WIRE WOUND RESISTORS

Part No.	Ohms	Watts	Color	Type	Part No.	Ohms	Watts	Color	Type
A-7411	.43			Special	A-7118	250	1	Blue	Wire Wound
A-6890	.54	2.5	5-23/32"	Wire	A-5137	330	1	Gray	Wire Wound
A-6889	.67	2.5	7-7/64"	Wire	A-3536	900	10	Black	Wire Wound
A-5863	2	5	Blue	Wire Wound	A-7119	1,050	7.5	Blue	Wire Wound
A-4363	7	20	Blue	Wire Wound	A-7018	1,250	4		Candohm
A-7509	8-9			Wire Wound	A-4974	1,250	5	Gray	Candohm
A-5140	(.11 ohms	per ft.	at 20° C.)	Wire	A-6617	1,500	2	Brown	Braided
A-5862	12	10	Blue	Wire Wound	A-3383	3,000	10	Black	Wire Wound
A-4364	12	30	Blue	Wire Wound	A-3535	7,000	10	Black	Wire Wound
A-5890	14	10	Blue	Wire Wound	A-4583	Use A-3535			
A-4366	15	50	Blue	Wire Wound	A-2043	10,000	6	Black	Wire Wound
A-7421	35	.25	Red	Braided	A-4356	20,000		Blue	Wire Wound
A-5889	54	175	Blue	Wire Wound	A-3811	30,000	.5	Black	Wire Wound
A-5861	57	175	Blue	Wire Wound	A-3642	(6.04 ohms	per ft.	at 20° C.)	Wire Wd. Tap.
A-4365	63	10	Blue	Wire Wound	A-4260	2,000-7,000	20	Black	Wire Wd. Tap.
A-3590	110	1	Black	Wire Wound	A-5426	1,800-2,400	8	Blue	Wire Wd. Tap.
A-4670	110	1	Black	Wire Wound	A-5870	Use A-5426			
A-4915	110	1	Black	Candohm	A-6619	2,900-3,000	15	Blue	Wire Wd. Tap.
A-7427	160	1	Blue	Wire Wound	A-7120	2,400-3,200	4.5	Blue	Wire Wd. Tap.
A-6618	200	.5	Red	Braided	A-7461	3,900-4,300		Blue	Wire Wd. Tap.
A-5502	200	1	Red	Candohm	A-6977	5,500-6,000	7	Blue	Wire Wd. Tap.
A-6976	230	3	Blue	Wire Wound	A-7462	60-220-2,100		Blue	Wire Wd. Tap.

MODEL 99
Ensemble
Assembly
Wiring

SPARKS WITHINGTON CO.


AERIAL
GROUND
BLOCK A
BLOCK B1
BLOCK B2
BLOCK C
BLOCK D
585
585
281
281

No	COLOR AND SIZE OF WIRE
①	TWISTED PAIR BLUE WITH YELLOW TRACER #18
②	POWER CONNECTER
③	GREEN AND BLACK #18
④	GREEN #18
⑤	RED #18
⑥	RED AND BLACK #18
⑦	
⑧	YELLOW #18
⑨	BLACK AND WHITE #18
⑩	BLACK #18
⑪	TWISTED PAIR 1 WIRE BLACK 1 WIRE RED #14
⑫	PURPLE #18
⑬	BLUE #18
⑭	BROWN #18
⑮	YELLOW BLACK #18
⑯	BLACK #14

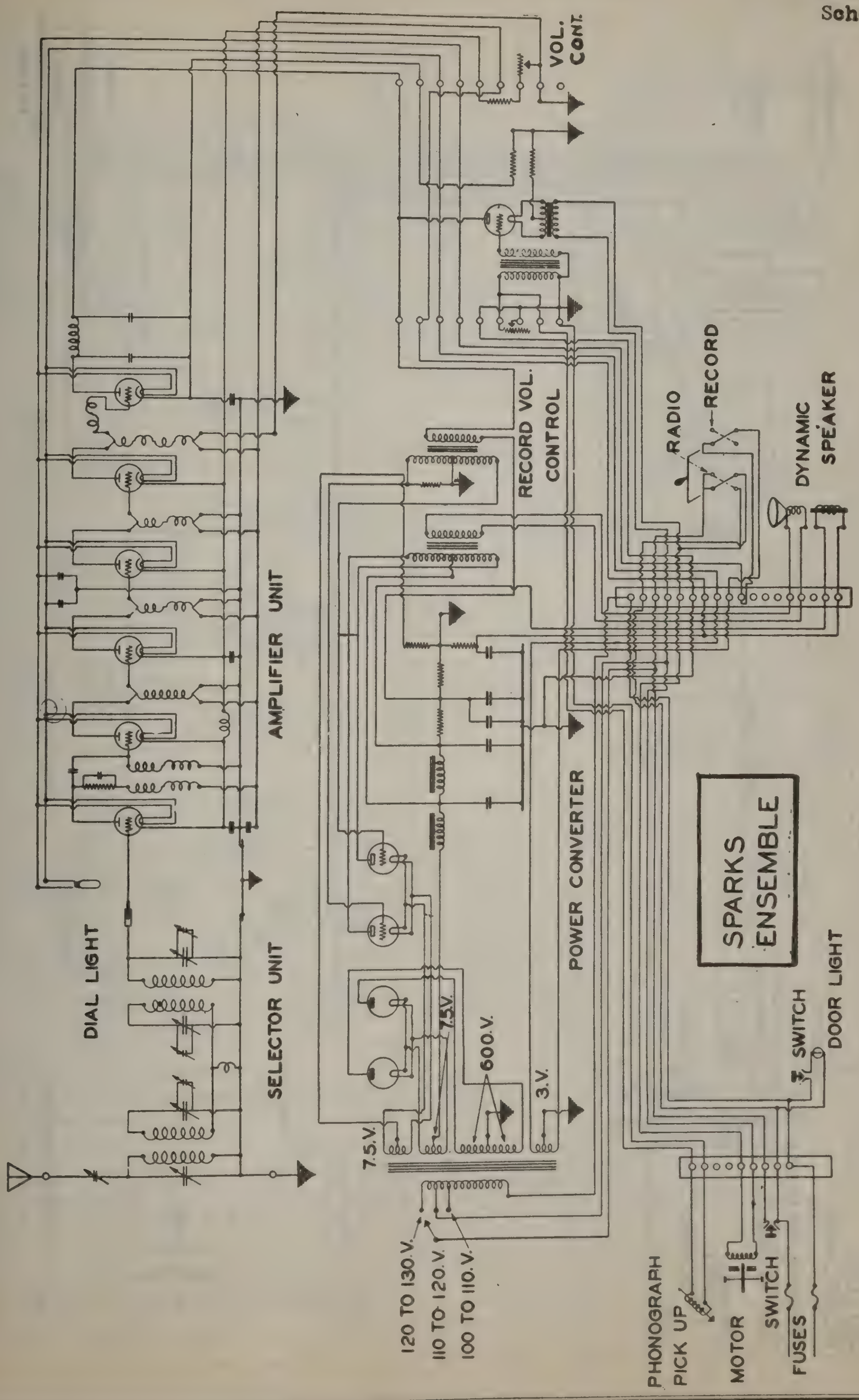
WIRING DIAGRAM - SPARKS ENSEMBLE

THE PHONOCRAFT CORPORATION

APPROVED BY -

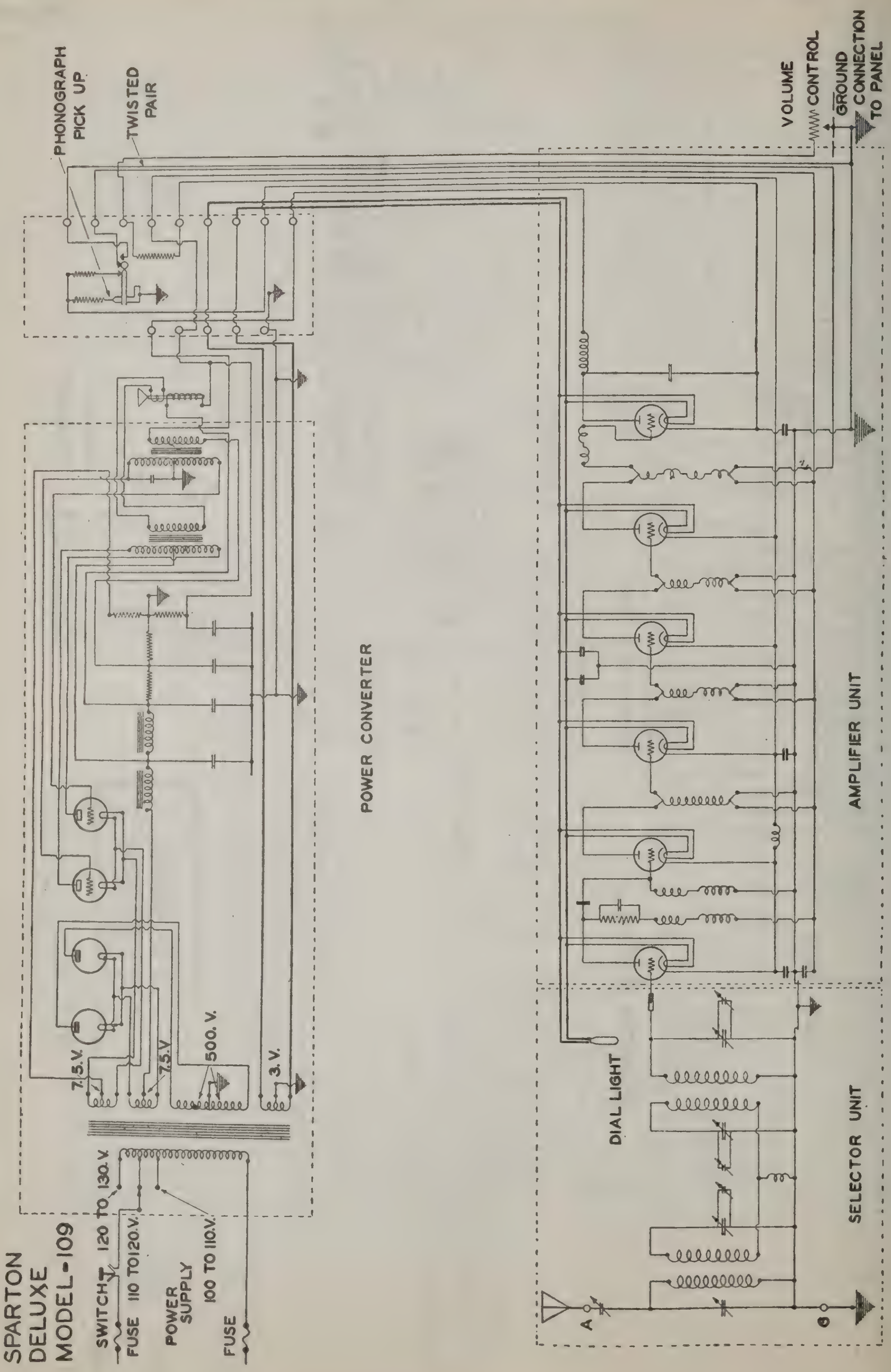
SPARKS WITHINGTON CO.

MODEL 99
Ensemble
Schematic


VOL. CONT.
RECORD VOL. CONTROL
RADIO
RECORD
DYNAMIC SPEAKER
AMPLIFIER UNIT
DIAL LIGHT
SELECTOR UNIT
POWER CONVERTER
SPARKS ENSEMBLE
SWITCH
DOOR LIGHT
7.5 V.
7.5V.
600 V.
3 V.
120 TO 130 V.
110 TO 120 V.
100 TO 110 V.
PHONOGRAPH PICK UP
MOTOR
SWITCH
FUSES
)

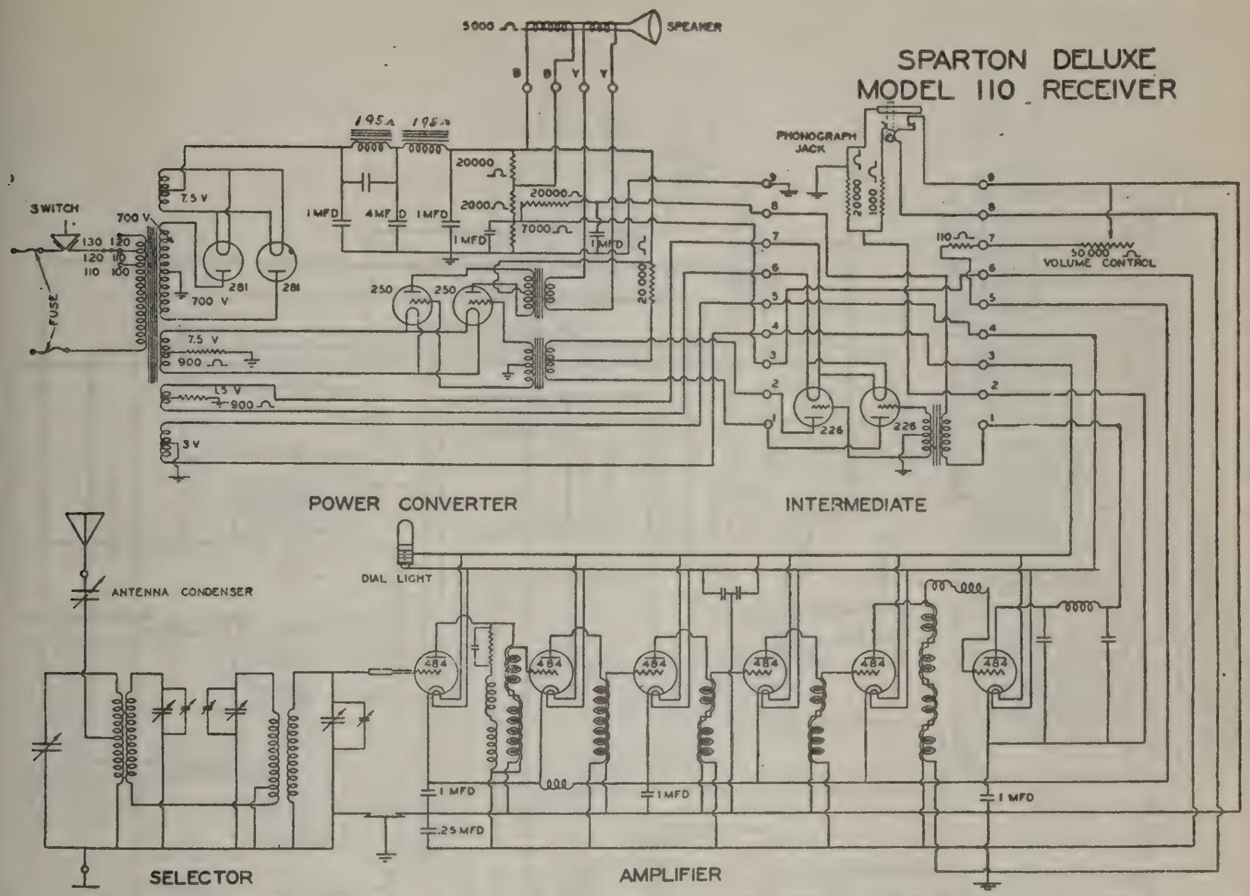
SPARKS WITHINGTON CO.

MODEL 109 DeLuxe
Schematic

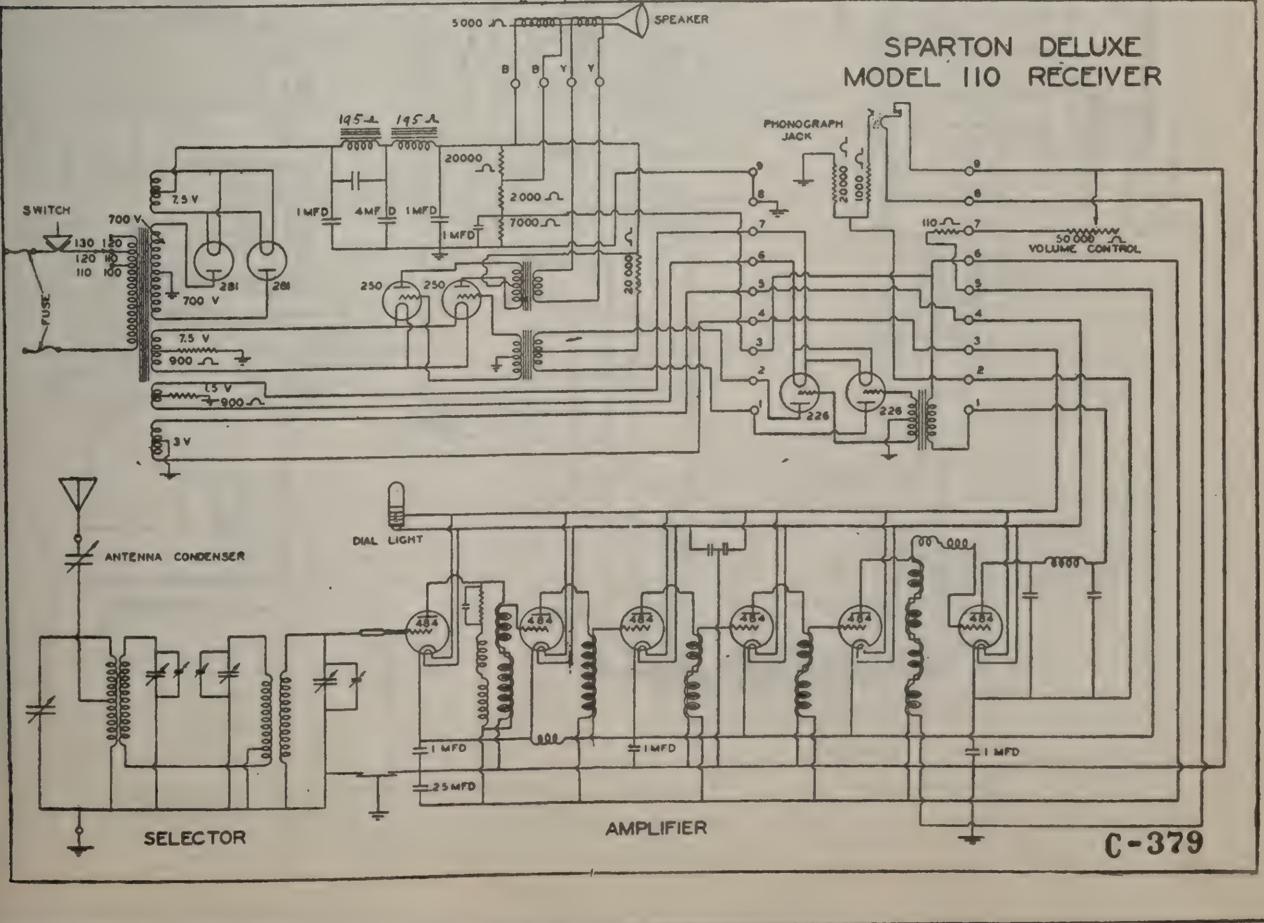

PHONOGRAPH PICK UP
TWISTED PAIR
VOLUME CONTROL
GROUND CONNECTION TO PANEL
POWER CONVERTER
AMPLIFIER UNIT
SELECTOR UNIT
DIAL LIGHT
7.5 V.
7.5 V
500 V.
3. V.
SPARTON DELUXE MODEL-109
SWITCH
120 TO 130 V
FUSE
110 TO 120 V.
POWER SUPPLY
100 TO 110 V.
FUSE
A
G

SPARKS WITHINGTON CO.

MODEL 110,111 AC
Two Types
Schematics


5000 Ω
SPEAKER
B
B
Y
Y
195 Ω
195 Ω
20000
2000
20000
7000
1 MFD
4 MF
1 MFD
1 MFD
1 MFD
SWITCH
130
120
110
120
110
100
700 V
7.5 V
281
281
700 V
FUSE
250
250
20000
7.5 V
900 Ω
1.5 V
900 Ω
3 V
PHONOGRAPH JACK
20000
1000
110 Ω
50,000 Ω
VOLUME CONTROL
9
8
7
6
5
4
3
2
1
226
226
POWER CONVERTER
INTERMEDIATE
DIAL LIGHT
ANTENNA CONDENSER
484
484
484
484
484
484
1 MFD
1 MFD
1 MFD
.25 MFD
SELECTOR
AMPLIFIER

SPARTON DELUXE
MODEL 110 RECEIVER


5000 Ω
SPEAKER
B
B
Y
Y
195 Ω
195 Ω
20000
2000
7000
1 MFD
4 MF
1 MFD
1 MFD
SWITCH
130
120
110
120
110
100
700 V
7.5 V
281
281
700 V
FUSE
250
250
20000
7.5 V
900 Ω
1.5 V
900 Ω
3 V
PHONOGRAPH JACK
20000
1000
110 Ω
50,000 Ω
VOLUME CONTROL
9
8
7
6
5
4
3
2
1
226
226
DIAL LIGHT
ANTENNA CONDENSER
484
484
482
484
484
484
1 MFD
1 MFD
1 MFD
.25 MFD
SELECTOR
AMPLIFIER

SPARTON DELUXE
MODEL 110 RECEIVER

C-379

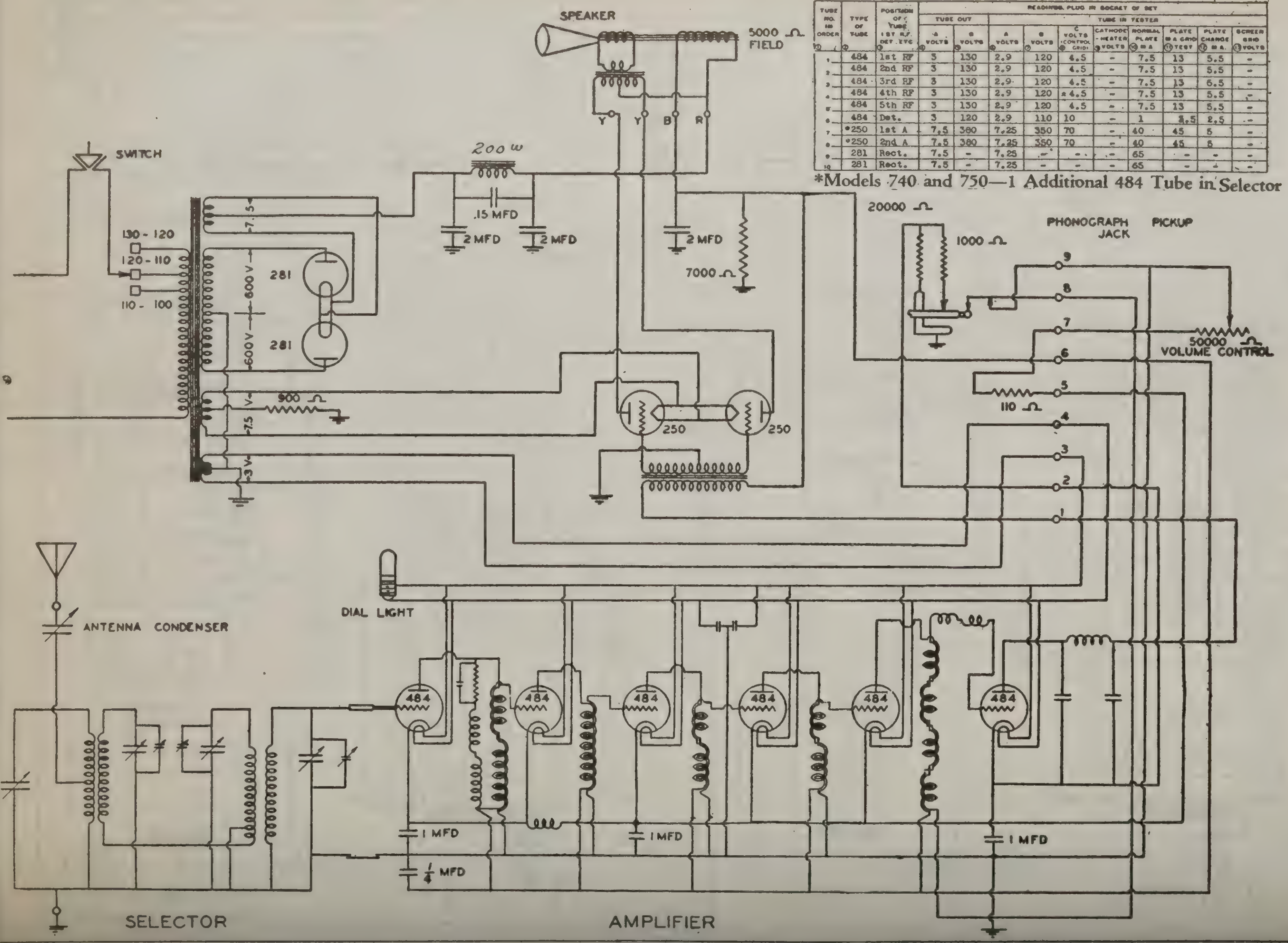
SPARKS WITHINGTON CO.

MODEL 301 AC

SPARTON—Model 301-740-750*
Line Voltage 120—Set on 120-130 Volt Tap—Volume Control Position Max
*250 or 585 types tubes.

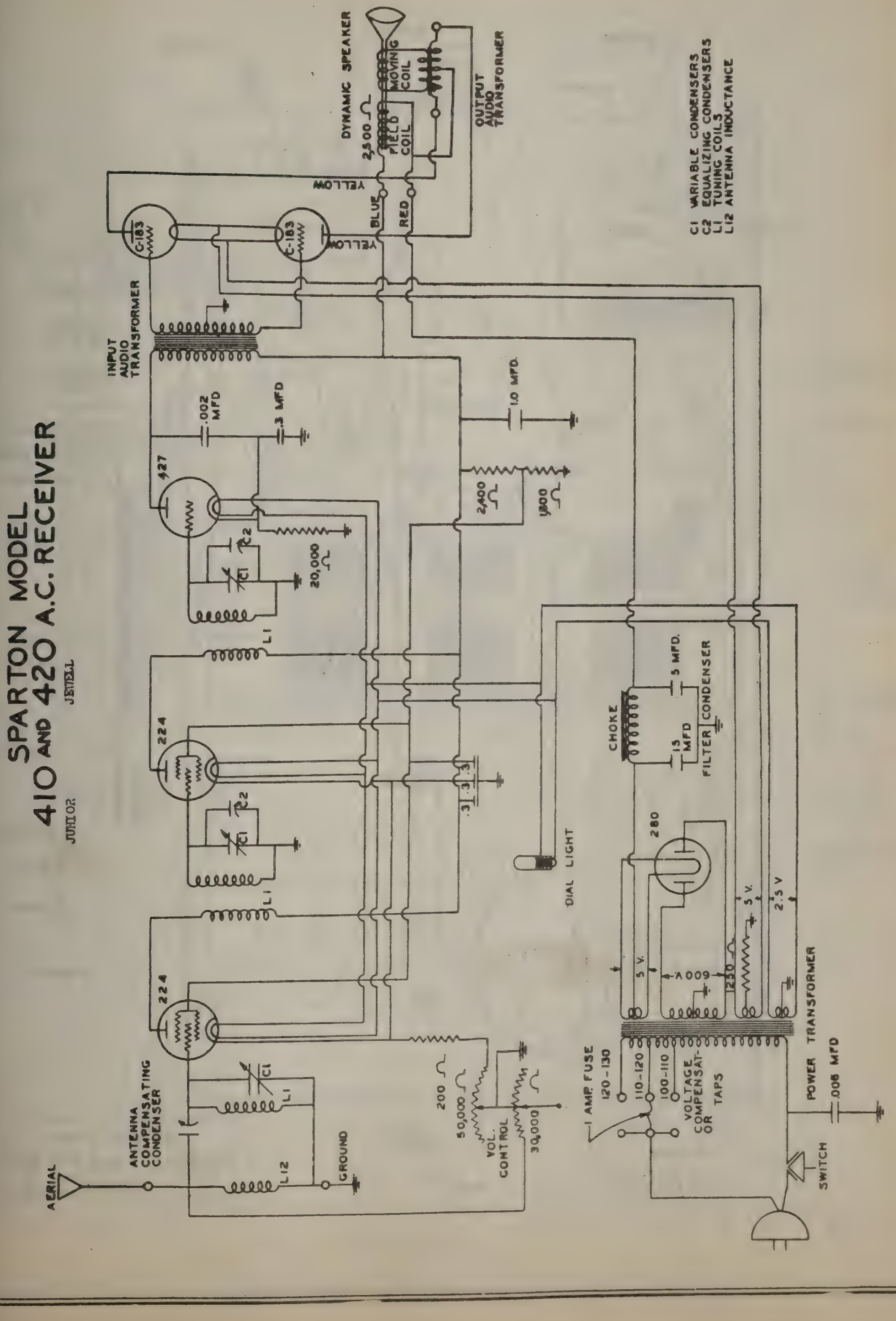
Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det. Etc. ③	Readings. Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M A ⑩	Plate M A Grid Test ⑪	Plate Change M A. ⑫	Screen Grid Volts ⑬
1	484	1st RF	3	130	2.9	120	4.5	-	7.5	13	5.5	-
2	484	2nd RF	3	130	2.9	120	4.5	-	7.5	13	5.5	-
3	484	3rd RF	3	130	2.9	120	4.5	-	7.5	13	6.5	-
4	484	4th RF	3	130	2.9	120	4.5	-	7.5	13	5.5	-
5	484	5th RF	3	130	2.9	120	4.5	-	7.5	13	5.5	-
6	484	Det.	3	120	2.9	110	10	-	1	3.5	2.5	-
7	*250	1st A	7.5	380	7.25	350	70	-	40	45	5	-
8	*250	2nd A	7.5	380	7.25	350	70	-	40	45	5	-
9	281	Rect.	7.5	-	7.25	-	-	-	65	-	-	-
10	281	Rect.	7.5	-	7.25	-	-	-	65	-	-	-

*Models 740 and 750—1 Additional 484 Tube in Selector


SPEAKER
5000 Ω FIELD
Y
Y
B
R
SWITCH
200 w
.15 MFD
2 MFD
2 MFD
2 MFD
7000 Ω
130 - 120
120 - 110
110 - 100
281
281
600 V
600 V
7.5
900 Ω
7.5
V
3 V
250
250
20000 Ω
1000 Ω
PHONOGRAPH JACK
PICKUP
9
8
7
6
5
4
3
2
1
50000 Ω VOLUME CONTROL
110 Ω
DIAL LIGHT
ANTENNA CONDENSER
484
484
484
484
484
484
1 MFD
¼ MFD
1 MFD
1 MFD
SELECTOR
AMPLIFIER

SPARKS WITHINGTON CO.

MODEL 420 AC
Schematic



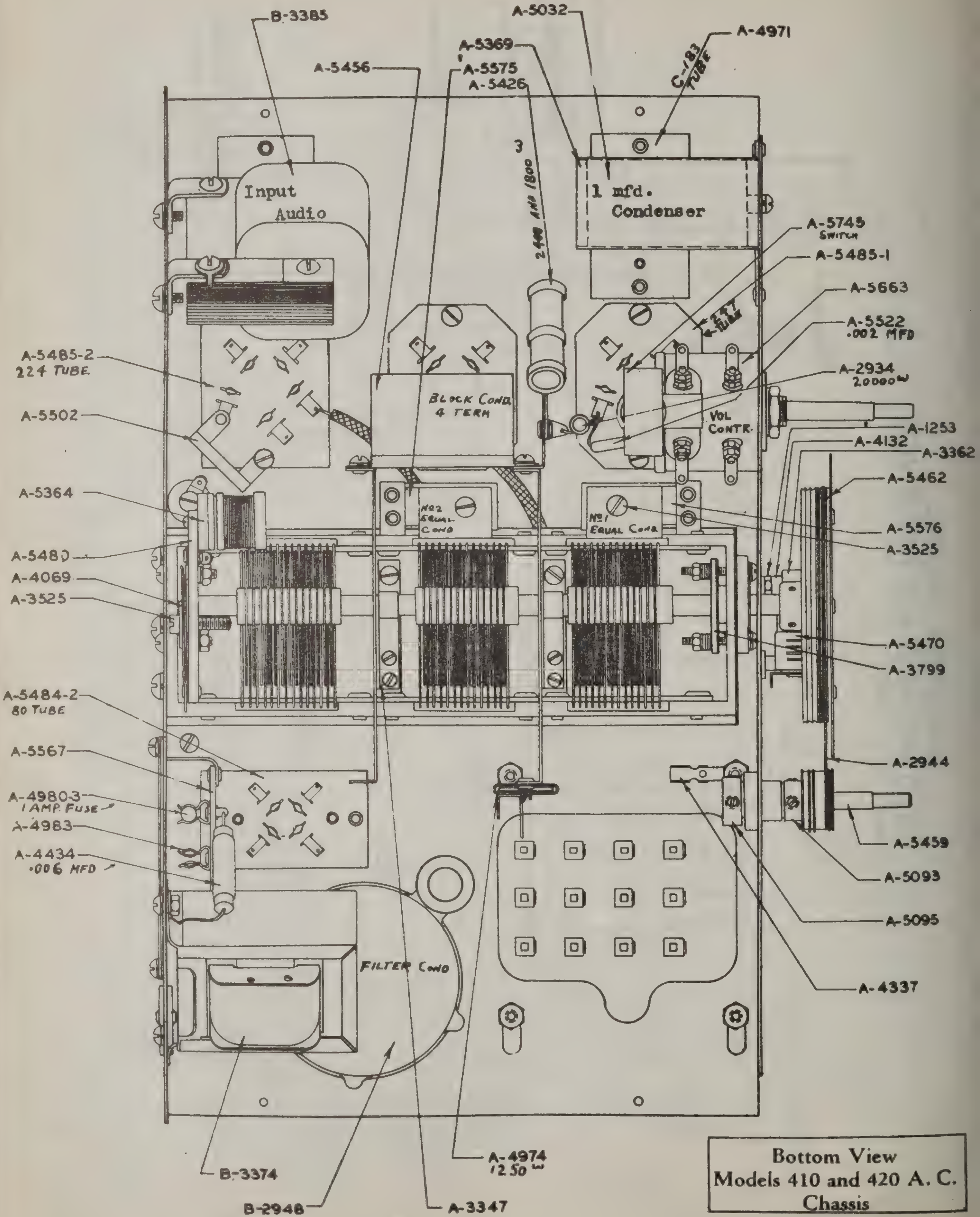
SPARTON MODEL 410 AND 420 A.C. RECEIVER

JUNIOR JEWELL

AERIAL
ANTENNA COMPENSATING CONDENSER
L12
GROUND
C1
L1
224
224
L1
C1
C2
L1
.3
.3
.3
427
C1
C2
20,000 Ω
.002 MFD
.3 MFD
INPUT AUDIO TRANSFORMER
C-183
C-183
YELLOW
YELLOW
BLUE
RED
2,500 Ω
DYNAMIC SPEAKER
FIELD COIL
MOVING COIL
OUTPUT AUDIO TRANSFORMER
1.0 MFD.
2,400 Ω
1,800 Ω
200 Ω
50,000 Ω
30,000 Ω
VOL. CONTROL
DIAL LIGHT
CHOKE
5 MFD.
15 MFD
FILTER CONDENSER
280
5 V.
2.5 V
5 V.
600 V
250 Ω
1 AMP. FUSE
120-130
110-120
100-110
VOLTAGE COMPENSATOR TAPS
POWER TRANSFORMER
.006 MFD
SWITCH
C1 VARIABLE CONDENSERS
C2 EQUALIZING CONDENSERS
L1 TUNING COILS
L12 ANTENNA INDUCTANCE

MODEL 420 AC
Chassis

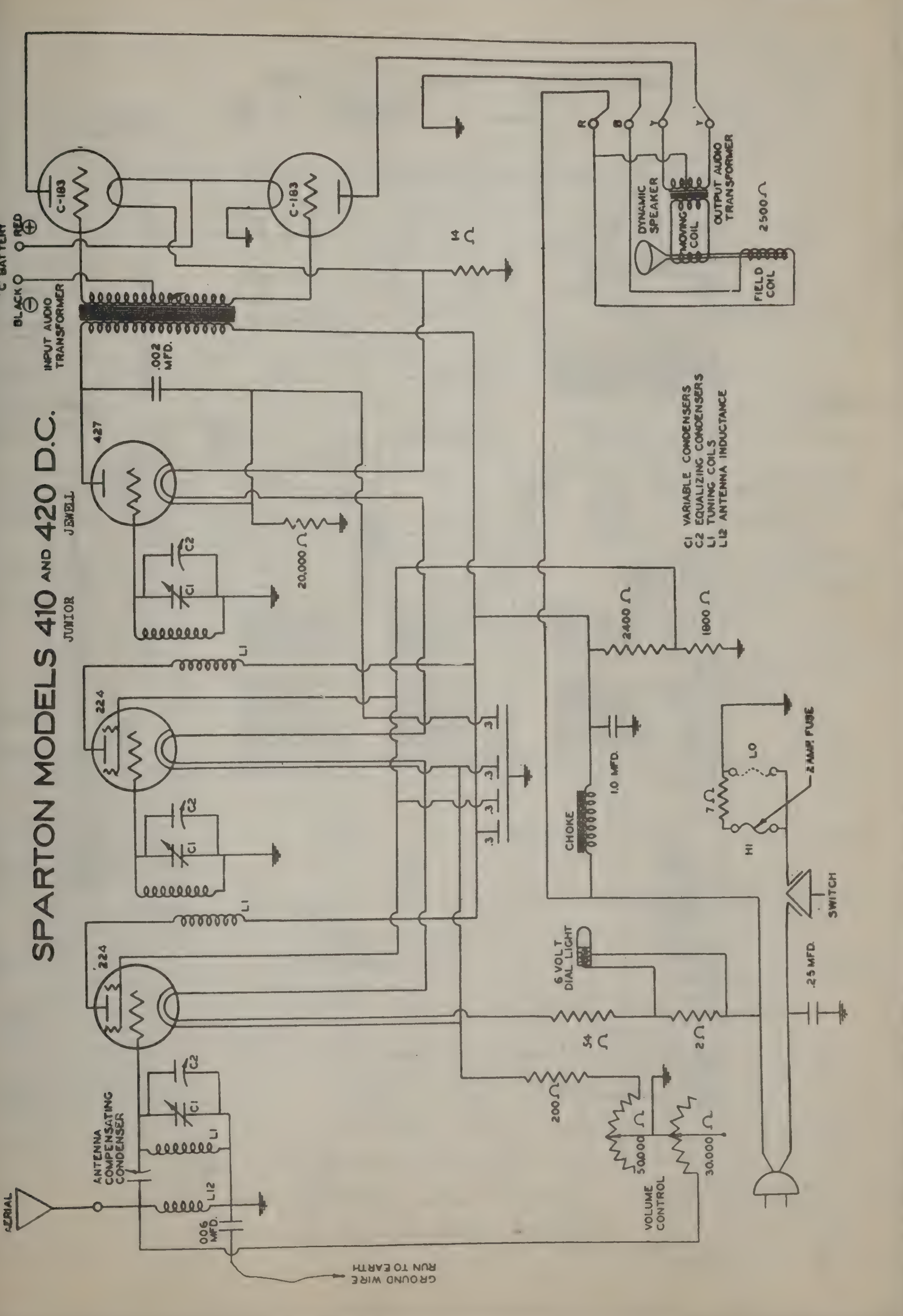
SPARKS WITHINGTON CO.


B-3385
A-5032
A-4971
C-183 TUBE
A-5369
A-5456
A-5575
A-5426
3
2440 AND 1800
Input
Audio
1 mfd.
Condenser
A-5745
SWITCH
A-5485-1
A-5663
227 TUBE
A-5522
.002 MFD
A-2934
20000 w
BLOCK COND
4 TERM
VOL
CONTR.
A-1253
A-4132
A-3362
A-5462
A-5485-2
224 TUBE
A-5502
A-5364
No2
EQUAL
COND
No1
EQUAL COND
A-5576
A-3525
A-5480
A-4069
A-3525
A-5470
A-3799
A-5484-2
80 TUBE
A-5567
A-4980-3
1 AMP. FUSE
A-4983
A-4434
.006 MFD
A-2944
A-5459
A-5093
A-5095
A-4337
FILTER COND
A-4974
1250 w
B-3374
B-2948
A-3347

Bottom View
Models 410 and 420 A. C.
Chassis

SPARKS WITHINGTON CO.

MODEL 420 DC
Schematic



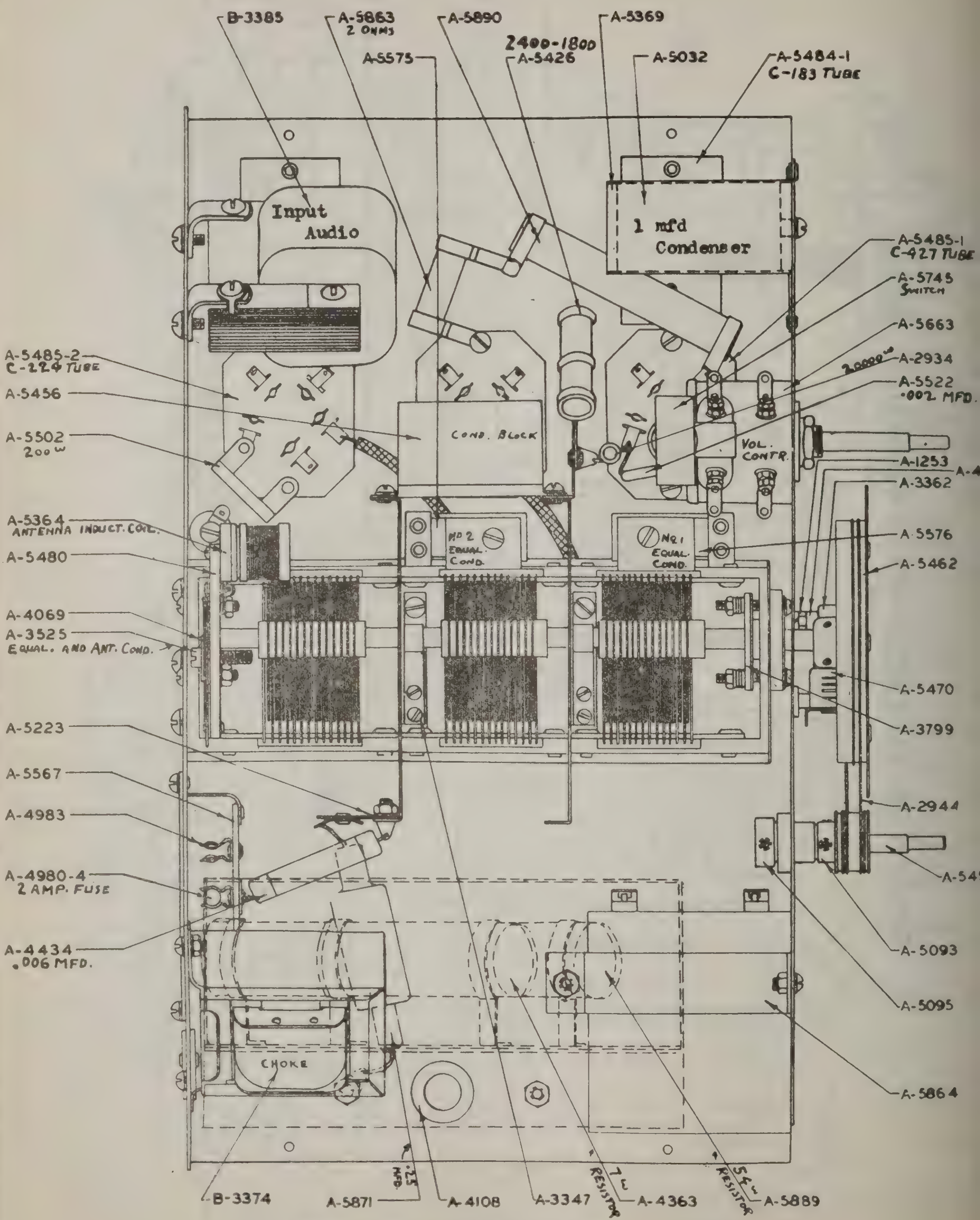
SPARTON MODELS 410 AND 420 D.C.

JUNIOR JEWELL

C-183
C-183
18 V. "C" BATTERY
RED +
BLACK −
INPUT AUDIO TRANSFORMER
.002 MFD.
427
224
224
14 Ω
20,000 Ω
R
B
Y
Y
DYNAMIC SPEAKER
MOVING COIL
OUTPUT AUDIO TRANSFORMER
2500 Ω
FIELD COIL
C1 VARIABLE CONDENSERS
C2 EQUALIZING CONDENSERS
L1 TUNING COILS
L12 ANTENNA INDUCTANCE
2400 Ω
1800 Ω
1.0 MFD.
CHOKE
.3
.3
.3
.3
C1
C2
L1
7 Ω
LO
HI
2 AMP FUSE
SWITCH
.25 MFD.
6 VOLT DIAL LIGHT
54 Ω
2 Ω
200 Ω
50,000 Ω
30,000 Ω
VOLUME CONTROL
ANTENNA COMPENSATING CONDENSER
AERIAL
L12
.006 MFD.
GROUND WIRE RUN TO EARTH

MODEL 420 DC
Chassis

SPARKS WITHINGTON CO.


B-3385
A-5863
2 OHMS
A-5890
A-5369
A-5575
2400-1800
A-5426
A-5032
A-5484-1
C-183 TUBE
Input Audio
1 mfd Condenser
A-5485-1
C-427 TUBE
A-5745
SWITCH
A-5663
20000 ω
A-2934
A-5522
.002 MFD.
A-5485-2
C-224 TUBE
A-5456
A-5502
200 ω
COND. BLOCK
VOL. CONTR.
A-1253
A-4
A-3362
A-5364
ANTENNA INDUCT. COIL.
NO 2 EQUAL. COND.
NO 1 EQUAL. COND.
A-5576
A-5480
A-5462
A-4069
A-3525
EQUAL. AND ANT. COND.
A-5470
A-3799
A-5223
A-5567
A-2944
A-4983
A-54
A-4980-4
2 AMP. FUSE
A-4434
.006 MFD.
A-5093
A-5095
A-5864
CHOKE
.25 MFD.
7 ω RESISTOR
5.4 ω RESISTOR
B-3374
A-5871
A-4108
A-3347
A-4363
A-5889

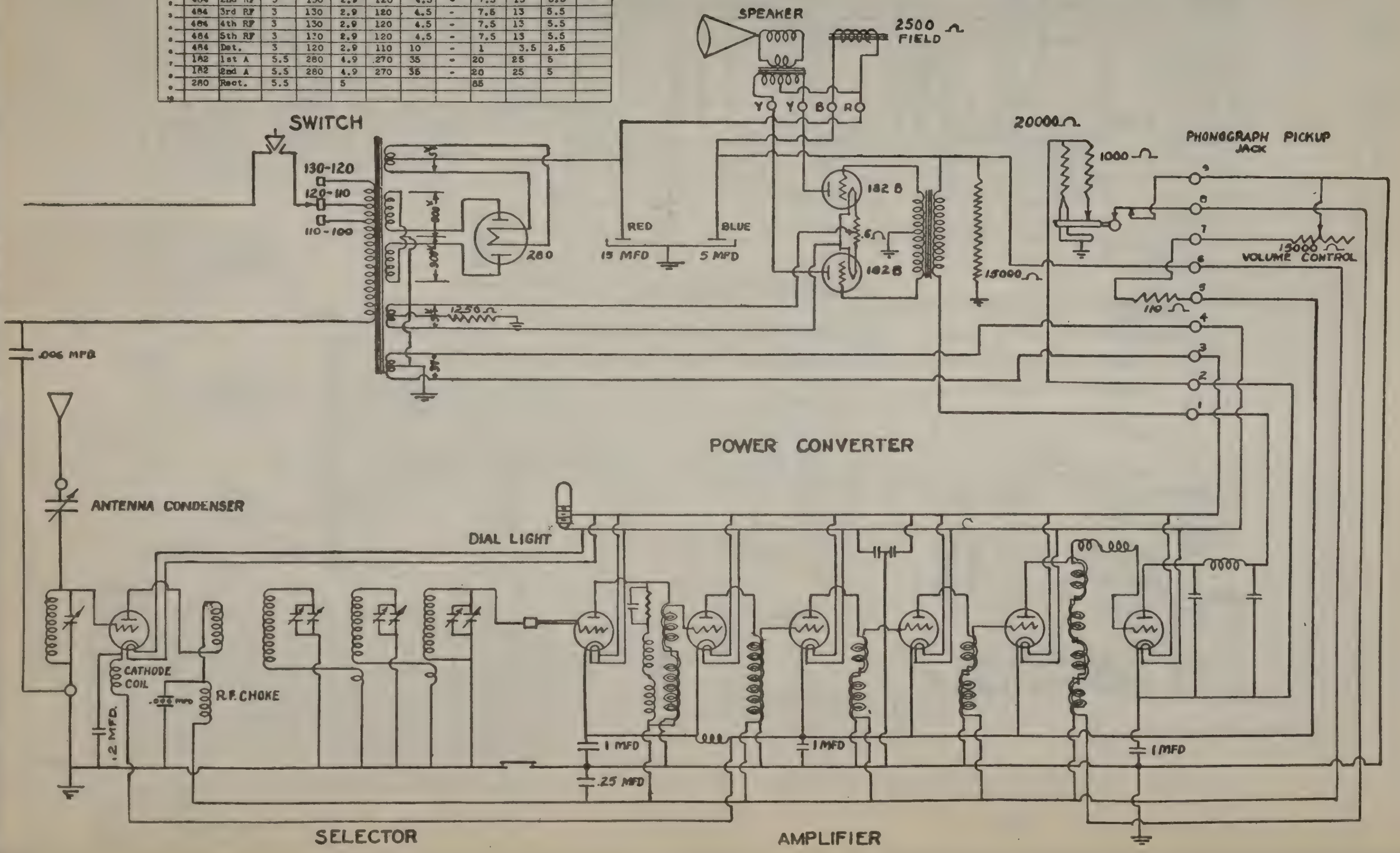
Bottom View—Model 410 and 420 D. C. Chassis

SPARKS WITHINGTON CO.

MODEL 589 AC

SPARTON—Model -589-
Line Voltage 120—Set on 120-130 Volt Tap—Volume Control Position Max

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det etc ③	Readings Plug in Socket of Set									
			Tube Out		Tube in Tester							
			④ A Volts	⑤ B Volts	⑥ A Volts	⑦ B Volts	⑧ C Volts (Control Grid)	⑨ Cathode-Heater Volts	⑩ Normal Plate M.A	⑪ Plate M.A Grid Test	⑫ Plate Change M.A	⑬ Screen Grid Volts
1	484	1st RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
2	484	2nd RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
3	484	3rd RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
4	484	4th RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
5	484	5th RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
6	484	Det.	3	120	2.9	110	10	-	1	3.5	2.5	
7	182	1st A	5.5	280	4.9	270	35	-	20	25	5	
8	182	2nd A	5.5	280	4.9	270	35	-	20	25	5	
9	280	Rect.	5.5		5				85			
10												


SPEAKER
2500 Ω FIELD
Y
Y
B
R
SWITCH
130-120
120-110
110-100
280
RED
BLUE
15 MFD
5 MFD
182 B
182 B
.6 Ω
1250 Ω
15000 Ω
20000 Ω
1000 Ω
PHONOGRAPH PICKUP JACK
9
8
7
6
5
4
3
2
1
15000 Ω VOLUME CONTROL
110 Ω
POWER CONVERTER
.006 MFD
ANTENNA CONDENSER
DIAL LIGHT
CATHODE COIL
R.F. CHOKE
.2 MFD
1 MFD
.25 MFD
1 MFD
1 MFD
SELECTOR
AMPLIFIER

MODEL 600,610,620,
737 AC.
737 Below # 6502

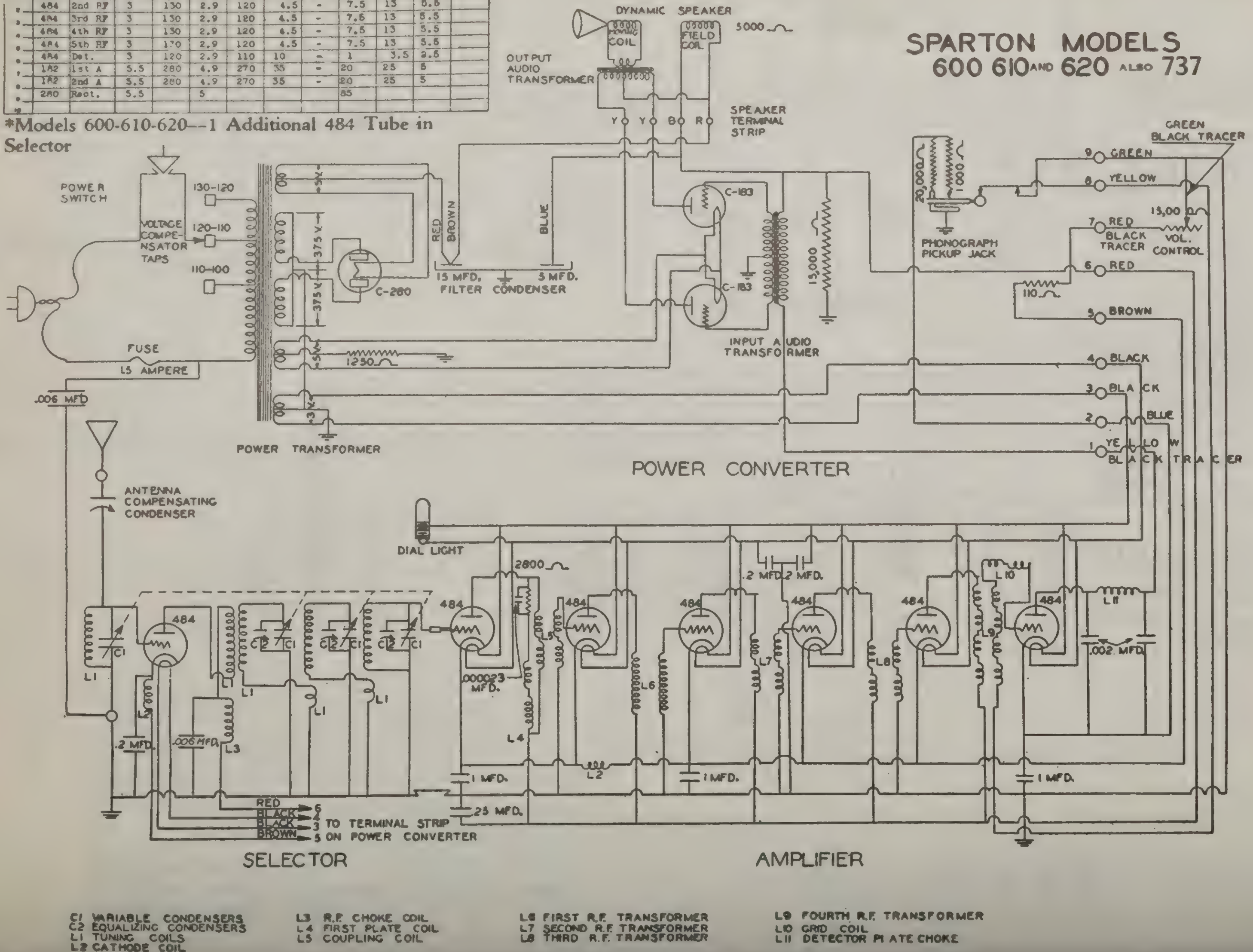
SPARKS WITHINGTON CO.

SPARTON MODELS
600 610 AND 620 ALSO 737

SPARTON—Model 610-620*
Line Voltage 120—Set on 120-130 Volt Tap—Volume Control Position Max

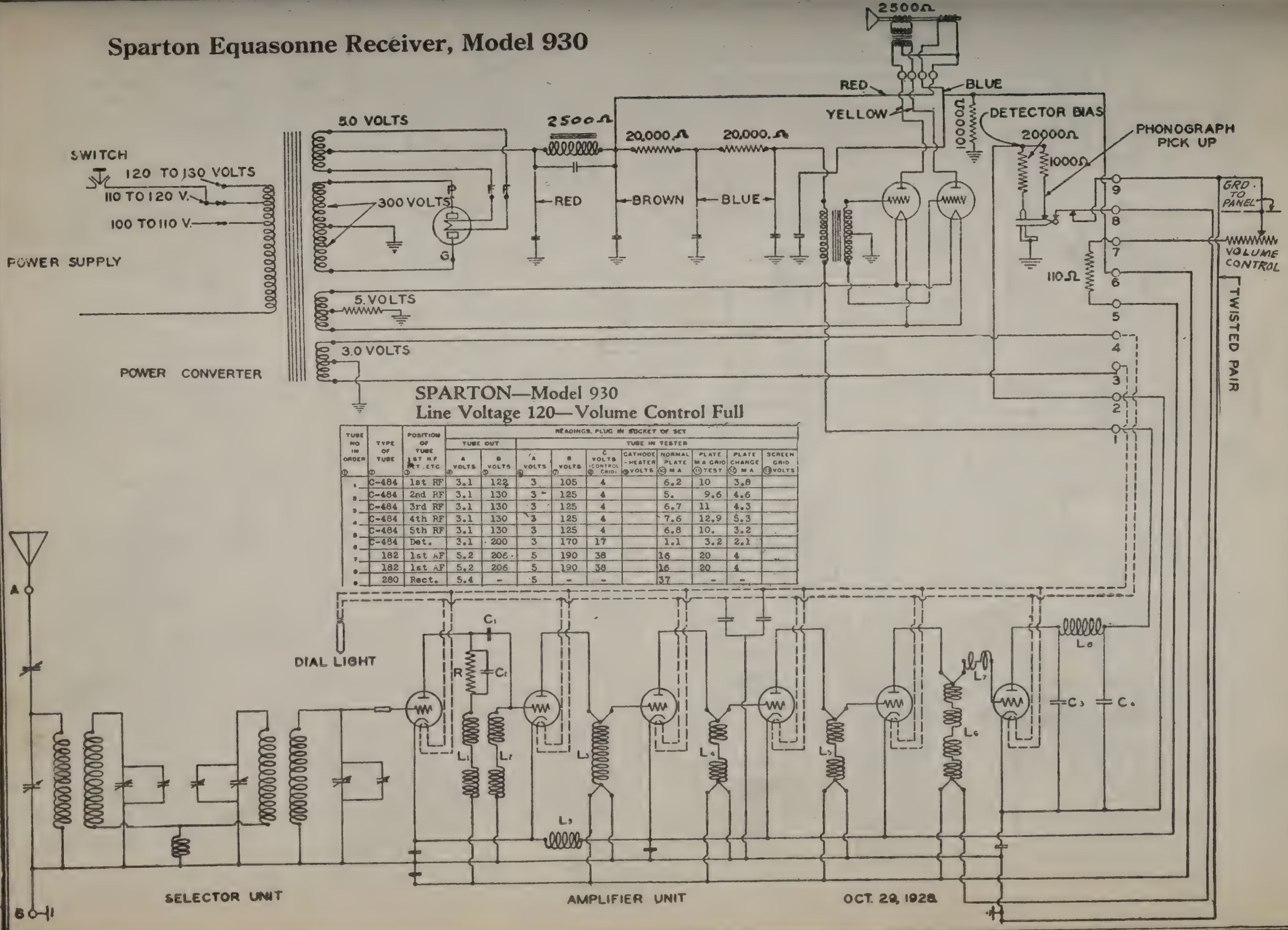
Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det etc ③	Readings Plug in Socket of Set: Tube Out: A Volts ④	Tube Out: B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate MA ⑩	Plate MA Grid Test ⑪	Plate Change MA ⑫	Screen Grid Volts ⑬
1	484	1st RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
2	484	2nd RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
3	484	3rd RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
4	484	4th RF	3	130	2.9	120	4.5	-	7.5	13	5.5	
5	484	5th RF	3	170	2.9	120	4.5	-	7.5	13	5.5	
6	484	Det.	3	120	2.9	110	10	-	1	3.5	2.5	
7	182	1st A	5.5	280	4.9	270	35	-	20	25	5	
8	182	2nd A	5.5	280	4.9	270	35	-	20	25	5	
9	280	Rect.	5.5		5				85			
10												

*Models 600-610-620--1 Additional 484 Tube in Selector


DYNAMIC SPEAKER
MOVING COIL
FIELD COIL
5000 ∩
OUTPUT AUDIO TRANSFORMER
Y Y B R
SPEAKER TERMINAL STRIP
POWER SWITCH
130-120
120-110
110-100
VOLTAGE COMPENSATOR TAPS
FUSE
1.5 AMPERE
.006 MFD
RED
BROWN
BLUE
375 V
375 V
C-280
15 MFD. FILTER CONDENSER 5 MFD.
1250 ∩
POWER TRANSFORMER
C-183
C-183
13,000 ∩
INPUT AUDIO TRANSFORMER
20,000 ∩
1000 ∩
PHONOGRAPH PICKUP JACK
GREEN BLACK TRACER
9 GREEN
8 YELLOW
13,000 ∩
VOL. CONTROL
7 RED BLACK TRACER
6 RED
110 ∩
5 BROWN
4 BLACK
3 BLACK
2 BLUE
1 YELLOW BLACK TRACER
POWER CONVERTER
ANTENNA COMPENSATING CONDENSER
DIAL LIGHT
2800 ∩
.2 MFD
.2 MFD.
484
484
484
484
484
484
484
L10
L11
.002 MFD.
C1
C2
L1
L2
L3
L4
L5
L6
L7
L8
L9
.000023 MFD.
.2 MFD.
.006 MFD.
1 MFD.
1 MFD.
1 MFD.
.25 MFD.
RED 6
BLACK 4
BLACK 3
BROWN 5
TO TERMINAL STRIP ON POWER CONVERTER
SELECTOR
AMPLIFIER
C1 VARIABLE CONDENSERS
C2 EQUALIZING CONDENSERS
L1 TUNING COILS
L2 CATHODE COIL
L3 R.F. CHOKE COIL
L4 FIRST PLATE COIL
L5 COUPLING COIL
L6 FIRST R.F. TRANSFORMER
L7 SECOND R.F. TRANSFORMER
L8 THIRD R.F. TRANSFORMER
L9 FOURTH R.F. TRANSFORMER
L10 GRID COIL
L11 DETECTOR PLATE CHOKE

SPARKS WITHINGTON CO.

Sparton Equasonne Receiver, Model 930

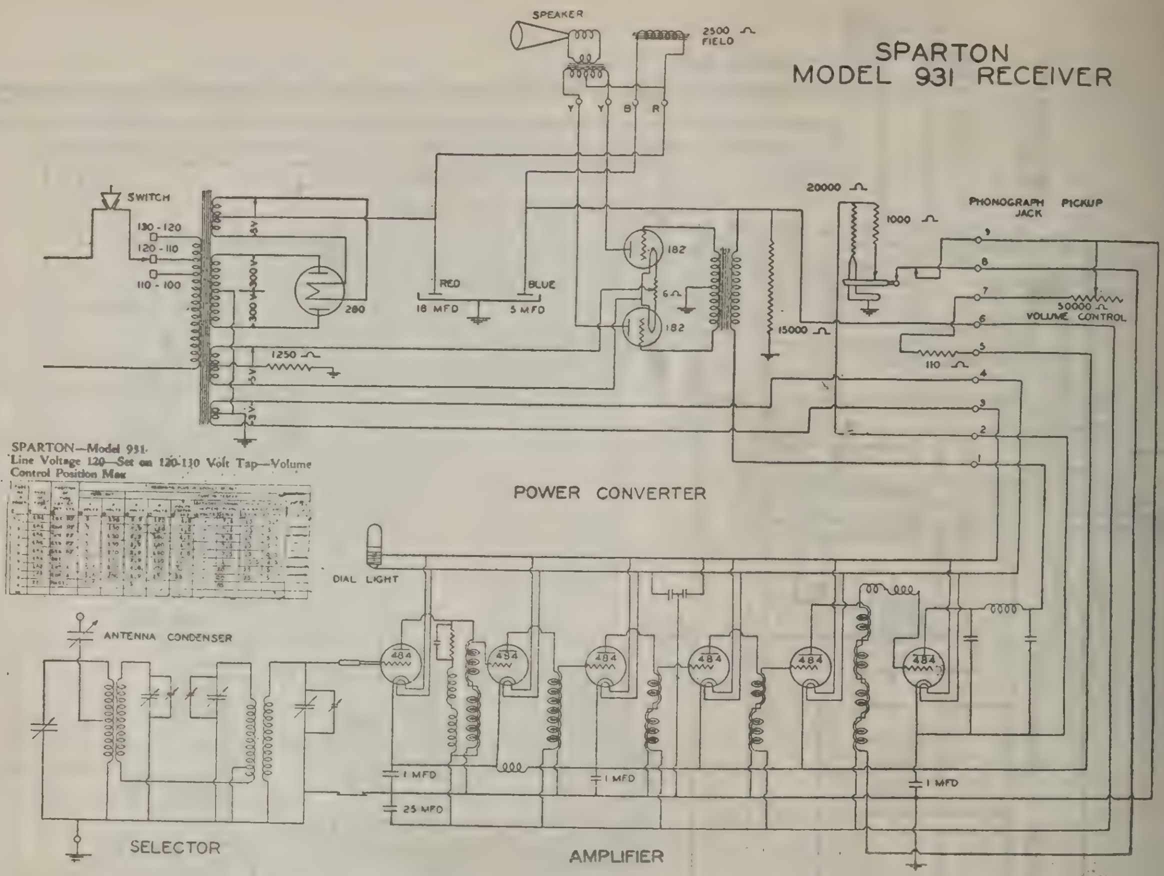

SWITCH
120 TO 130 VOLTS
110 TO 120 V.
100 TO 110 V.
POWER SUPPLY
POWER CONVERTER
5.0 VOLTS
300 VOLTS
P
F
F
G
5. VOLTS
3.0 VOLTS
2500Ω
20,000.Ω
20,000.Ω
RED
BROWN
BLUE
RED
YELLOW
BLUE
2500Ω
.00001
DETECTOR BIAS
20000Ω
1000Ω
PHONOGRAPH PICK UP
110Ω
GRD. TO PANEL
VOLUME CONTROL
TWISTED PAIR
9
8
7
6
5
4
3
2
1
A
B
C₁
R
C₁
L₁
L₂
L₃
L₄
L₅
L₆
L₇
L₈
C₃
C₄
DIAL LIGHT
SELECTOR UNIT
AMPLIFIER UNIT
OCT. 29, 1928

SPARTON—Model 930
Line Voltage 120—Volume Control Full

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det. etc ③	Readings. Plug in Socket of Set									
			Tube Out		Tube in Tester							
			④ A Volts	⑤ B Volts	⑥ A Volts	⑦ B Volts	⑧ C Volts (Control Grid)	⑨ Cathode-Heater Volts	⑩ Normal Plate M A	⑪ Plate M A Grid Test	⑫ Plate Change M A	⑬ Screen Grid Volts
1	C-484	1st RF	3.1	122	3	105	4		6.2	10	3.8	
2	C-484	2nd RF	3.1	130	3	125	4		5.	9.6	4.6	
3	C-484	3rd RF	3.1	130	3	125	4		6.7	11	4.3	
4	C-484	4th RF	3.1	130	3	125	4		7.6	12.9	5.3	
5	C-484	5th RF	3.1	130	3	125	4		6.8	10.	3.2	
6	C-484	Det.	3.1	200	3	170	17		1.1	3.2	2.1	
7	182	1st AF	5.2	206	5	190	38		16	20	4	
8	182	1st AF	5.2	206	5	190	38		16	20	4	
9	280	Rect.	5.4	-	5	-	-		37	-	-	

SPARKS WITHINGTON CO.

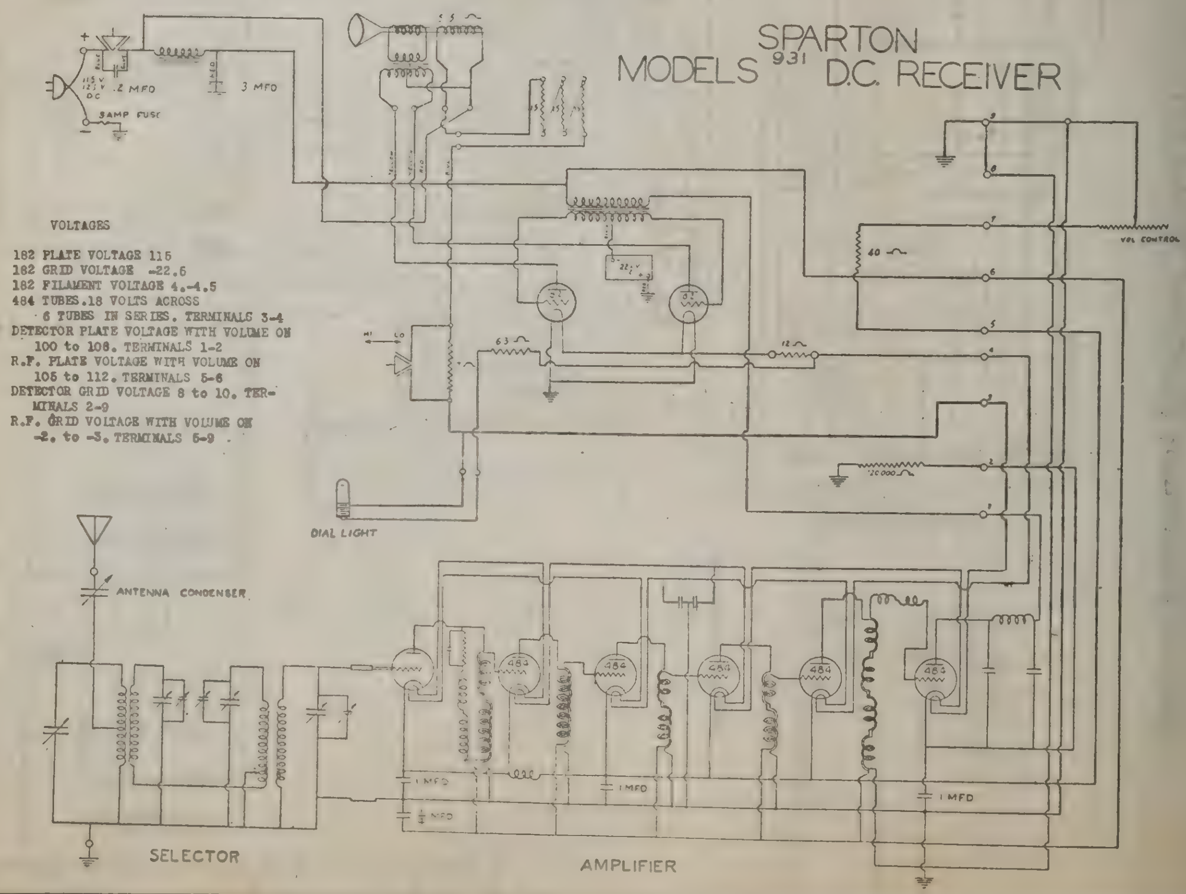
MODEL 931 AC
MODEL 931 DC



SPARTON
MODEL 931 RECEIVER

SPARTON—Model 931.
Line Voltage 120—Set on 120-130 Volt Tap—Volume Control Position Max

SPEAKER
2500 Ω FIELD
Y
Y
B
R
SWITCH
130 - 120
120 - 110
110 - 100
5V
300 V
300 V
280
RED
BLUE
16 MFD
5 MFD
182
182
6 Ω
20000 Ω
1000 Ω
15000 Ω
1250 Ω
5V
3V
PHONOGRAPH PICKUP JACK
50000 Ω VOLUME CONTROL
110 Ω
9
8
7
6
5
4
3
2
1
POWER CONVERTER
DIAL LIGHT
ANTENNA CONDENSER
484
484
484
484
484
484
1 MFD
25 MFD
1 MFD
1 MFD
SELECTOR
AMPLIFIER



SPARTON
MODELS 931 D.C. RECEIVER

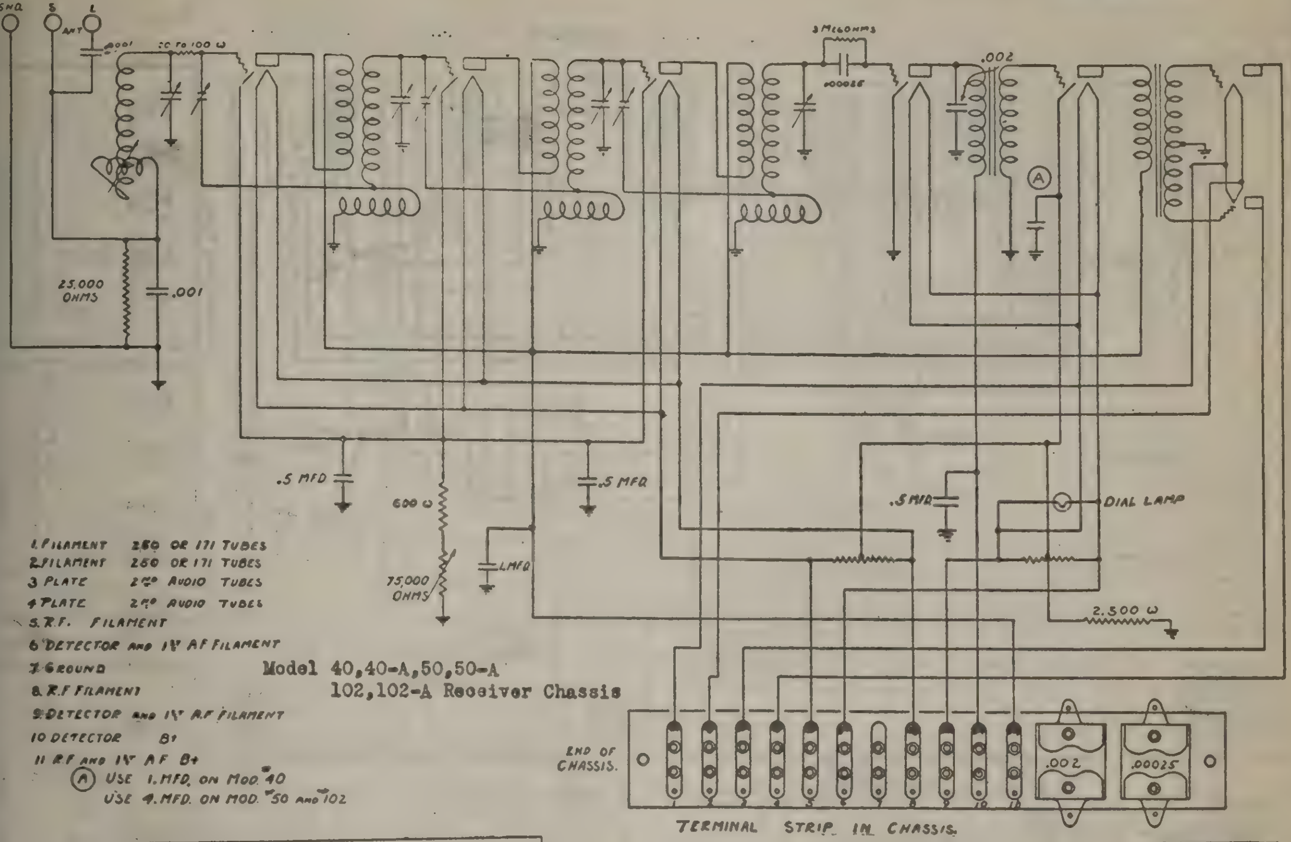
+
−
115 V
125 V
DC
.2 MFD
3 MFD
5AMP FUSE
5 Ω
YELLOW
YELLOW
RED
BLUE
22½ V
40 Ω
63 Ω
12 Ω
12000 Ω
VOL CONTROL
9
8
7
6
5
4
3
2
1
HI
LO
DIAL LIGHT
ANTENNA CONDENSER
484
484
484
484
484
1 MFD
½ MFD
1 MFD
1 MFD
SELECTOR
AMPLIFIER

VOLTAGES

182 PLATE VOLTAGE 115
182 GRID VOLTAGE -22.5
182 FILAMENT VOLTAGE 4.-4.5
484 TUBES.18 VOLTS ACROSS
6 TUBES IN SERIES. TERMINALS 3-4
DETECTOR PLATE VOLTAGE WITH VOLUME ON
100 to 106. TERMINALS 1-2
R.F. PLATE VOLTAGE WITH VOLUME ON
105 to 112. TERMINALS 5-6
DETECTOR GRID VOLTAGE 8 to 10. TERMINALS 2-9
R.F. GRID VOLTAGE WITH VOLUME ON
-2. to -3. TERMINALS 5-9 .

STEINITE RADIO CO.

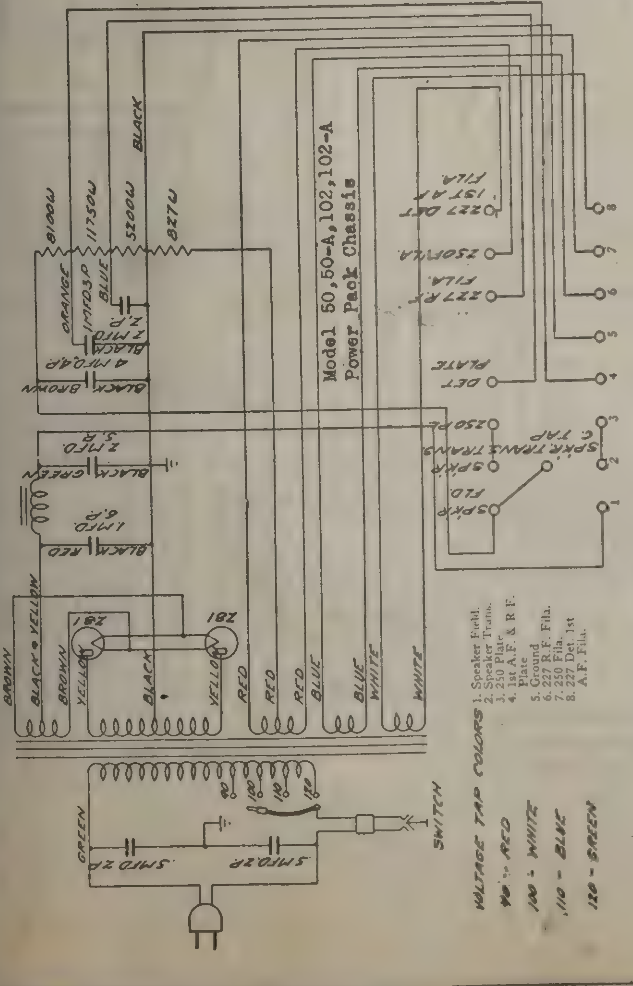
MODEL 40,40-A,50,50-A,
102,102-A
Schematic


GND
S
ANT
L
.001
20 TO 100 Ω
3 MEG OHMS
.00025
.002
25,000 OHMS
.001
.5 MFD
600 Ω
75,000 OHMS
1 MFD
.5 MFD
.5 MFD
DIAL LAMP
2,500 Ω
A
END OF CHASSIS.
.002
.00025
TERMINAL STRIP IN CHASSIS.

1. FILAMENT 250 OR 171 TUBES
2. FILAMENT 250 OR 171 TUBES
3. PLATE 2ND AUDIO TUBES
4. PLATE 2ND AUDIO TUBES
5. R.F. FILAMENT
6. DETECTOR AND 1ST AF FILAMENT
7. GROUND
8. R.F FILAMENT
9. DETECTOR AND 1ST A.F FILAMENT
10. DETECTOR B+
11. R.F AND 1ST A F B+

(A) USE 1. MFD. ON MOD. #40
USE 4. MFD. ON MOD. #50 AND #102

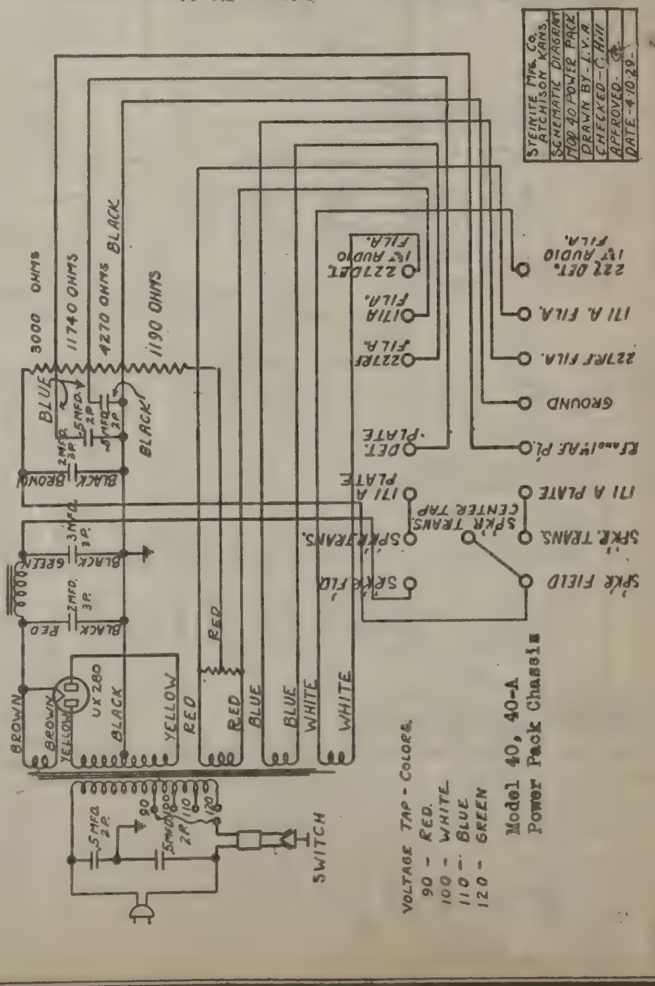
Model 40,40-A,50,50-A
102,102-A Receiver Chassis


BROWN
BLACK & YELLOW
BROWN
YELLOW
281
BLACK
YELLOW
281
RED
RED
RED
BLUE
BLUE
WHITE
WHITE
GREEN
.5 MFD 2P.
.5 MFD 2P.
90
100
110
120
SWITCH
BLACK
RED
1 MFD. 6.P.
BLACK
GREEN
2 MFD. 5.P.
BLACK
BROWN
4 MFD. 4P.
ORANGE
1 MFD 3P
BLACK
BLUE
2 MFD 2.P.
8100 W
11750 W
5200 W
827 W
BLACK
SPKR FLD.
SPKR TRANS.
SPKR TRANS. C. TAP
250 PL.
DET PLATE
227 R.F. FILA.
250 FILA.
227 DET. 1ST A.F. FILA.
1
2
3
4
5
6
7
8

Model 50,50-A,102,102-A
Power Pack Chassis

VOLTAGE TAP COLORS
90 - RED
100 - WHITE
110 - BLUE
120 - GREEN

1. Speaker Field.
2. Speaker Trans.
3. 250 Plate
4. 1st A.F. & R F. Plate
5. Ground
6. 227 R.F. Fila.
7. 250 Fila.
8. 227 Det. 1st A.F. Fila.


BROWN
BROWN
YELLOW
UX 280
BLACK
YELLOW
RED
RED
RED
BLUE
BLUE
WHITE
WHITE
.5 MFD. 2P.
.5 MFD. 2P.
90
100
110
120
SWITCH
BLACK
2 MFD. 3P.
BLACK
GREEN
3 MFD. 3P.
BLACK
BROWN
2 MFD. 3P.
BLUE
.5 MFD. 2P
.5 MFD. 2P
BLACK
3000 OHMS
11740 OHMS
4270 OHMS
1190 OHMS
BLACK
SPKR FLD.
SPKR TRANS.
171 A PLATE
DET. PLATE
227 RF FILA.
171 A FILA.
227 DET. 1ST AUDIO FILA.
SPKR FIELD
SPKR. TRANS.
SPKR TRANS. CENTER TAP
171 A PLATE
RF AND 1ST AF PL.
GROUND
227 RF FILA.
171 A. FILA.
227 DET. 1ST AUDIO FILA.

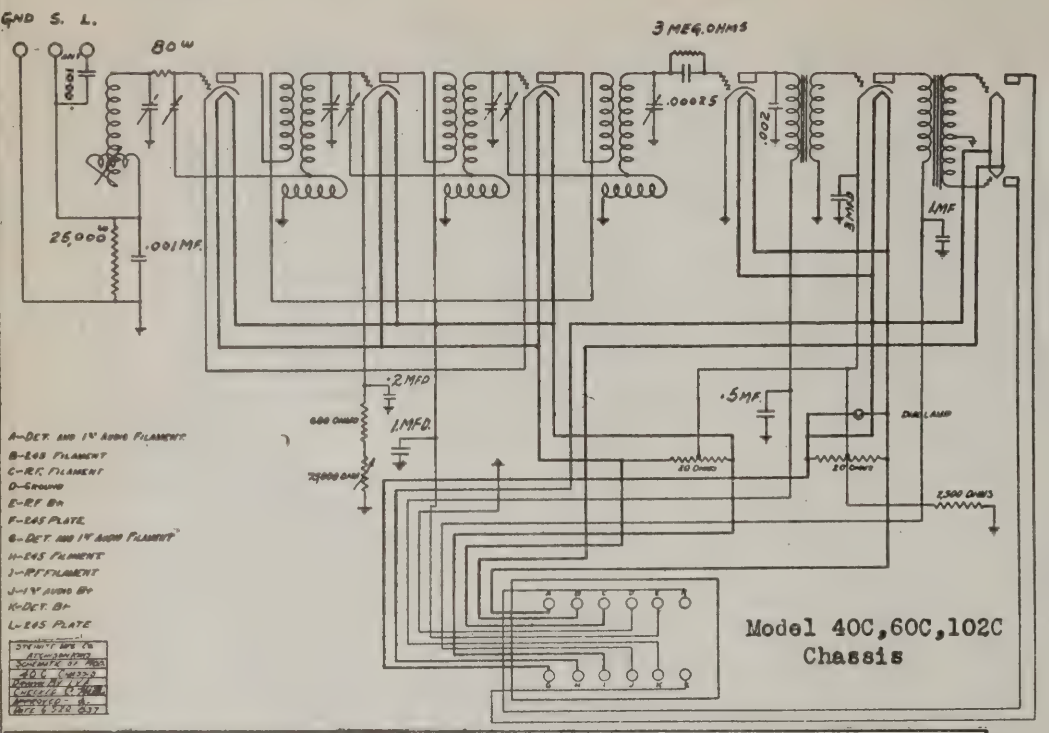
STEINITE MFG. CO.
ATCHISON KANS.
SCHEMATIC DIAGRAM
MOD 40 POWER PACK
DRAWN BY - L.V.A.
CHECKED - C. Hill
APPROVED -
DATE - 4·10·29 -

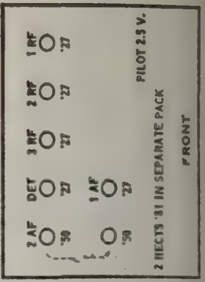
VOLTAGE TAP - COLORS.
90 - RED.
100 - WHITE
110 - BLUE
120 - GREEN

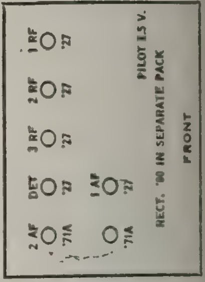
Model 40, 40-A
Power Pack Chassis

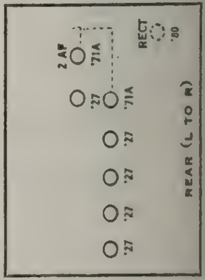
MODEL 40C,60C,102C
MODEL 40,45,40A,45A,50A,102
Voltage-Socket

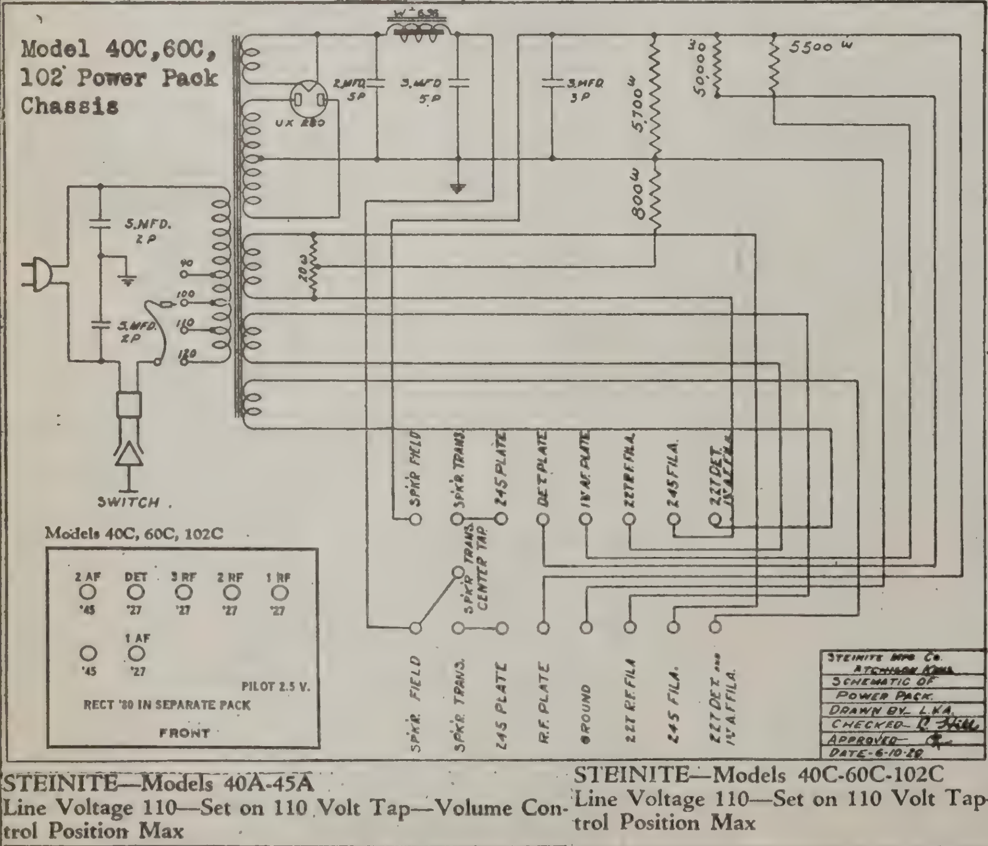
STEINITE RADIO CO.


GND
S.
L.
ANT
.0001
80 w
25,000 Ω
.001 MF.
3 MEG. OHMS
.00025
.002
3 MFD
1 MF
.2 MFD
1. MFD.
600 OHMS
25,000 OHMS
.5 MF.
DIAL LAMP
20 OHMS
20 OHMS
2,500 OHMS
A—DET. AND 1ST AUDIO FILAMENT
B—245 FILAMENT
C—R.F. FILAMENT
D—GROUND
E—RF B+
F—245 PLATE
G—DET. AND 1ST AUDIO FILAMENT
H—245 FILAMENT
I—RF FILAMENT
J—1ST AUDIO B+
K—DET. B+
L—245 PLATE
STEINITE MFG CO.
ATCHISON KANS.
SCHEMATIC OF MOD.
40C CHASSIS
DRAWN BY
CHECKED
APPROVED
DATE 6-5-29
Model 40C,60C,102C
Chassis


Models 50A, 102A
2 AF
'50
DET
'27
3 RF
'27
2 RF
'27
1 RF
'27
'50
1 AF
'27
PILOT 2.5 V.
2 RECTS '81 IN SEPARATE PACK
FRONT


Models 40A, 45A
2 AF
'71A
DET
'27
3 RF
'27
2 RF
'27
1 RF
'27
'71A
1 AF
'27
PILOT 2.5 V.
RECT. '80 IN SEPARATE PACK
FRONT


Models 40, 45
2 AF
'71A
'27
'71A
RECT
'80
'27
'27
'27
'27
REAR (L TO R)


Model 40C,60C,
102 Power Pack
Chassis
W 635
UX 280
2 MFD
5P
3 MFD
5 P
3 MFD
3 P
30
5,000 Ω
5500 Ω
5,700 Ω
800 Ω
20 Ω
5. MFD.
2 P
3 MFD
2 P
90
100
110
120
SWITCH
SPK'R FIELD
SPK'R TRANS.
245 PLATE
DET. PLATE
1ST AF PLATE
227 R.F. FILA.
245 FILA.
227 DET. 1ST AF FILA.
SPK'R TRANS. CENTER TAP
SPK'R FIELD
SPK'R TRANS.
245 PLATE
R.F. PLATE
GROUND
227 R.F. FILA.
245 FILA.
227 DET. AND 1ST AF FILA.
STEINITE MFG CO.
ATCHISON KANS.
SCHEMATIC OF
POWER PACK
DRAWN BY L.K.A.
CHECKED R. Hill
APPROVED
DATE 6-10-29
Models 40C, 60C, 102C
2 AF
'45
DET
'27
3 RF
'27
2 RF
'27
1 RF
'27
'45
1 AF
'27
PILOT 2.5 V.
RECT '80 IN SEPARATE PACK
FRONT

STEINITE—Models 50A-102A
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det., etc. ③	Readings, Plug in Socket of Set: Tube Out: A Volts ④	B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	227	1st RF	2.75	134	2.45	125	6.5	-	4.25	8.25	4	-
2	227	2nd RF	2.75	134	2.45	125	8.7	-	5.0	9.0	4	-
3	227	3rd RF	2.75	134	2.45	125	8.7	-	5.0	9.0	4	-
4	227	Det.	2.65	92	2.40	32	-	-	2.5	2.5	0	-
5	227	1st AF	2.65	144	2.40	118	8.2	-	3.6	6.6	3	-
6	250	2nd AF	7.7	355	7.40	310	51.0	-	36	41	5	-
7	250	2nd AF	7.7	355	7.40	310	51.0	-	36	41	5	-
8	281	Rect.	7.7	-	7.40	-	-	-	60			-
9	281	Rect.	7.7	-	7.40	-	-	-	60			-

STEINITE—Models 40A-45A
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max

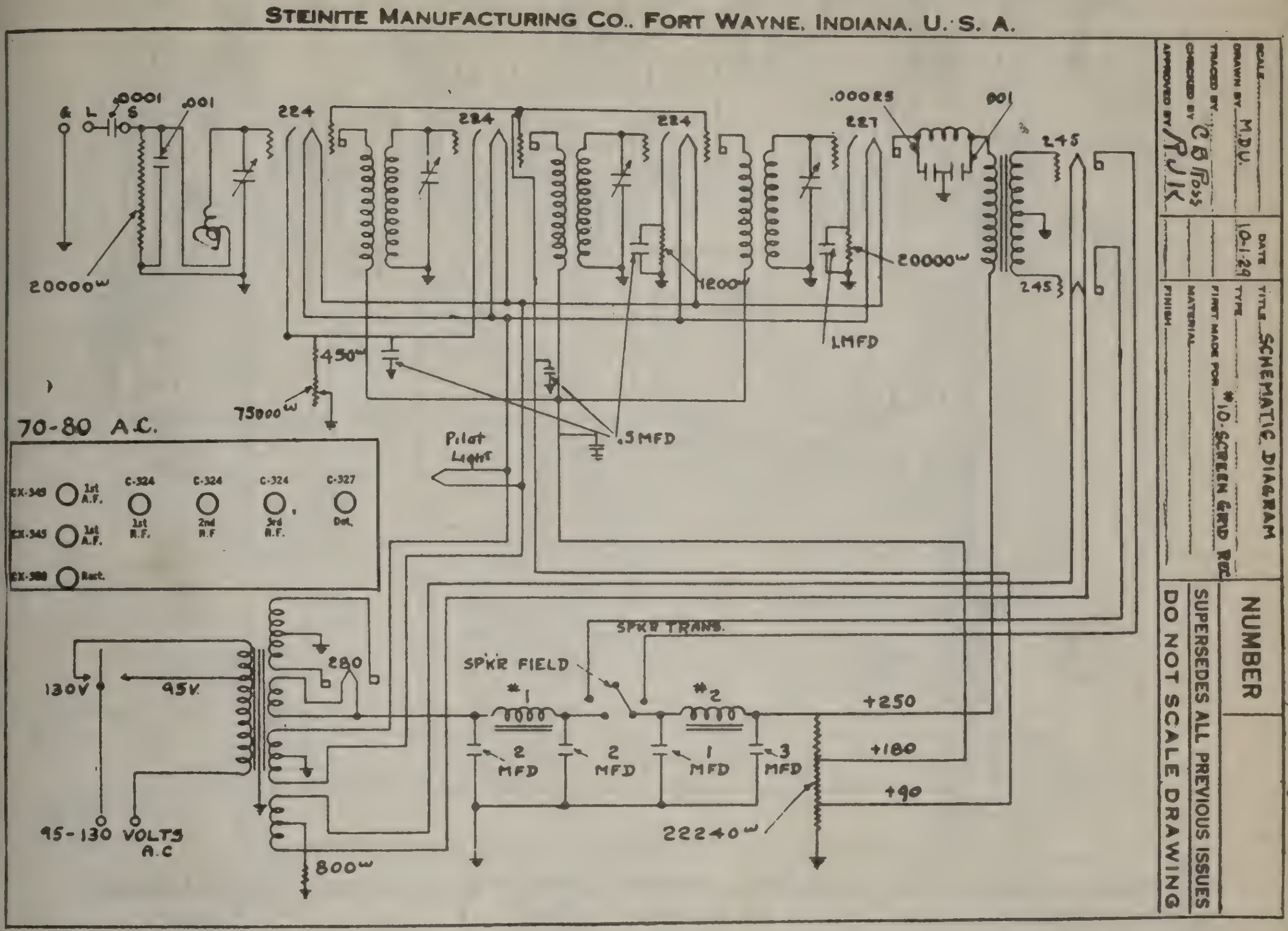
Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det., etc. ③	Readings, Plug in Socket of Set: Tube Out: A Volts ④	B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	227	1st RF	2.6	133	2.3	125	6.25	-	4.5	7.5	.3	-
2	227	2nd RF	2.6	133	2.3	125	8.5	-	4.6	7.6	3	-
3	227	3rd RF	2.6	133	2.3	125	8.5	-	4.6	7.6	3	-
4	227	Det.	2.6	35	2.3	25	-	-	2.5	2.5	0	-
5	227	1st AF	2.6	142	2.3	120	8.1	-	3.5	6.5	3	-
6	171A	2nd AF	5.0	180	5.0	168	37.5	-	16.0	36	20	-
7	171A	2nd AF	5.0	180	5.0	166	37.5	-	16.0	36	20	-
8	280	Rect.	5.0	-	5.0	-	-	-	65	-	-	-

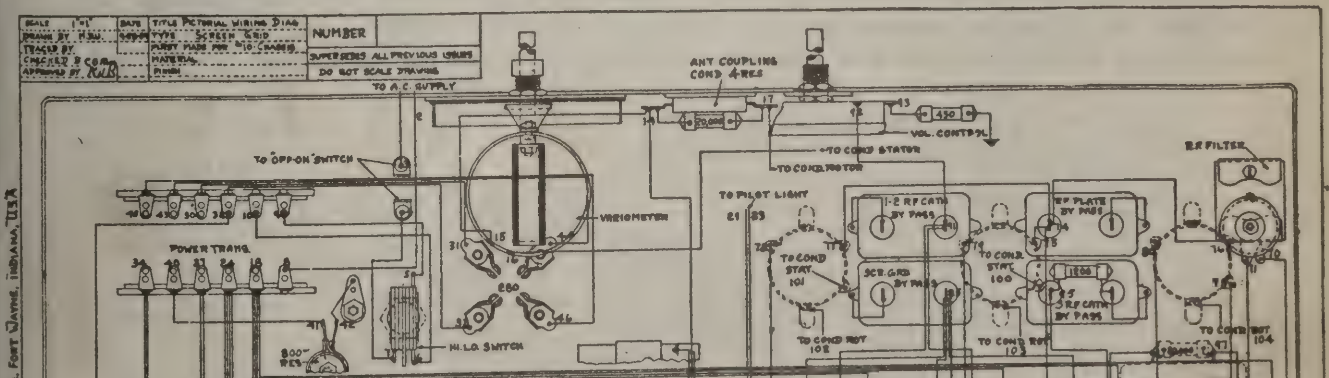
STEINITE—Models 40C-60C-102C
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st R.F. Det., etc. ③	Readings, Plug in Socket of Set: Tube Out: A Volts ④	B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	227	1st RF	2.6	133	2.3	125	6.25	-	4.5	8.25	4	-
2	227	2nd RF	2.6	133	2.3	125	8.5	-	5.0	9.0	4	-
3	227	3rd RF	2.6	133	2.3	125	8.5	-	5.0	9.0	4	-
4	227	Det.	2.6	36	2.3	25	-	-	2.5	2.5	0	-
5	227	1st AF	2.6	142	2.3	120	8.1	-	3.6	6.6	3	-
6	245	2nd AF	2.6	270	2.4	250	50	-	35	40	5	-
7	245	2nd AF	2.6	270	2.4	250	50	-	35	40	5	-
8	280	Rect.	5.2	-	-	-						

MODEL 70,80,95
Schematic-Layout
(Chassis #10)

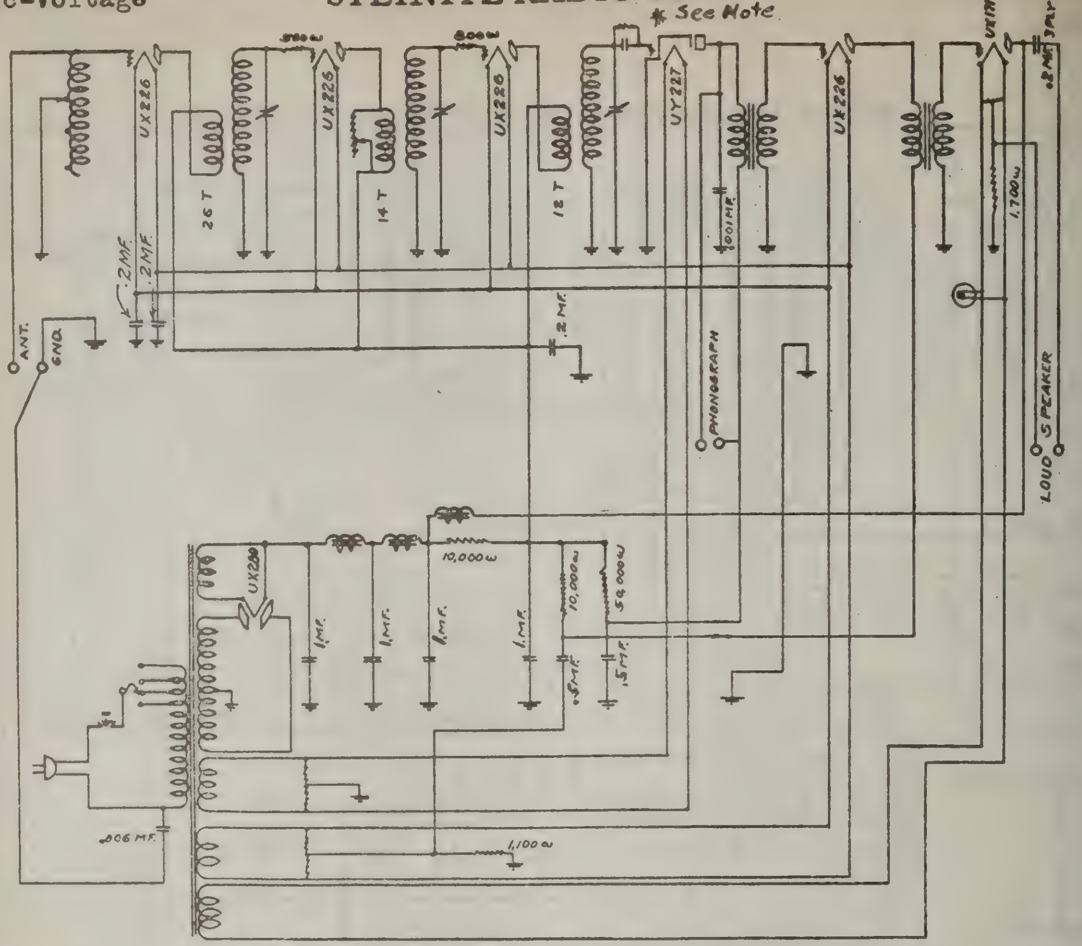
STEINITE RADIO CO.


STEINITE MANUFACTURING CO., FORT WAYNE, INDIANA, U. S. A.
G
L
.0001
S
.001
20000ʷ
224
224
224
227
.00025
.001
245
245
1200ʷ
20000ʷ
1 MFD
450ʷ
75000ʷ
.5 MFD
Pilot Light
70-80 A.C.
EX-345 1st A.F.
EX-345 1st A.F.
EX-380 Rect.
C-324 1st R.F.
C-324 2nd R.F.
C-324 3rd R.F.
C-327 Det.
280
130V
95V
95-130 VOLTS A.C
800ʷ
SPK'R TRANS.
SPK'R FIELD
#1
#2
2 MFD
2 MFD
1 MFD
3 MFD
+250
+180
+90
22240ʷ
SCALE
DRAWN BY M.D.U.
TRACED BY
CHECKED BY C B Ross
APPROVED BY R.J.K.
DATE 10-1-29
TITLE SCHEMATIC DIAGRAM
TYPE
FIRST MADE FOR #10-SCREEN GRID REC
MATERIAL
FINISH
NUMBER
SUPERSEDES ALL PREVIOUS ISSUES
DO NOT SCALE DRAWING


SCALE 1"=1"
DRAWN BY H.S.W.
TRACED BY
CHECKED B.C.O.
APPROVED BY R.J.B.
DATE
TITLE PICTORIAL WIRING DIAG
TYPE SCREEN GRID
FIRST MADE FOR #10-CHASSIS
MATERIAL
FINISH
NUMBER
SUPERSEDES ALL PREVIOUS ISSUES
DO NOT SCALE DRAWING
TO A.C. SUPPLY
TO "OFF-ON" SWITCH
ANT COUPLING COND & RES
20000
450
VOL. CONTROL
TO COND STATOR
TO COND ROTOR
TO PILOT LIGHT
VARIOMETER
R.F. FILTER
1-2 RF CATH BY PASS
RF PLATE BY PASS
SCR. GRID BY PASS
3 RF CATH BY PASS
1200
TO COND STAT 101
TO COND STAT 100
TO COND ROT 102
TO COND ROT 103
TO COND ROT 104
POWER TRANS.
280
800ʷ RES
HI-LO SWITCH
FILTER COND
RED
GREEN
BLUE
BLACK
YELLOW
245
245
#2 FILTER CHOKE
#1 FILTER CHOKE
224
224
224
227
AUDIO TRANS
VOLTAGE DIVIDING RES
22440ʷ
GRD
SHORT ANT 11
12 LONG ANT
STEINITE MANUFACTURING CO., FORT WAYNE, INDIANA, U.S.A.

MODEL 261,262,263,264,265
Schematic-Voltage
Socket

STEINITE RADIO CO.


* See Note
500ω
500ω
UX226
UX226
UX226
UY227
UX226
UX171
.2 MF 3 PLY
26 T
14 T
12 T
.001 MF.
1,700ω
.2 MF.
.2 MF.
.2 MF.
ANT.
GND.
PHONOGRAPH
LOUD SPEAKER
UX280
10,000ω
10,000ω
58,000ω
1 MF.
1 MF.
1 MF.
1 MF.
.5 MF.
.5 MF.
.006 MF.
1,100ω

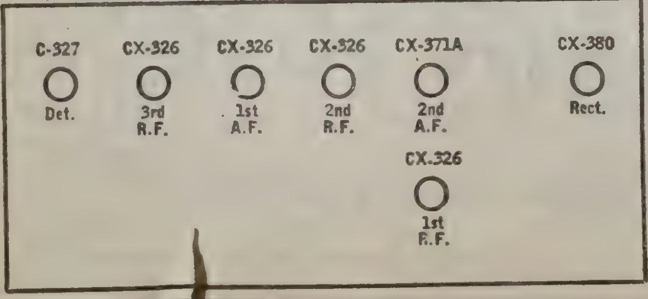
* A small capacity is connected between detector grid and the filament in the form of a piral pair of twisted wires.

**Two bindings posts supplying 110V AC are included on all model 261 sets made since Spptember 20,1938. These are provided for supplying current to dynamic speakers, permitting complete control of the AC supply to both the set and speaker through the toggle switch

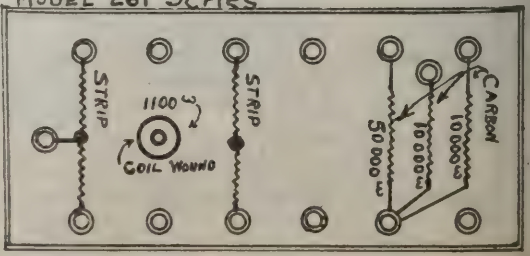
STEINITE--Models 261-262
Line Voltage 112—110 Volt Tap

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F., DET., ETC.	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A.	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	226	1st. R.F.	1.45	120	1.30	115	11	-	3.0	7.0	4.0
2	226	2nd. R.F.	1.45	120	1.30	115	11	-	3.0	7.0	4.0
3	226	3rd. R.F.	1.45	120	1.30	115	11	-	3.0	7.0	4.0
4	227	Detector	2.30	116	2.15	44	-	-	2.0	2.0	0.0
5	226	1st. A.F.	1.45	112	1.30	100	10	-	3.0	7.0	4.0
6	171A	2nd. A.F.	4.80	320	4.60	176	33	-	22.0	24.0	2.0
7	280	Rectifier	4.65	-	4.50	-	-	-	20.0	-	-

261, 262, 263, 264, 265 (A.C.)


C-327
Det.
CX-326
3rd R.F.
CX-326
1st A.F.
CX-326
2nd R.F.
CX-371A
2nd A.F.
CX-380
Rect.
CX-326
1st R.F.

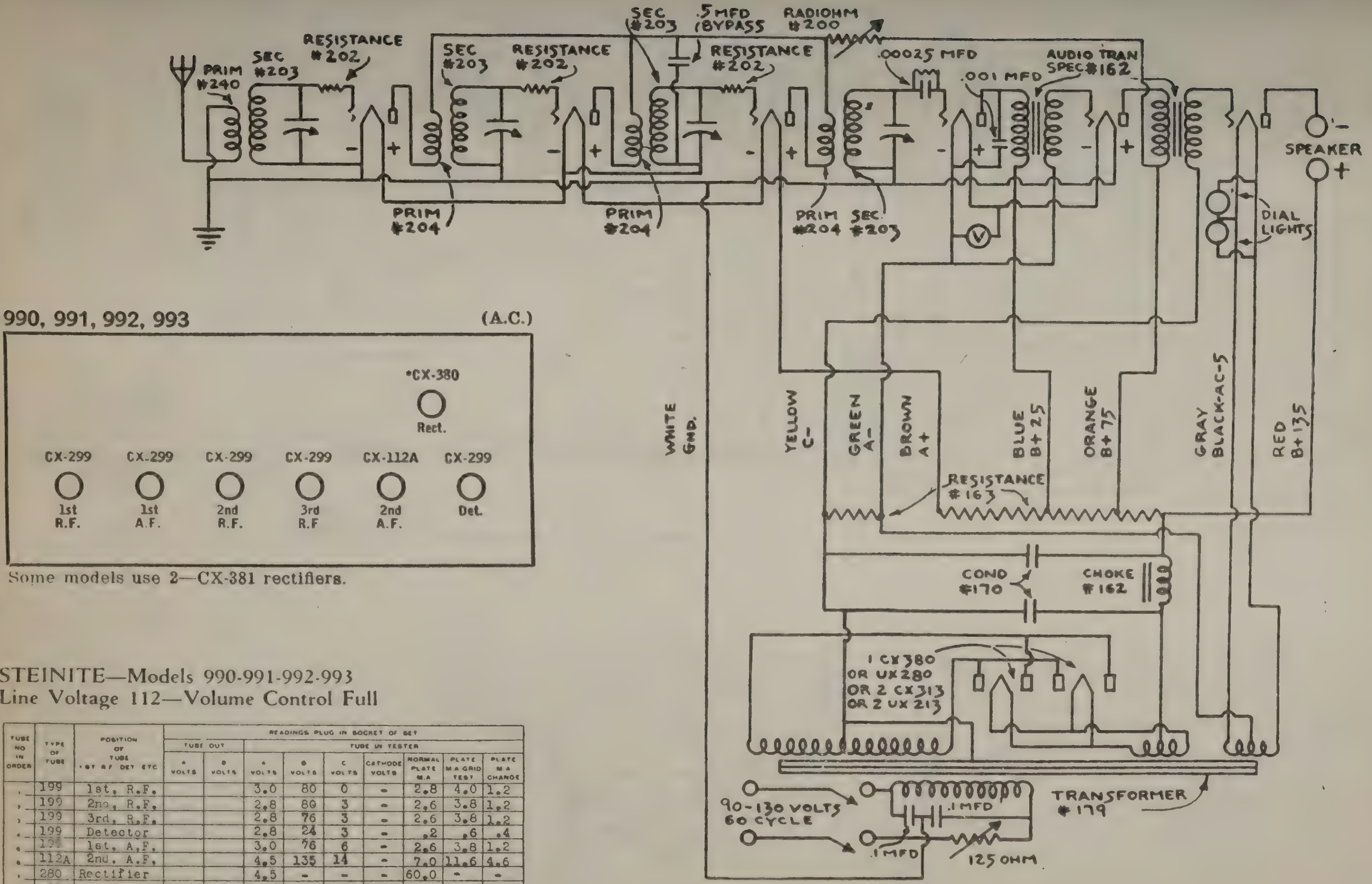
MODEL 261 Series


STRIP
1100ω
COIL WOUND
STRIP
CARBON
50000ω
10000ω
10000ω

POWER PACK TERMINAL STRIP.

STEINITE RADIO CO.

MODEL 990,991,992,993
Schematic,Socket,Voltage


PRIM #240
SEC #203
RESISTANCE #202
PRIM #204
SEC #203
RESISTANCE #202
PRIM #204
SEC #203
.5 MFD (BYPASS
RESISTANCE #202
RADIOHM #200
.00025 MFD
PRIM #204 SEC #203
.001 MFD
AUDIO TRAN SPEC #162
SPEAKER
DIAL LIGHTS
WHITE GND.
YELLOW C−
GREEN A−
BROWN A+
BLUE B+25
ORANGE B+75
GRAY BLACK-AC-5
RED B+135
RESISTANCE #163
COND #170
CHOKE #162
1 CX380 OR UX280 OR 2 CX313 OR 2 UX213
TRANSFORMER #179
90-130 VOLTS 60 CYCLE
.1 MFD
.1 MFD
125 OHM

990, 991, 992, 993 (A.C.)

*CX-380
Rect.
CX-299
1st R.F.
CX-299
1st A.F.
CX-299
2nd R.F.
CX-299
3rd R.F
CX-112A
2nd A.F.
CX-299
Det.

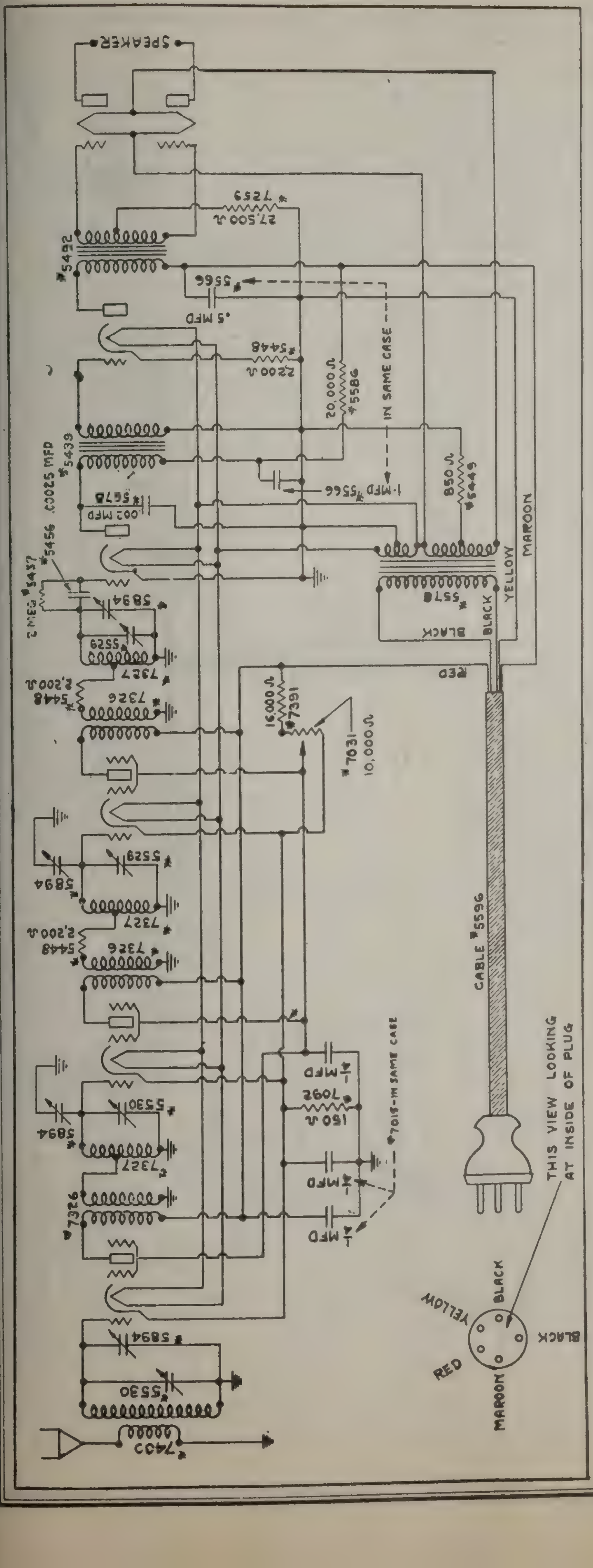
Some models use 2—CX-381 rectifiers.

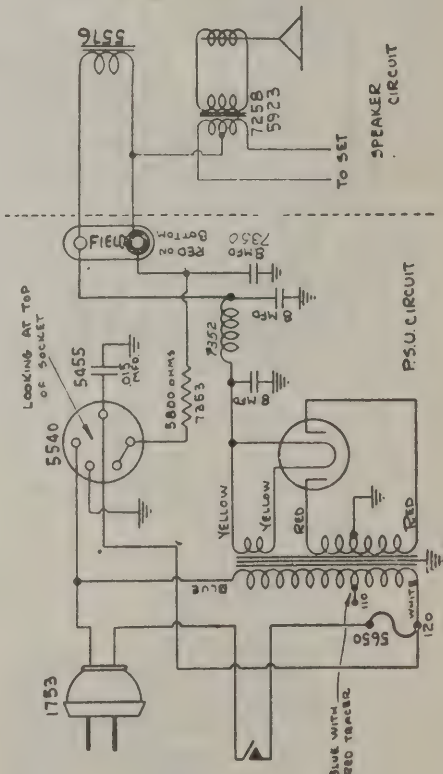
STEINITE—Models 990-991-992-993
Line Voltage 112—Volume Control Full

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	199	1st. R.F.			3.0	80	0	-	2.8	4.0	1.2
2	199	2nd. R.F.			2.8	80	3	-	2.6	3.8	1.2
3	199	3rd. R.F.			2.8	76	3	-	2.6	3.8	1.2
4	199	Detector			2.8	24	3	-	.2	.6	.4
5	199	1st. A.F.			3.0	76	6	-	2.6	3.8	1.2
6	112A	2nd. A.F.			4.5	135	14	-	7.0	11.6	4.6
7	280	Rectifier			4.5	-	-	-	60.0	-	-
8	or										
9	281	Rectifier			4.7	-	-	-	32.0	-	-
10	281	Rectifier			4.7	-	-	-	32.0	-	-

MODEL 3A

STERLING MFG. CO.


SPEAKER
7259
27,500 Ω
5492
5566
.5 MFD
5448
2200 Ω
20,000 Ω
5586
IN SAME CASE
5439
.00025 MFD
1 MFD 5566
850 Ω
5449
5678
.002 MFD
5456
5457
2 MEG
5894
5528
5518
BLACK
YELLOW
MAROON
RED
7327
7326
2,200 Ω
5448
16,000 Ω
7391
7031
10,000 Ω
5529
CABLE 5596
1 MFD
7092
150 Ω
5530
7015 IN SAME CASE
THIS VIEW LOOKING AT INSIDE OF PLUG
7400

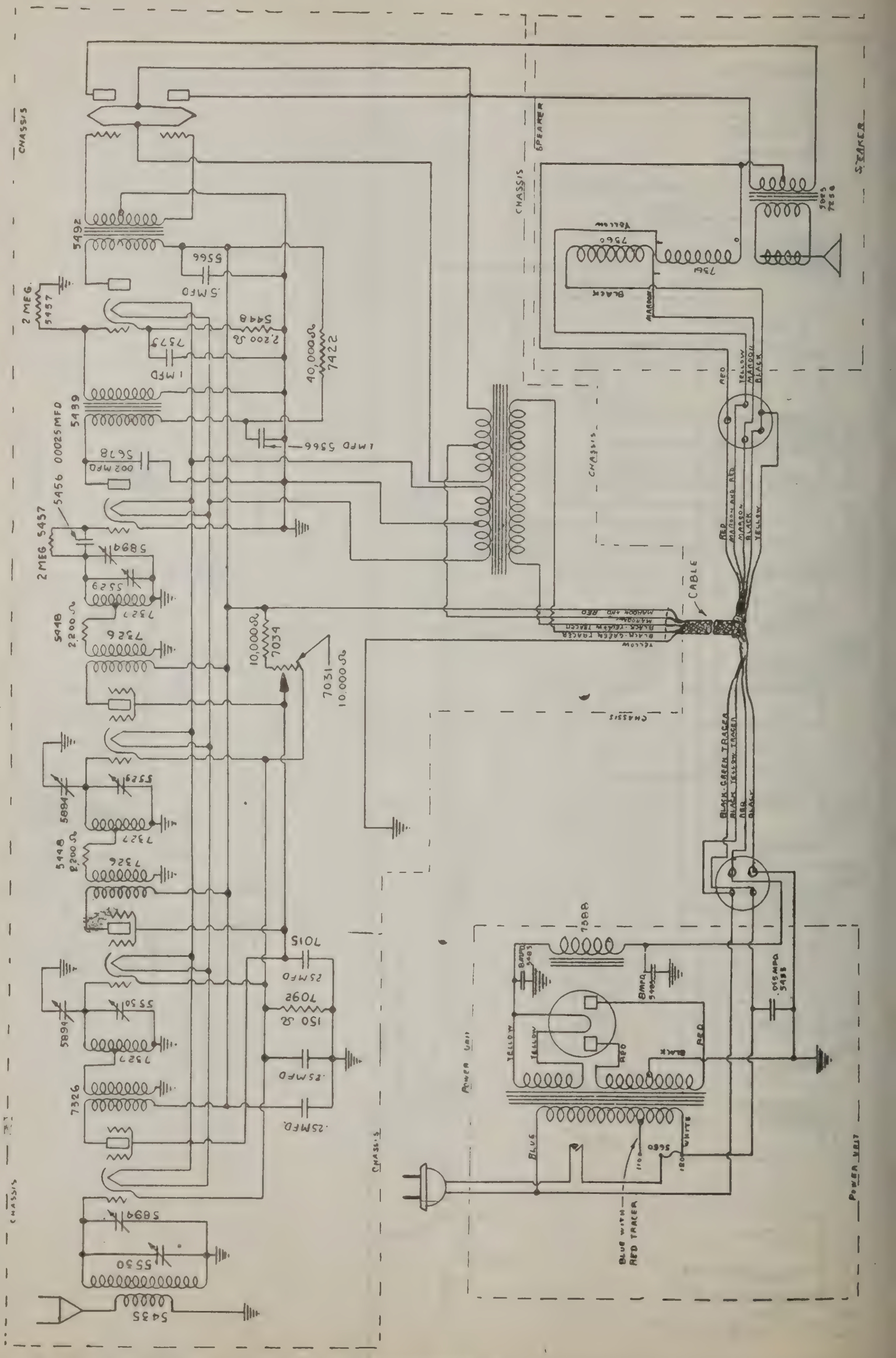

5516
7258
5923
SPEAKER CIRCUIT
TO SET
FIELD
RED ON BOTTOM
7350
8 MFD
LOOKING AT TOP OF SOCKET
5455
.015 MFD
5540
5800 OHMS
7253
7352
P.S.U. CIRCUIT
YELLOW
RED
BLUE
WHITE
110
120
5553
5650
1753
BLUE WITH RED TRACER

Power Unit and Speaker

MODEL 4
Schematic

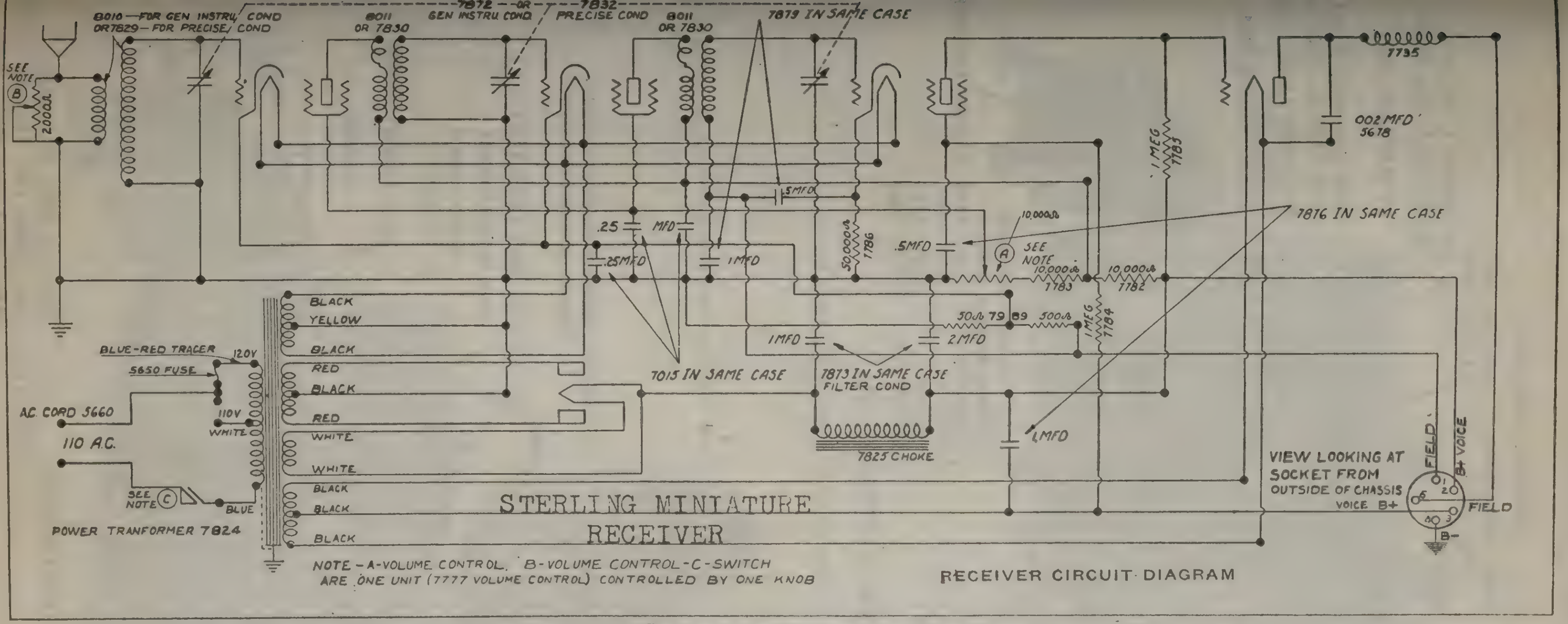
STERLING MFG. CO.

Complete Schematic Diagram of the No. 4 Circuit


CHASSIS
SPEAKER
5492
5566
.5 MFD
2 MEG. 5457
5448
2,200 Ω
40,000 Ω 7422
7575
1 MFD
5439
.00025 MFD
1 MFD 5566
5678
.002 MFD
2 MEG 5457
5456
5684
5529
7327
5448 2200 Ω
7326
10,000 Ω 7034
7031 10,000 Ω
5529
5884
7327
5448 2,200 Ω
7326
7015
.25 MFD
7092
150 Ω
5550
5894
7327
.25 MFD
7326
.25 MFD.
5894
5530
5435
7560
7561
YELLOW
BLACK
MAROON
5985 7256
RED
YELLOW
MAROON
BLACK
RED
MAROON AND RED
MAROON
BLACK
YELLOW
CABLE
MAROON AND RED
MAROON
BLACK-YELLOW TRACER
BLACK-GREEN TRACER
YELLOW
BLACK-GREEN TRACER
BLACK-YELLOW TRACER
RED
BLACK
7588
8 MFD 5485
8 MFD 5485
.05 MFD 5483
YELLOW
YELLOW
RED
RED
BLACK
POWER UNIT
BLUE
WHITE
5560
110
120
BLUE WITH RED TRACER

STERLING MFG. CO.

MODEL Miniature
Schematic,Voltage


8010—FOR GEN INSTRU COND
OR7829—FOR PRECISE COND
8011 OR 7830
7872 — OR — 7832
GEN INSTRU COND
PRECISE COND
8011 OR 7830
7879 IN SAME CASE
7735
.002 MFD 5678
1 MEG 7785
7876 IN SAME CASE
SEE NOTE B
2000Ω
.5MFD
.25
MFD
.25MFD
1MFD
50,000Ω 7786
.5MFD
10,000Ω
SEE NOTE A
10,000Ω 7783
10,000Ω 7782
50Ω 79 89 500Ω
1MEG 7784
1MFD
2MFD
7015 IN SAME CASE
7873 IN SAME CASE FILTER COND
7825 CHOKE
1MFD
BLACK
YELLOW
BLACK
RED
BLACK
RED
WHITE
WHITE
BLACK
BLACK
BLACK
BLUE-RED TRACER
120V
5650 FUSE
AC CORD 5660
110V
WHITE
110 A.C.
SEE NOTE C
BLUE
POWER TRANFORMER 7824
STERLING MINIATURE
RECEIVER
VIEW LOOKING AT SOCKET FROM OUTSIDE OF CHASSIS
FIELD
B+ VOICE
VOICE B+
FIELD
B-

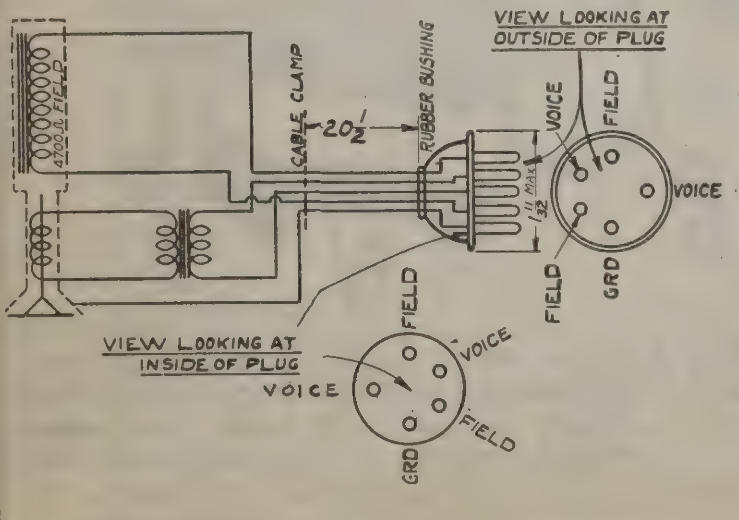
NOTE - A-VOLUME CONTROL, B-VOLUME CONTROL-C-SWITCH ARE ONE UNIT (7777 VOLUME CONTROL) CONTROLLED BY ONE KNOB

RECEIVER CIRCUIT DIAGRAM

Ground	to	Volume control screen	70 volts
"	"	RF Plate Volume on	165
"	"	RF Screen Volume on	70
"	"	RF Cathode	2
"	"	Power Supply Output	450
"	"	Power Supply Output	390
"	"	Detecor Plate	40*
"	"	Detector Screen	20*
"	"	Detector Cathode	15*
		'45 Grid Bias	35
		'45 Plate	220
"	"	'45 Plate	350**

*The voltages shown are those obtained with a very high resistance voltmeter, such as a 100 microampere meter and a series resistor of 1 megohm.

** '45 Plate reads 350 volts to ground. The cathode is raised 130 volts above ground and the effective '45 plate voltage is 220 volts.


4700Ω FIELD
CABLE CLAMP
20½
RUBBER BUSHING
11/32 MAX
VIEW LOOKING AT OUTSIDE OF PLUG
VOICE
FIELD
VOICE
FIELD
GRD
VIEW LOOKING AT INSIDE OF PLUG
FIELD
VOICE
VOICE
FIELD
GRD

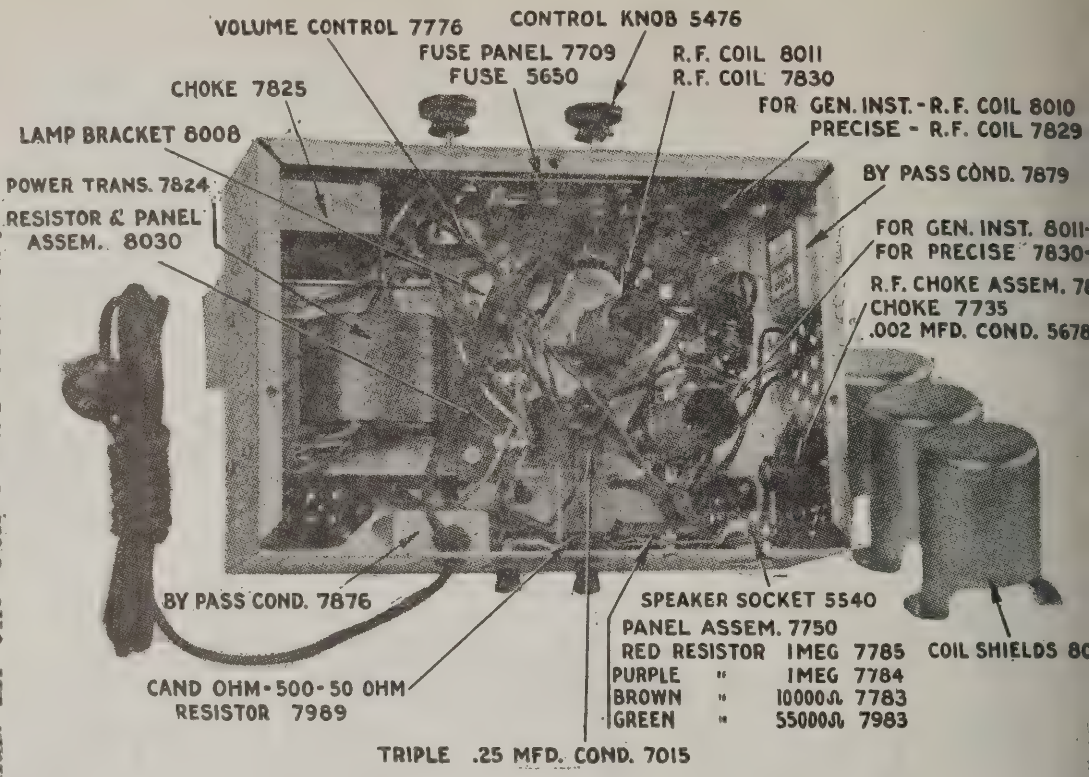
DYNAMIC SPEAKER CIRCUIT DIAGRAM

MODEL Miniature
Chassis Views

STERLING MFG. CO.

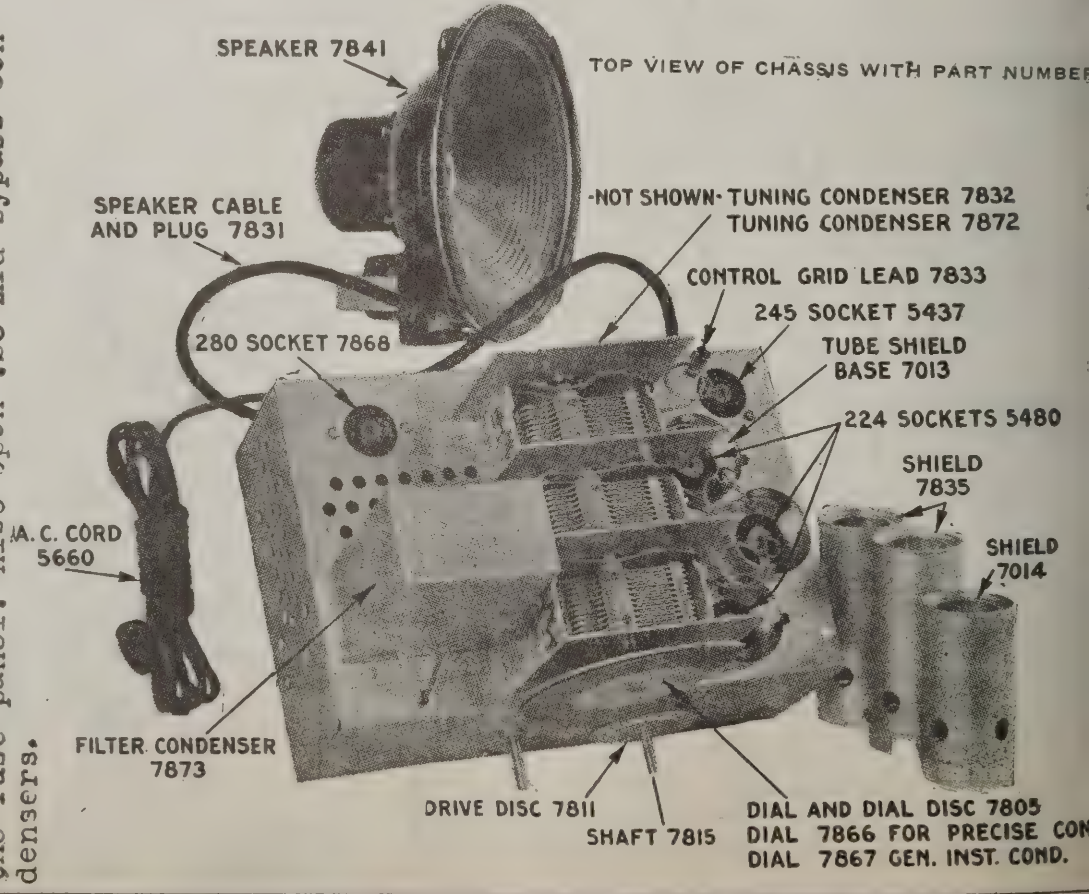
In the event:- of excessive regeneration difficulties, check the position of the grid wires. If too close together, this trouble is liable to occur. Check the .015 mfd condenser on the center of the fuse panel. Also open .25 mfd bypass condensers.

One possible remedy for excessive hum is some condition in the detector tube circuit. Try each of the '24 tubes in the detector socket. A tube that hums in the detector socket, may not hum in the other '24 sockets.


VOLUME CONTROL 7776
CONTROL KNOB 5476
FUSE PANEL 7709
FUSE 5650
R.F. COIL 8011
R.F. COIL 7830
CHOKE 7825
FOR GEN. INST. - R.F. COIL 8010
PRECISE - R.F. COIL 7829
LAMP BRACKET 8008
BY PASS COND. 7879
POWER TRANS. 7824
RESISTOR & PANEL ASSEM. 8030
FOR GEN. INST. 8011-
FOR PRECISE 7830-
R.F. CHOKE ASSEM. 7
CHOKE 7735
.002 MFD. COND. 5678
BY PASS COND. 7876
SPEAKER SOCKET 5540
PANEL ASSEM. 7750
RED RESISTOR IMEG 7785
PURPLE " IMEG 7784
BROWN " 10000Ω 7783
GREEN " 55000Ω 7983
COIL SHIELDS 80
CAND OHM-500-50 OHM RESISTOR 7989
TRIPLE .25 MFD. COND. 7015

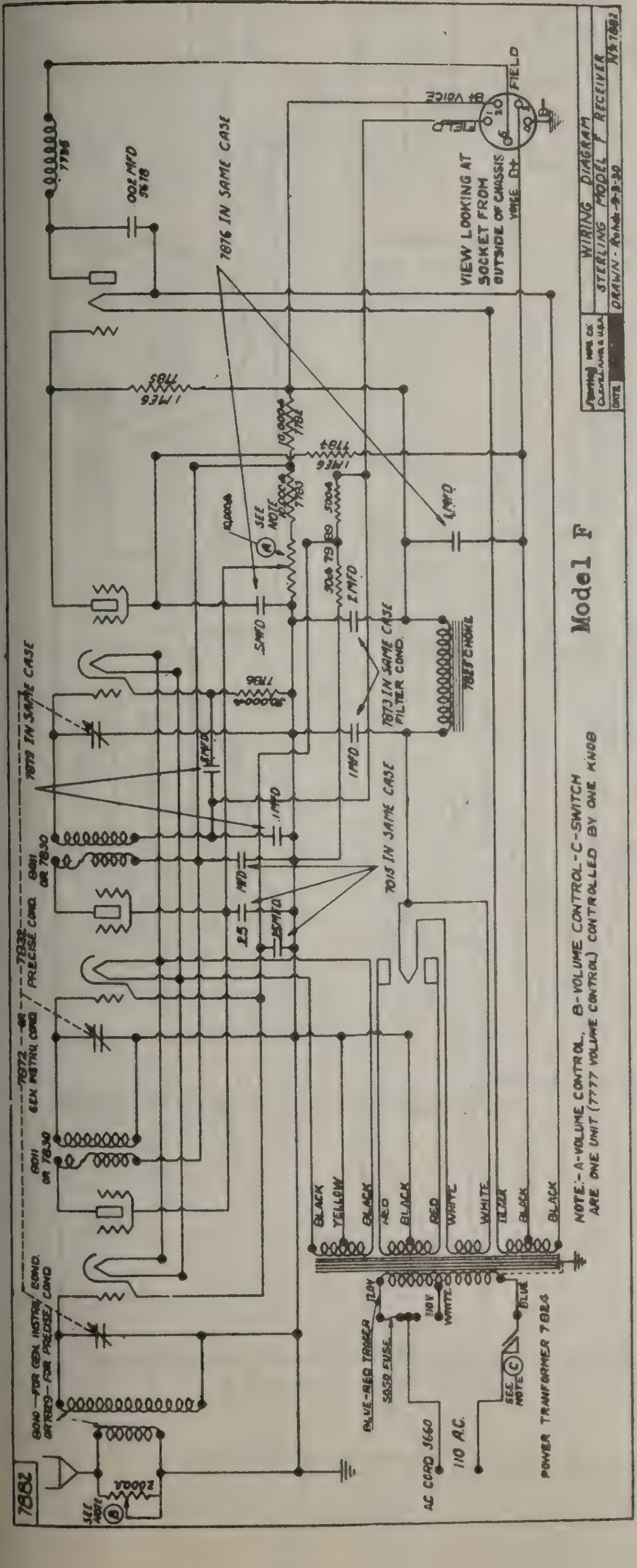
BOTTOM VIEW OF CHASSIS WITH PART NUMBERS

TOP VIEW OF CHASSIS WITH PART NUMBER


SPEAKER 7841
SPEAKER CABLE AND PLUG 7831
-NOT SHOWN- TUNING CONDENSER 7832
TUNING CONDENSER 7872
CONTROL GRID LEAD 7833
245 SOCKET 5437
280 SOCKET 7868
TUBE SHIELD BASE 7013
224 SOCKETS 5480
SHIELD 7835
SHIELD 7014
A.C. CORD 5660
FILTER CONDENSER 7873
DRIVE DISC 7811
SHAFT 7815
DIAL AND DIAL DISC 7805
DIAL 7866 FOR PRECISE CON
DIAL 7867 GEN. INST. COND.

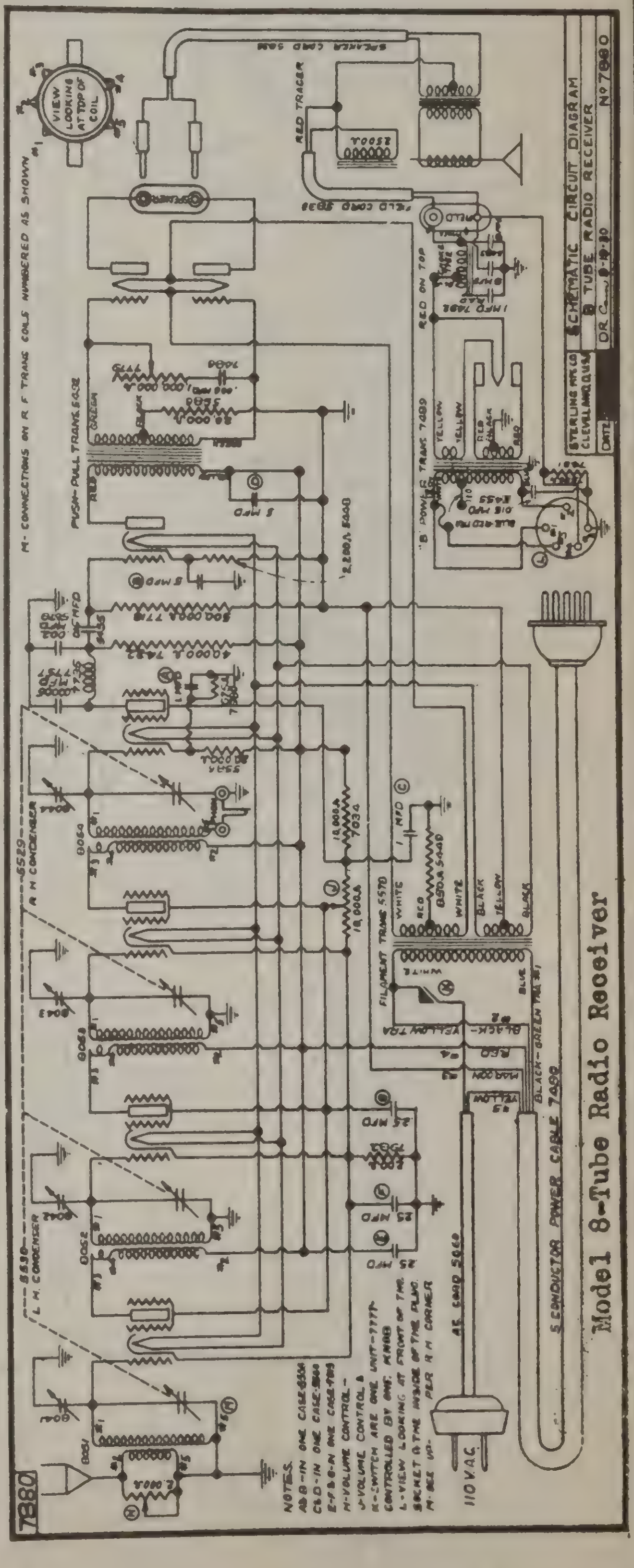
MODEL F
MODEL 8-Tube Receiver

STERLING MFG. CO.


WIRING DIAGRAM
STERLING MODEL F RECEIVER
DRAWN - 9-8-30
No 7882
STERLING MFG CO. CLEVELAND O.
VIEW LOOKING AT SOCKET FROM OUTSIDE OF CHASSIS
7876 IN SAME CASE
7879 IN SAME CASE
7015 IN SAME CASE
7873 IN SAME CASE FILTER COND.
7837 CHOKE
POWER TRANSFORMER 7824
AC CORD 5660
110 A.C.
BLUE-RED TRACER
5858 FUSE
BLACK
YELLOW
RED
WHITE
7882

NOTE:- A-VOLUME CONTROL, B-VOLUME CONTROL-C-SWITCH ARE ONE UNIT (7777 VOLUME CONTROL) CONTROLLED BY ONE KNOB

Model F


SCHEMATIC CIRCUIT DIAGRAM
8 TUBE RADIO RECEIVER
No 7880
STERLING MFG CO. CLEVELAND O.
VIEW LOOKING AT TOP OF COIL
PUSH-PULL TRANS. 5832
FILAMENT TRANS 5570
'B' POWER TRANS 7480
FIELD CORD 5838
SPEAKER CORD 5838
5 CONDUCTOR POWER CABLE 7480
AC CORD 5660
110 V.A.C.
R H CONDENSER
L H CONDENSER
7880

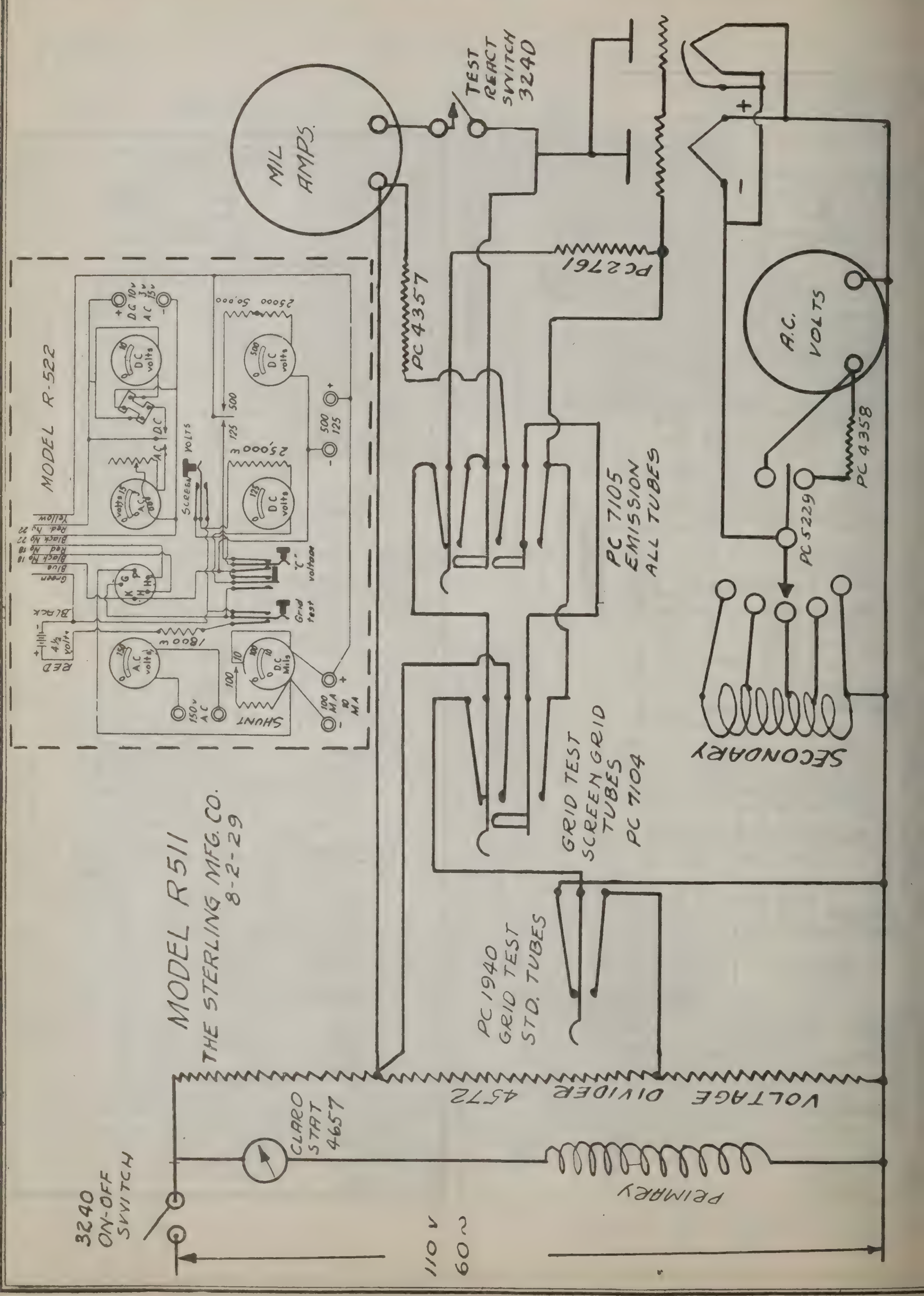
M- CONNECTIONS ON R F TRANS COILS NUMBERED AS SHOWN

NOTES.
A&B-IN ONE CASE-5534
C&D-IN ONE CASE-5800
E-F&G-IN ONE CASE-7015
H-VOLUME CONTROL-
J-VOLUME CONTROL &
K-SWITCH ARE ONE UNIT-7777-
CONTROLLED BY ONE KNOB
L-VIEW LOOKING AT FRONT OF THE
SOCKET & THE INSIDE OF THE PLUG
M-SEE UP- PER R H CORNER

Model 8-Tube Radio Receiver

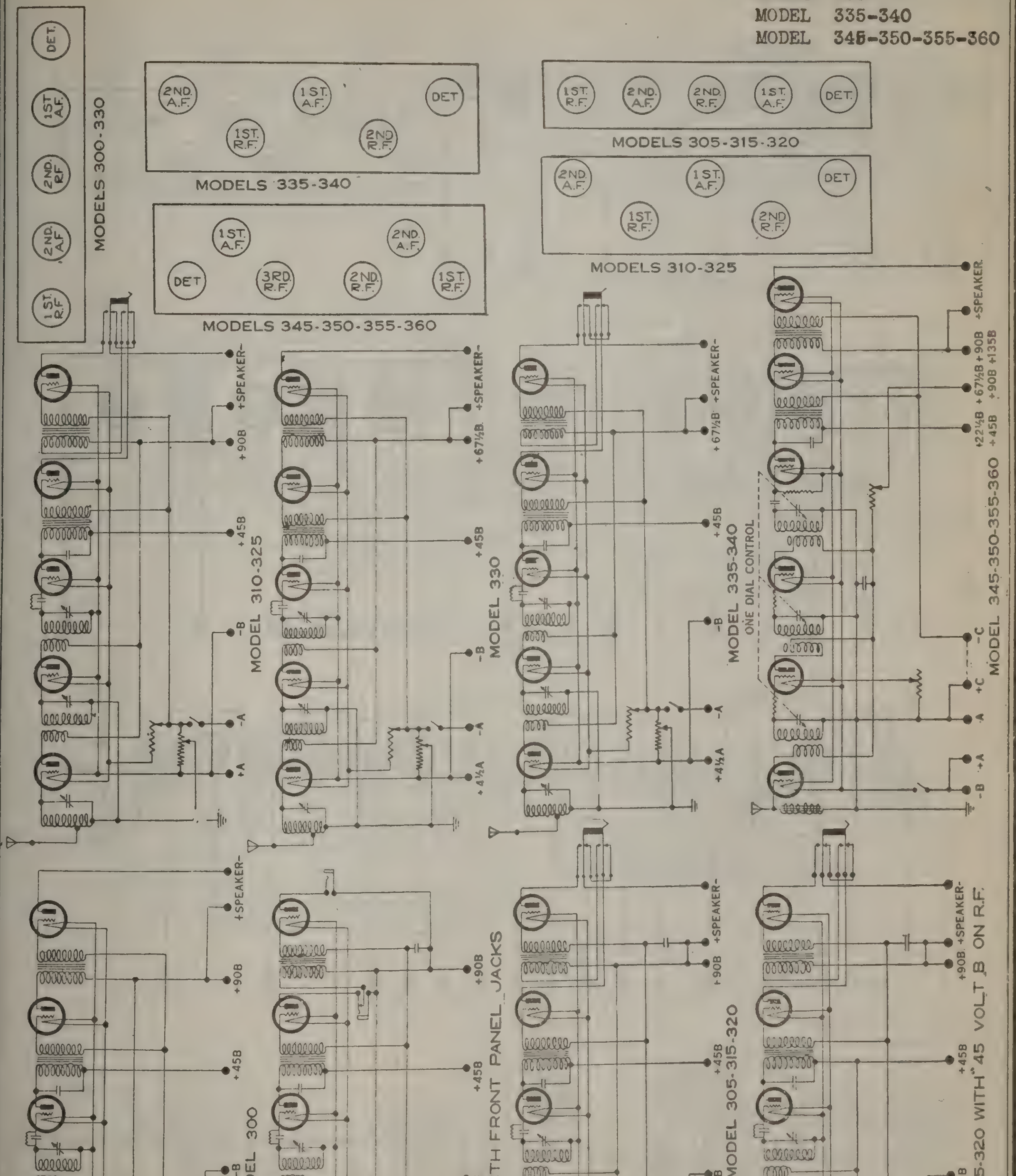
MODEL R-511
MODEL R-522

STERLING MFG. CO.


MIL AMPS.
TEST REACT SWITCH 3240
PC 2761
PC 4357
A.C. VOLTS
PC 4358
PC 5229
PC 7105 EMISSION ALL TUBES
SECONDARY
GRID TEST SCREEN GRID TUBES PC 7104
PC 1940 GRID TEST STD. TUBES
VOLTAGE DIVIDER 4572
CLARO STAT 4657
PRIMARY
3240 ON-OFF SWITCH
110 V 60 ~
MODEL R-522
MODEL R511
THE STERLING MFG. CO. 8-2-29
DC volts
AC volts
DC Mils
SHUNT
SCREEN VOLTS
Grid test
1800 Ω
25000 Ω
4½ volts
RED
BLACK
Green
Blue
Yellow
+
-

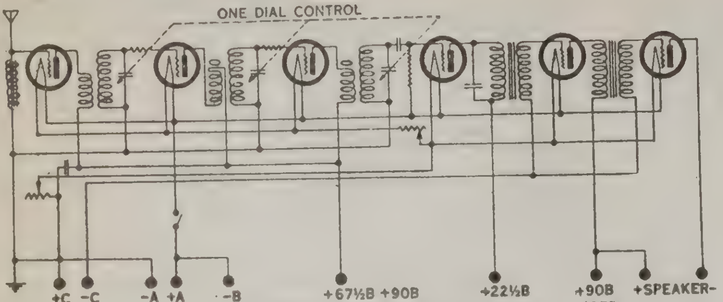
STEWART-WARNER CORP.

MODELS 300, 305
MODEL 305-315-320
MODEL 310-325
MODEL 330
MODEL 335-340
MODEL 345-350-355-360

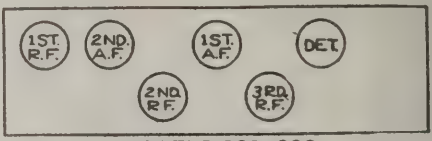

MODELS 300-330
DET.
1ST. A.F.
2ND. RF
2ND. A.F.
1ST. R.F.
MODELS 335-340
2ND. A.F.
1ST. A.F.
DET
1ST. R.F.
2ND R.F.
MODELS 345-350-355-360
1ST. A.F.
2ND. A.F.
DET
3RD. R.F.
2ND. R.F.
1ST. R.F.
MODELS 305-315-320
1ST. R.F.
2ND. A.F.
2ND. R.F.
1ST. A.F.
DET.
MODELS 310-325
2ND. A.F.
1ST. A.F.
DET
1ST. R.F.
2ND R.F.
MODEL 310-325
MODEL 330
MODEL 335-340
ONE DIAL CONTROL
MODEL 345-350-355-360
MODEL 300
MODEL 305 WITH FRONT PANEL JACKS
MODEL 305-315-320
MODEL 305-315-320 WITH "45 VOLT B ON R.F.
+SPEAKER-
+90B
+67½B
+45B
-B
-A
+A
+4½A
+22½B
+67½B +90B
+45B +90B +135B
-C
+C

MODEL 385-390
MODEL 500,520,525
MODEL 530,535
MODEL 530,535.715,720

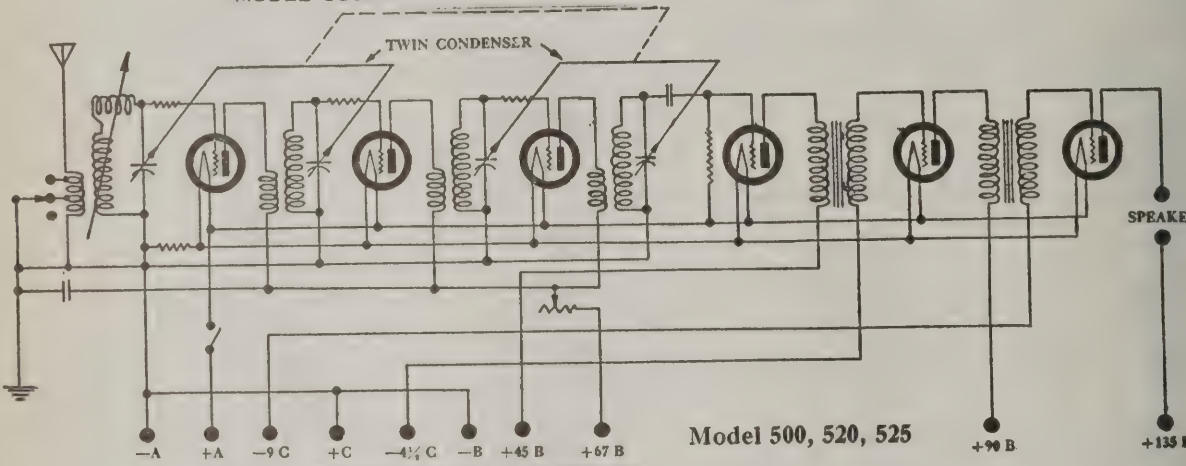
STEWART-WARNER CORP.


ONE DIAL CONTROL
+C
-C
-A
+A
-B
+67½B +90B
+22½B
+45B
+90B
+135B
+SPEAKER-

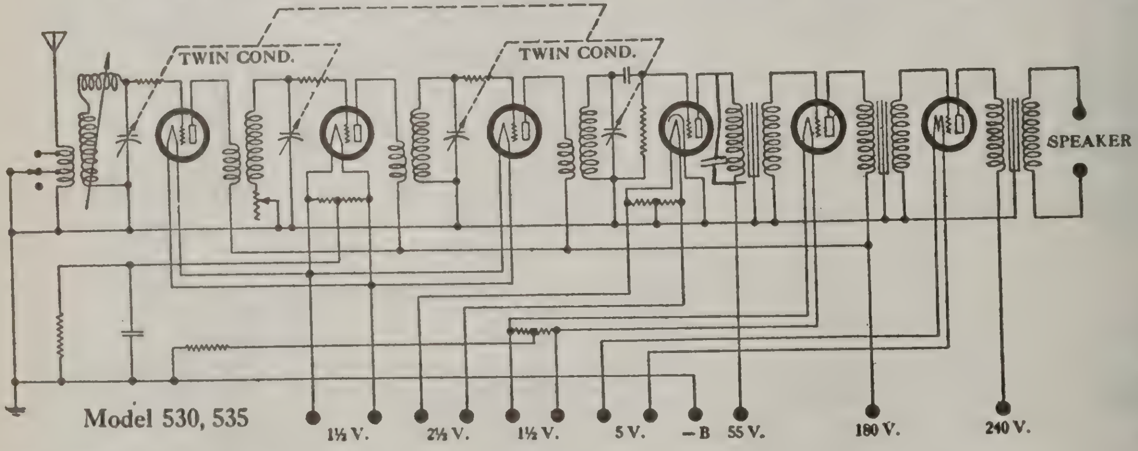
MODEL 385-390


1ST. R.F.
2ND. A.F.
1ST. A.F.
DET.
2ND. R.F.
3RD. R.F.

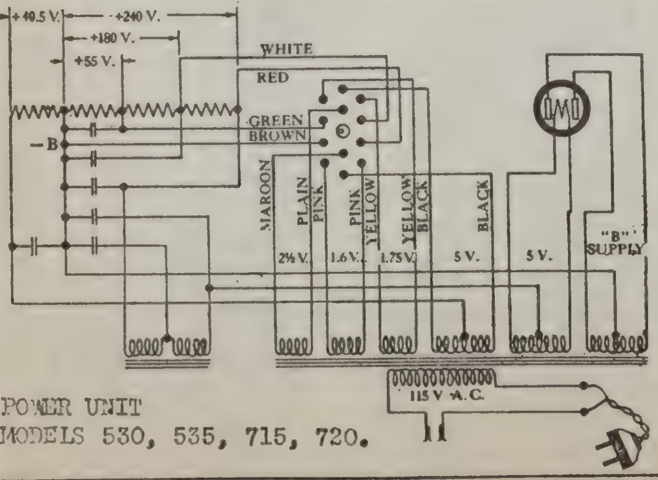
MODELS 385-390


TWIN CONDENSER
SPEAKER
−A
+A
−9 C
+C
−4½ C
−B
+45 B
+67 B
+90 B
+135 B

Model 500, 520, 525

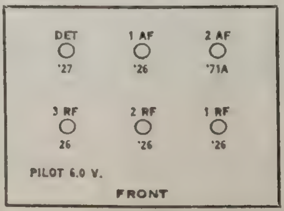

TWIN COND.
TWIN COND.
SPEAKER
1½ V.
2½ V.
1½ V.
5 V.
−B
55 V.
180 V.
240 V.

Model 530, 535

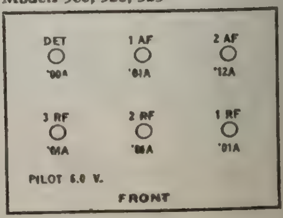

+40.5 V.
+240 V.
+180 V.
+55 V.
−B
WHITE
RED
GREEN
BROWN
MAROON
PLAIN PINK
PINK YELLOW
YELLOW BLACK
BLACK
2½ V.
1.6 V.
1.75 V.
5 V.
5 V.
"B" SUPPLY
115 V A.C.

POWER UNIT
MODELS 530, 535, 715, 720.

Models 530, 535

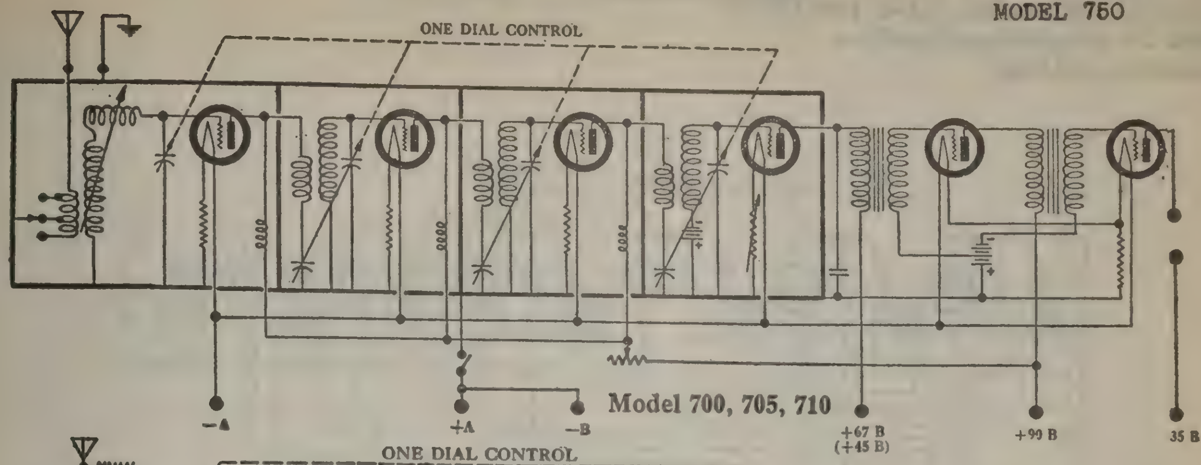

DET
'27
1 AF
'26
2 AF
'71A
3 RF
26
2 RF
'26
1 RF
'26
PILOT 6.0 V.
FRONT

Models 500, 520, 525

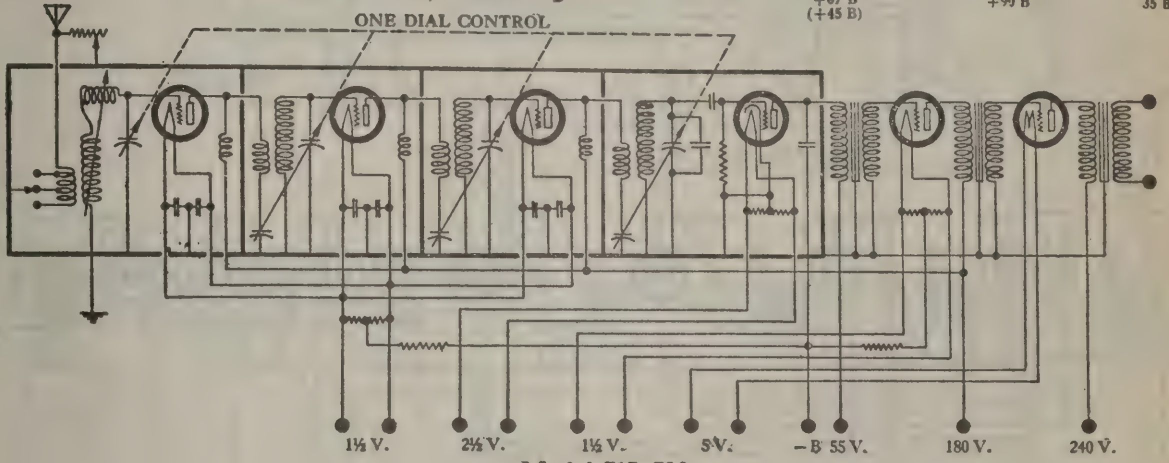

DET
'00A
1 AF
'01A
2 AF
'12A
3 RF
'01A
2 RF
'01A
1 RF
'01A
PILOT 6.0 V.
FRONT

MODEL 700,705,710
MODEL 715,720
MODEL 750

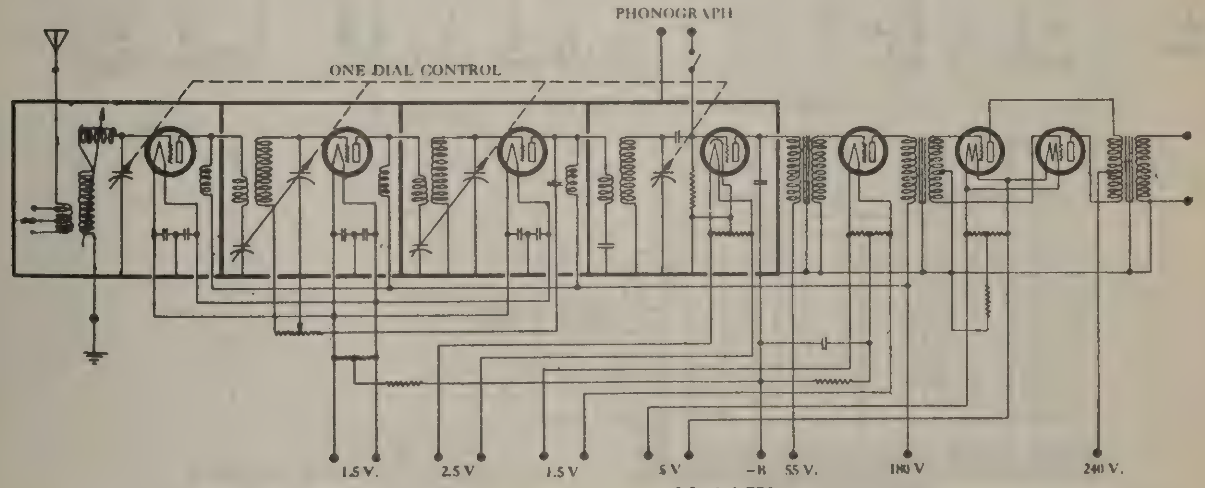
STEWART-WARNER CORP.


ONE DIAL CONTROL
−A
+A
−B
+67 B
(+45 B)
+90 B
35 B

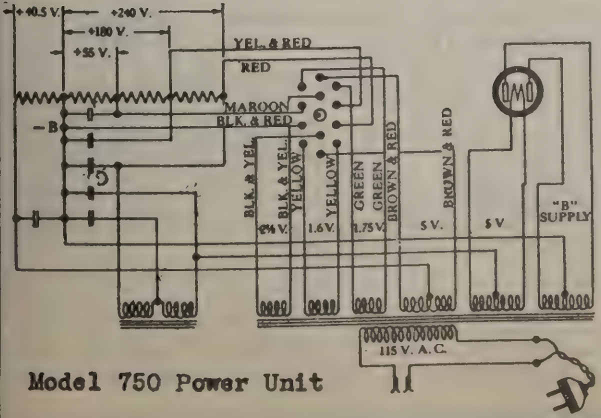
Model 700, 705, 710


ONE DIAL CONTROL
1½ V.
2½ V.
1½ V.
5 V.
− B
55 V.
180 V.
240 V.

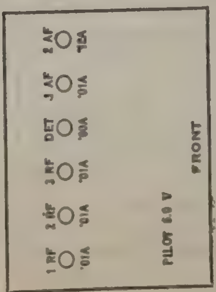
Model 715, 720


PHONOGRAPH
ONE DIAL CONTROL
1.5 V.
2.5 V
1.5 V
5 V
−B
55 V.
180 V
240 V.

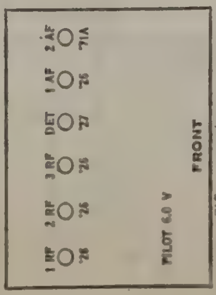
Model 750


+40.5 V.
+240 V.
+180 V.
+55 V.
YEL. & RED
RED
MAROON
BLK. & RED
−B
BLK. & YEL.
BLK. & YEL.
YELLOW
YELLOW
GREEN
GREEN
BROWN & RED
BROWN & RED
2½ V.
1.6 V.
1.75 V.
5 V.
5 V
"B" SUPPLY
115 V. A. C.

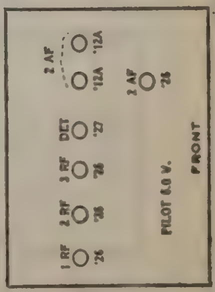
Model 750 Power Unit


1 RF '01A
2 RF '01A
3 RF '01A
DET '00A
1 AF '01A
2 AF '12A
PILOT 6.0 V
FRONT

Models 700, 705, 710


1 RF '26
2 RF '26
3 RF '26
DET '27
1 AF '26
2 AF '71A
PILOT 6.0 V
FRONT

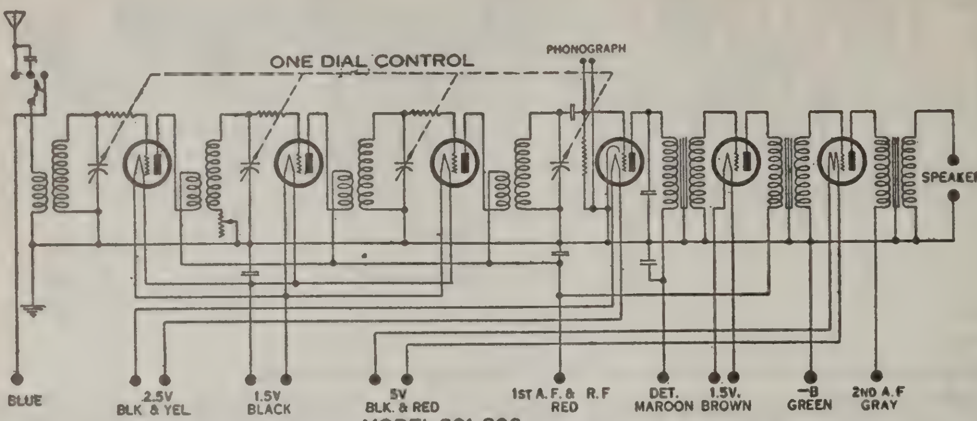
Models 715, 720


1 RF '26
2 RF '26
3 RF '26
DET '27
2 AF '12A
'12A
2 AF '26
PILOT 6.0 V.
FRONT

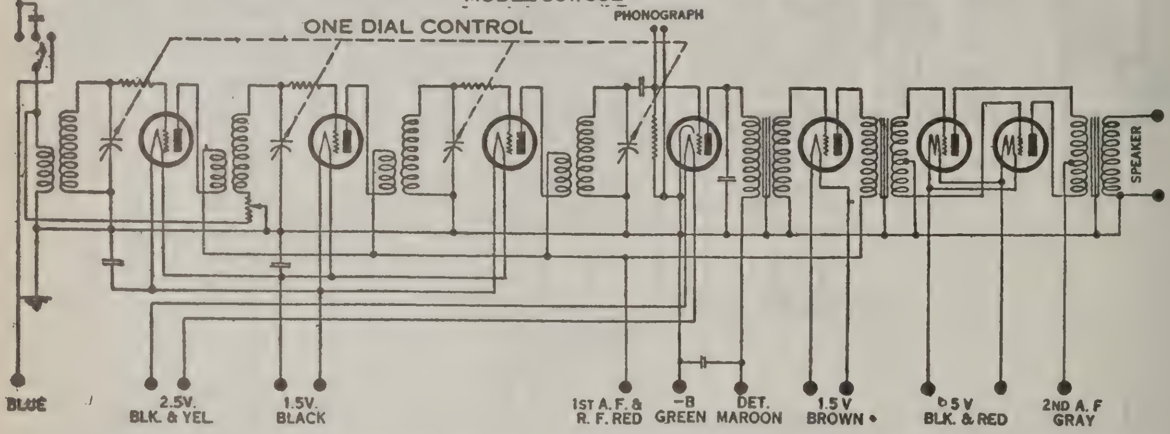
Model 750

STEWART - WARNER CORP.

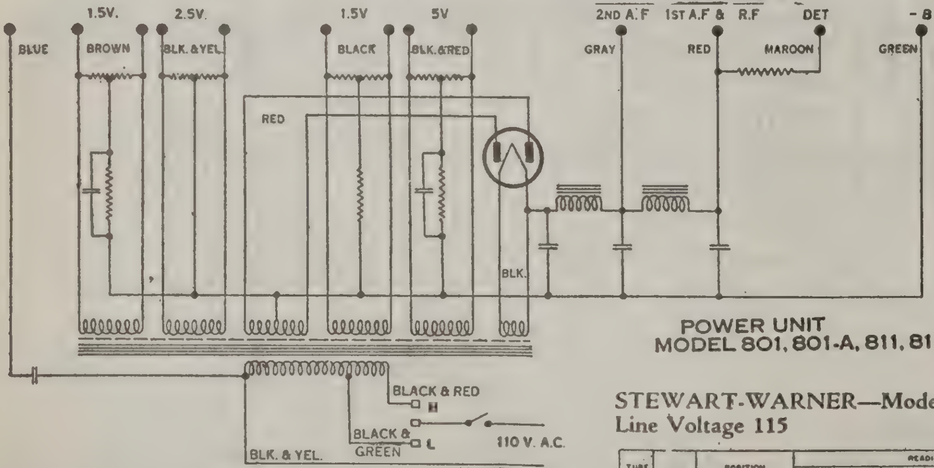
MODEL 801,802
MODEL 801,801-A,811,811-A (Series B)
MODEL PU 801,801-A,811,811-A
Schematic,Voltage


ONE DIAL CONTROL
PHONOGRAPH
SPEAKER
BLUE
2.5V BLK & YEL
1.5V BLACK
5V BLK. & RED
1ST A.F. & R.F RED
DET. MAROON
1.5V. BROWN
—B GREEN
2ND A.F GRAY

MODEL 801, 802

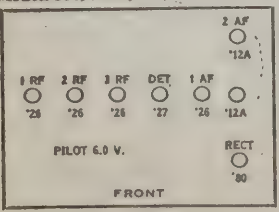

ONE DIAL CONTROL
PHONOGRAPH
SPEAKER
BLUE
2.5V. BLK. & YEL
1.5V. BLACK
1ST A.F. & R. F. RED
—B GREEN
DET. MAROON
1.5 V BROWN
5 V BLK. & RED
2ND A. F GRAY

MODEL 801, 801-A. 811, 811-A SERIES B

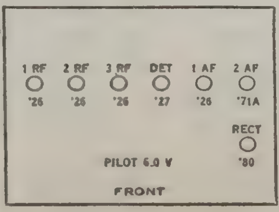

1.5V.
2.5V.
1.5V
5V
2ND A.F
1ST A.F & R.F
DET
- B
BLUE
BROWN
BLK.&YEL.
BLACK
BLK.&RED
GRAY
RED
MAROON
GREEN
RED
BLK.
BLACK & RED
H
BLACK & GREEN
L
110 V. A.C.
BLK. & YEL.

POWER UNIT
MODEL 801, 801-A, 811, 811-A

Models 801, 801A, 811, 811A; Series B


2 AF
'12A
1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
'12A
PILOT 6.0 V.
RECT
'80
FRONT

Models 801, 811, Series A


1 RF
'26
2 RF
'26
3 RF
'26
DET
'27
1 AF
'26
2 AF
'71A
RECT
'80
PILOT 6.0 V
FRONT

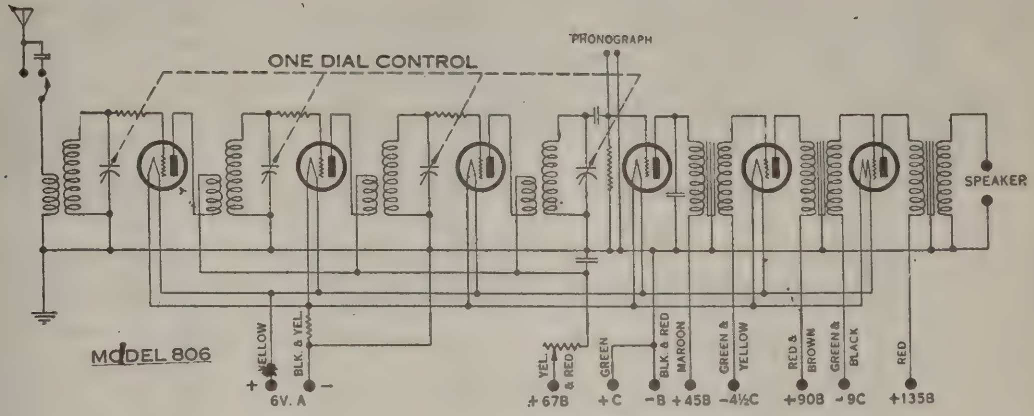
STEWART-WARNER—Model 801 SERIES B
Line Voltage 115 801A-811-811A

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A GRID TEST	PLATE M A CHANGE
1	226	1R.F.	1.46	157	1.33	155	14.8	-	2.9	9.7	6.8
2	226	2R.F.	1.46	158	1.33	156	14.8	-	2.3	9.2	6.9
3	226	3R.F.	1.48	158	1.32	156	14.8	-	1.9	9.5	7.6
4	227	DET.	2.40	132	1.98	25	0	-	1.4	1.45	0.05
5	226	1A.F.	1.62	175	1.42	146	12.5	-	3.3	4.1	0.8
6	112A	2A.F.	5.1	175	4.93	158	12.0	-	9.9	14.9	5.0
7	112A	2A.F.	5.1	175	4.95	158	12.0	-	9.3	14.2	4.9
8	280	Rectifier	5.7		4.78						
9											
10											

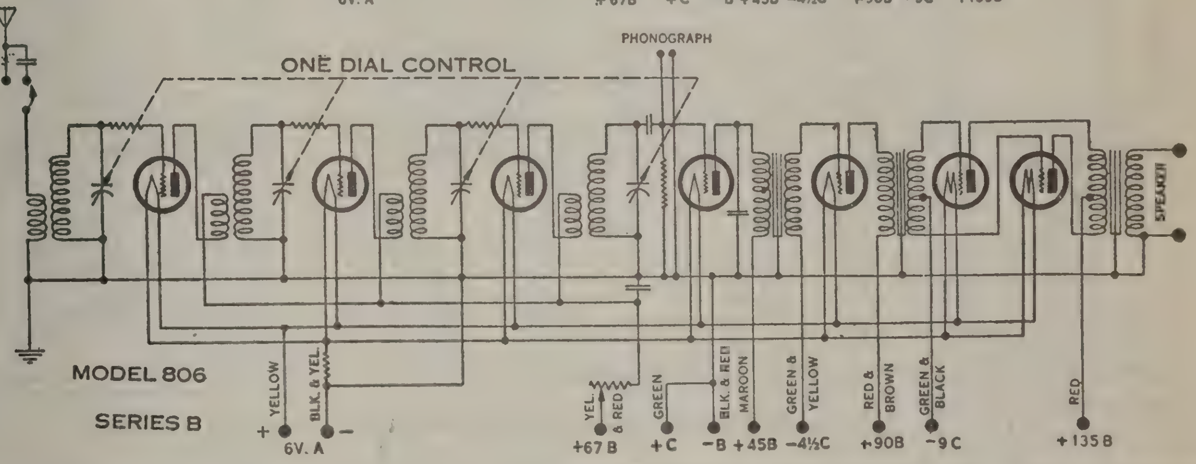
The values given apply to all Model 801 receivers, however, some of the early sets operated with lower "B" voltage than shown. On recent sets the "B" voltage has been increased approximately 10% (per cent) above values given in the chart.

STEWART-WARNER CORP.

MODEL 806 (Series A)
MODEL 806 (Series B)
MODEL 950 Series (Battery)
Schematic, Voltage


ONE DIAL CONTROL
PHONOGRAPH
SPEAKER
YELLOW
BLK. & YEL.
+
−
6V. A
YEL. & RED
GREEN
BLK. & RED
MAROON
GREEN & YELLOW
RED & BROWN
GREEN & BLACK
RED
+67B
+C
−B
+45B
−4½C
+90B
−9C
+135B

MODEL 806


ONE DIAL CONTROL
PHONOGRAPH
SPEAKER
+
YELLOW
BLK. & YEL.
−
6V. A
YEL. & RED
GREEN
BLK. & RED
MAROON
GREEN & YELLOW
RED & BROWN
GREEN & BLACK
RED
+67 B
+C
−B
+45B
−4½C
+90B
−9 C
+135 B

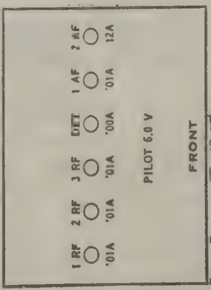
MODEL 806

SERIES B

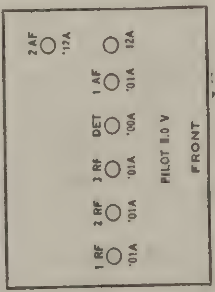
STEWART-WARNER—Model 950 A.C
Line Voltage 115—Volume Control Position Max

Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det Etc ③	Readings Plug in Socket of Set: Tube Out: A Volts ④	Tube Out: B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts Control Grid ⑧	Cathode Heater Volts ⑨	Normal Plate MA ⑩	Plate MA Grid Test ⑪	Plate Change MA ⑫	Screen Grid Volts ⑬
1	224	1st RF	-	-	2.2	166	2	2	3.9	9	6.1	74
2	224	2nd RF	-	-	2.2	166	2	2	3.9	9	6.1	74
3	224	3rd RF	-	-	2.2	166	2	2	3.9	9	6.1	74
4	227	Det.	-	-	2.3	188	18.5	18.5	6	-	-	-
5	227	1st AF	-	-	2.3	182	13.5	13.5	5.8	6.8	1	-
6	245	2nd AF	-	-	2.3	260	46	-	24	28	4	-
7	245	2nd AF	-	-	2.3	260	46	-	24	28	4	-
8	280	Rect.	-	-	4.7	-	-	-	90	-	-	-
9												
10												

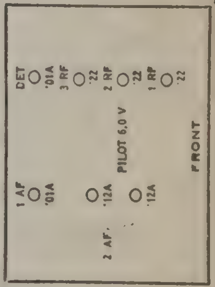
Model 806 Series A

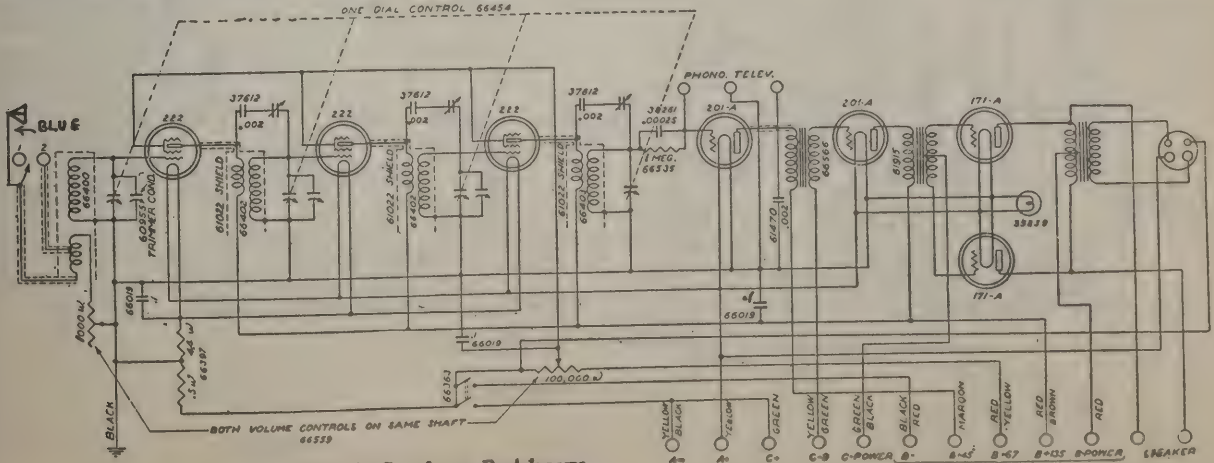

2 AF
'12A
1 AF
'01A
DET
'00A
3 RF
'01A
2 RF
'01A
1 RF
'01A
PILOT 6.0 V
FRONT

Model 806 Series B


2 AF
'12A
'12A
1 AF
'01A
DET
'00A
3 RF
'01A
2 RF
'01A
1 RF
'01A
PILOT 6.0 V
FRONT

Model 950 Series—Battery

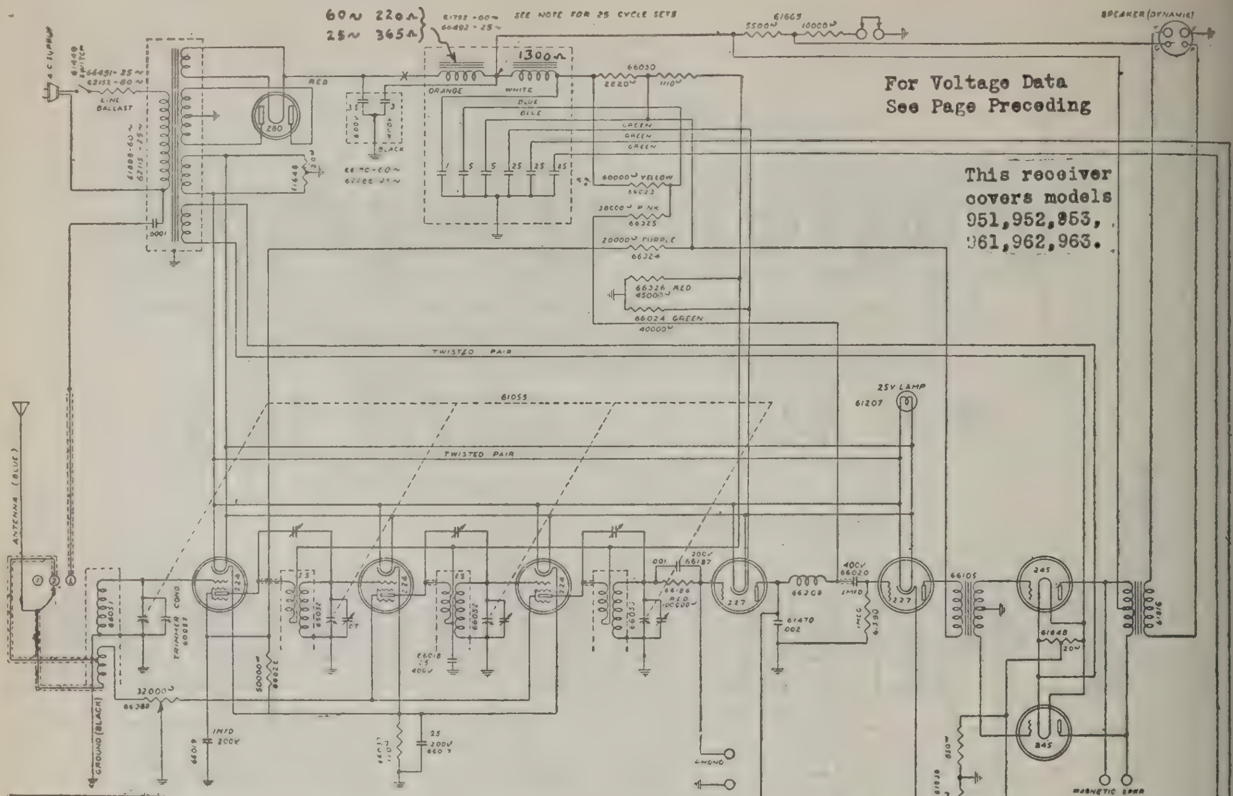

DET
'01A
3 RF
'22
2 RF
'22
1 RF
'22
PILOT 6.0 V
1 AF
'01A
'12A
'12A
2 AF
FRONT


ONE DIAL CONTROL 66454
BLUE
1
2
66400
60953 TRIMMER COND.
222
37612
.002
61022 SHIELD
66402
222
37612
.002
61022 SHIELD
66402
222
37612
.002
61022 SHIELD
66401
38261
.00025
1 MEG.
66535
PHONO. TELEV.
201-A
61470
.002
66566
201-A
61915
171-A
35839
171-A
66019
.1
1000 w
44 w
66397
.5 w
66019
.1
66019
66363
100,000 w
BLACK
BOTH VOLUME CONTROLS ON SAME SHAFT
66559
YELLOW BLACK
A−
YELLOW
A+
GREEN
C+
YELLOW GREEN
C-9
GREEN BLACK
C-POWER
BLACK RED
B−
MAROON
B+45
RED YELLOW
B+67
RED BROWN
B+135
RED
B-POWER
SPEAKER
CABLE ASSEMBLY 62342

Model 950 Series Battery

MODEL 950 Series (AC)
Schematic, Chassis

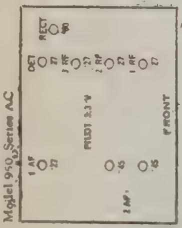
STEWART - WARNER CORP.


60~ 220Ω
25~ 365Ω
61792 - 60~
66492 - 25~
SEE NOTE FOR 25 CYCLE SETS
A C SUPPLY
61440 SWITCH
66491 - 25~
62152 - 60~
LINE BALLAST
61888 - 60~
62115 - 25~
.0001
280
RED
X
3.5
600V
3
400V
BLACK
66470 - 60~
62220 - 25~
1648
20Ω
1300Ω
ORANGE
WHITE
BLUE
BLUE
1
5
5
25
25
25
61665
5500Ω
10000Ω
SPEAKER (DYNAMIC)
66030
2220Ω
1110Ω
GREEN
GREEN
GREEN
60000Ω YELLOW
66023
38000Ω PINK
66325
20000Ω PURPLE
66324
66326 RED
45000Ω
66024 GREEN
40000Ω
TWISTED PAIR
61055
25V LAMP
61207
TWISTED PAIR
ANTENNA (BLUE)
1
2
3
GROUND (BLACK)
66051
TRIMMER COND
60085
224
66052
CT
224
66018
.5
400V
66052
224
66053
.001
200V
66187
66186
RED
100000Ω
227
66208
61470
.002
400V
66020
1 MFD
1 MEG
61390
227
66105
245
61648
20Ω
245
61816
50000Ω
66025
32000Ω
66388
1 MFD
200V
66019
25
200V
66017
1110
66037
PHONO
TELEV
MAGNETIC SPKR
2050Ω
61818
2400Ω

For Voltage Data
See Page Preceding

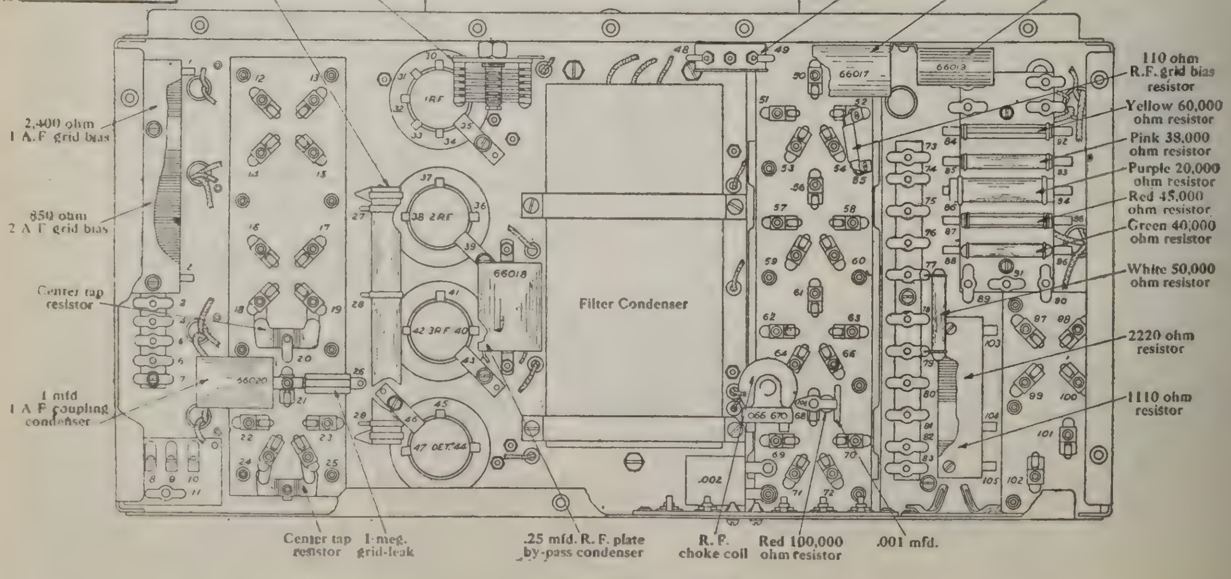
This receiver covers models 951,952,953, 961,962,963.

NOTE FOR 25 CYCLE SETS, RESISTOR #61665 LEADS TO POINT MARKED X INSTEAD OF TO CENTER POINT OF TWO CHOKE COILS AS DRAWN ABOVE


RECT
80
DET
27
3 RF
27
2 RF
27
1 RF
27
PILOT 2.5 V
FRONT
1 AF
45
45
45
2 AF

Model 950 Series AC

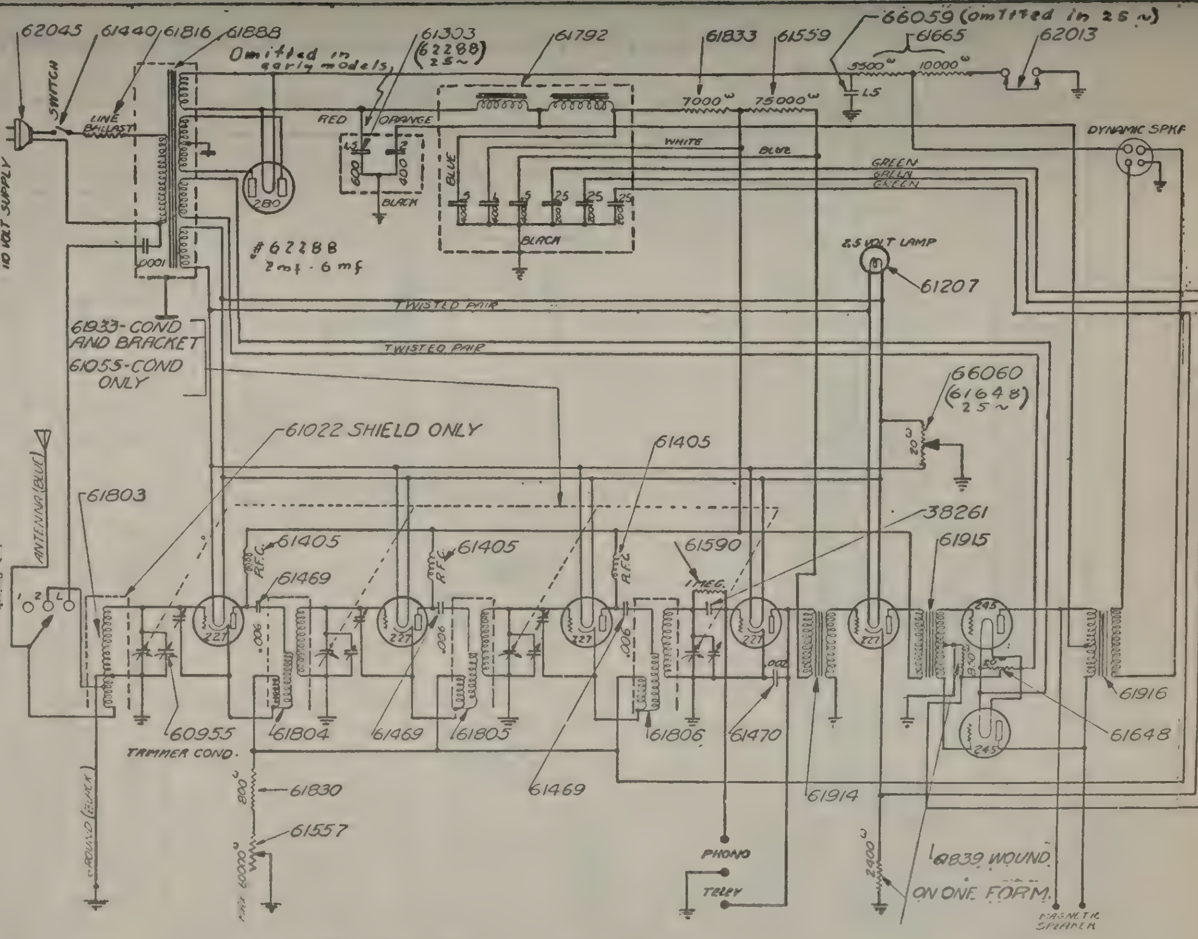
Circuit Diagram for Stewart-Warner 950 Series A. C. Receivers


Antenna Trimmer knob
Tuning control
Switch
Volume control knob
Dynamic speaker resistor
Antenna Trimmer
Volume control
Cathode bias by-pass condenser
Screen-grid bias by-pass condenser
110 ohm R.F. grid bias resistor
Yellow 60,000 ohm resistor
Pink 38,000 ohm resistor
Purple 20,000 ohm resistor
Red 45,000 ohm resistor
Green 40,000 ohm resistor
White 50,000 ohm resistor
2220 ohm resistor
1110 ohm resistor
2,400 ohm 1 A.F grid bias
850 ohm 2 A F grid bias
Center tap resistor
1 mfd 1 A F coupling condenser
1 RF
38 2 RF
42 3 RF 40
47 DET. 44
66018
66020
66017
66013
066 670
.002
Filter Condenser
Center tap resistor
1-meg. grid-leak
.25 mfd. R. F. plate by-pass condenser
R. F. choke coil
Red 100,000 ohm resistor
.001 mfd.

Bottom View of Set

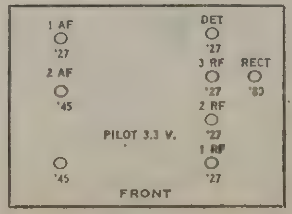
MODEL 901,902,903
911,912,913
Schematic,Chassis

STEWART-WARNER CORP.


62045
61440
61816
61888
Omitted in early models
61303 (62288) 25~
61792
61833
61559
66059 (omitted in 25~)
61665
62013
SWITCH
110 VOLT SUPPLY
LINE BALLAST
.0001
280
RED
ORANGE
BLUE
BLACK
400
600
#62288 2mf · 6mf
7000Ω
75000Ω
5500Ω
10000Ω
.5
25
WHITE
BLUE
GREEN
DYNAMIC SPKR
2.5 VOLT LAMP
61207
TWISTED PAIR
61933-COND AND BRACKET
61055-COND ONLY
66060 (61648) 25~
302
61022 SHIELD ONLY
61405
38261
61915
61803
ANTENNA (BLUE)
61469
61590
1 MEG.
.002
227
245
.006
60955
TRIMMER COND.
61804
61805
61806
61470
61914
61916
61648
GROUND (BLACK)
800Ω
61830
61557
MAX 6000Ω
PHONO
TELEV
2400Ω
61839 WOUND ON ONE FORM
MAGNETIC SPEAKER

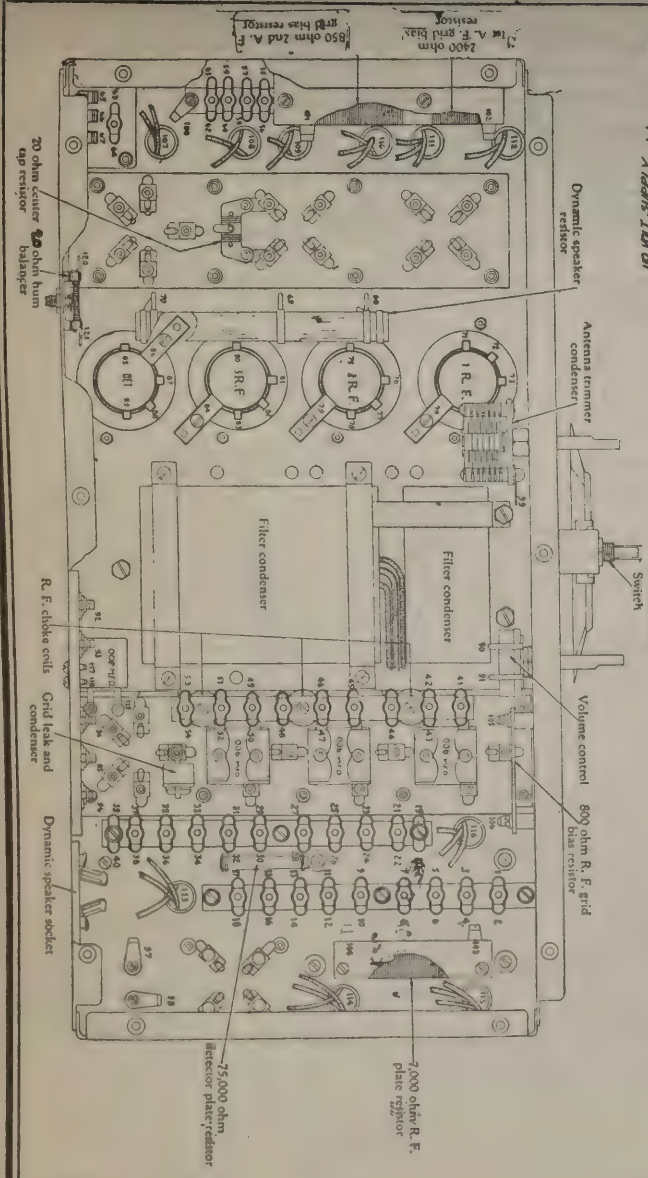
901, 902, 903, 911, 912, 913

Model 900 Series AC


1 AF
'27
2 AF
'45
'45
DET
'27
3 RF
'27
RECT
'80
2 RF
'27
PILOT 3.3 V.
1 RF
'27
FRONT

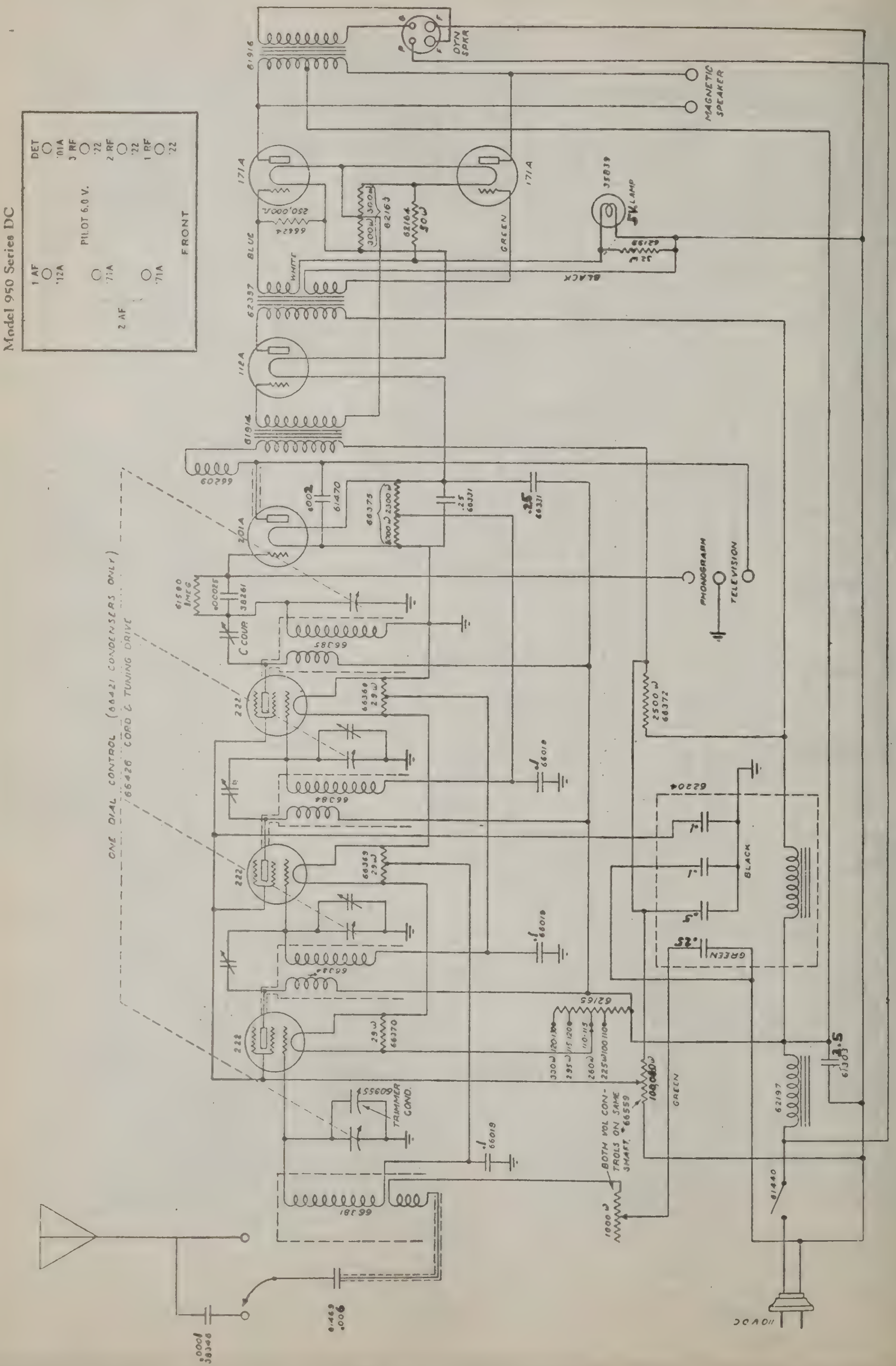
STEWART-WARNER—Series 900 A.C.
Line Voltage 115—Volume Control Position Max

			Readings Plug in Socket of Set								
			Tube Out		Tube in Tester						
Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det Etc ③	A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts (Control Ind.) ⑧	Cathode-Heater ⑨ Volts	Normal Plate ⑩ MA	Plate MA Grid ⑪ Test	Plate Change ⑫ MA
1	227	1st RF			2.2	132	8.5	-	3.8	5.8	2
2	227	2nd RF			2.2	138	8.5	-	3.8	5.8	2
3	227	3rd RF			2.15	132	8.5	-	3.8	5.8	2
4	227	Det.			2.10	32	0	-	2.8	2.8	-
5	227	1st AF			2.2	132	7.5	-	5.4	6.5	11
6	245	2nd AF			2.25	226	47.5	-	26	30	4
7	245	2nd AF			2.25	226	47.5	-	26	30	4
8	280	Rect.			4.7	-	-	-	90	-	-


Switch
Antenna trimmer condenser
Dynamic speaker resistor
Volume control
800 ohm R. F. grid bias resistor
2400 ohm 1st A. F. grid bias resistor
850 ohm 2nd A. F. grid bias resistor
1 R.F.
2 R.F.
3 R.F.
DET
Filter condenser
Filter condenser
7,000 ohm R. F. plate resistor
75,000 ohm detector plate resistor
20 ohm center tap resistor
20 ohm hum balancer
R. F. choke coils
Grid leak and condenser
Dynamic speaker socket

MODEL 950 Series DC

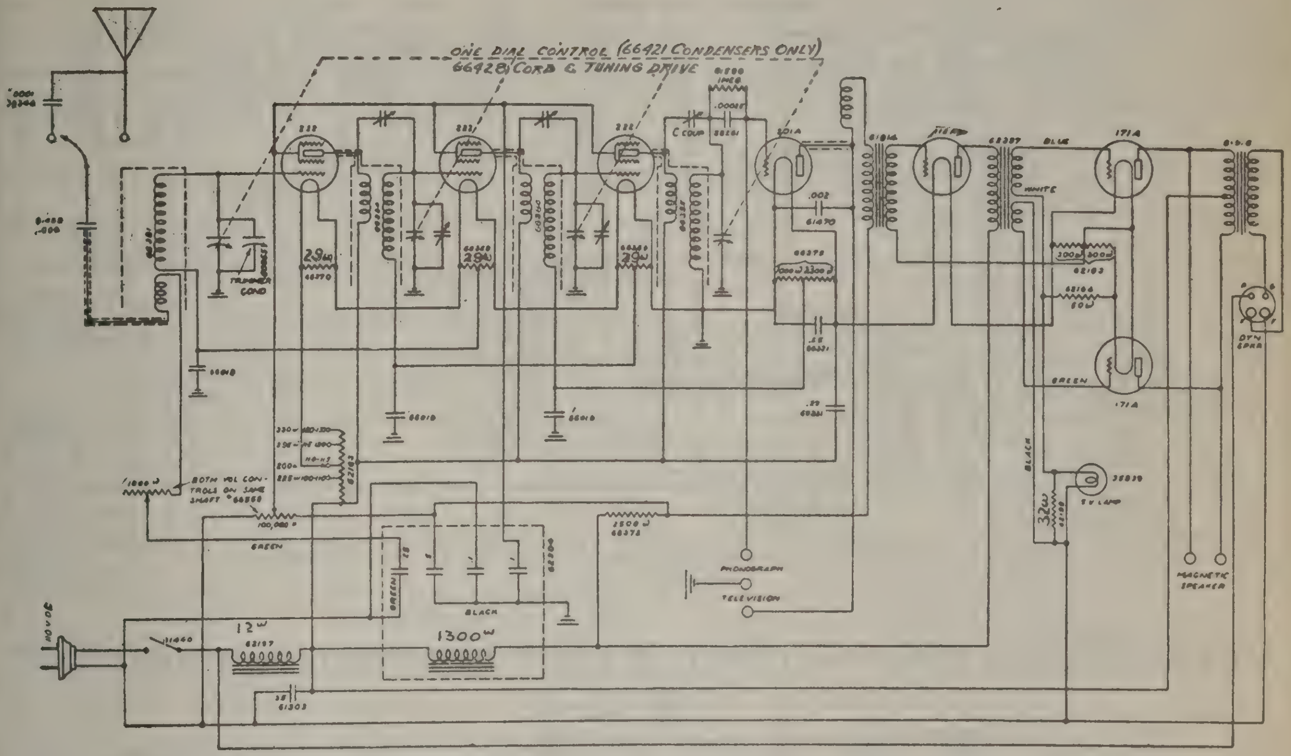
STEWART - WARNER CORP.


Model 950 Series DC
DET
'01A
3 RF
'22
2 RF
'22
1 RF
'22
PILOT 6.0 V.
1 AF
'12A
2 AF
'71A
'71A
FRONT
81916
DYN SPKR
MAGNETIC SPEAKER
171A
171A
250,000 Ω
66624
300 Ω
300 Ω
62163
62164
50 Ω
35839
LAMP
BLUE
WHITE
GREEN
BLACK
62337
112A
81914
60799
201A
.002
61470
66375
2300
.25
66331
.25
66331
61580
1 MEG
.00025
38261
C COUP
66385
PHONOGRAPH
TELEVISION
ONE DIAL CONTROL (66421 CONDENSERS ONLY)
66426 CORD & TUNING DRIVE
222
66369
29 Ω
2500 Ω
66372
66384
.1
66018
222
66349
29 Ω
62204
.1
.1
.5
.25
BLACK
GREEN
222
29 Ω
66370
62165
330 Ω
295 Ω
260 Ω
225 Ω
120-130
115-120
110-115
100-110
1000 Ω
GREEN
BOTH VOL CONTROLS ON SAME SHAFT 66559
1000 Ω
60955
TRIMMER COND.
.1
66019
66381
62197
2.5
61303
61440
110 V DC
.0001
38346
.006
61462

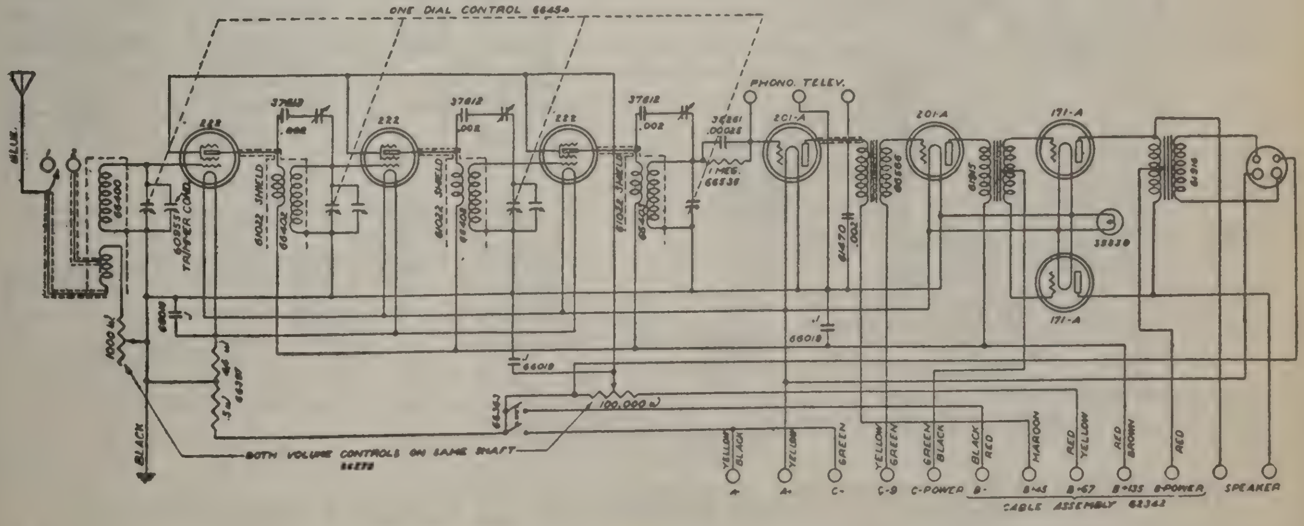
Circuit Diagram of Stewart-Warner 950 Series D. C. Receiver

STEWART-WARNER CORP.

MODEL 971,972,973 DC
MODEL 980 Battery


ONE DIAL CONTROL (66421 CONDENSERS ONLY)
66428 CORD & TUNING DRIVE
222
222
222
201-A
171A
171A
171A
C COUP
.00025
.002
61470
29Ω
29Ω
29Ω
TRIMMER COND
66278
1000Ω
2300Ω
200Ω
300Ω
62103
50Ω
.25
61321
.25
66321
WHITE
BLUE
GREEN
BLACK
66010
1000Ω
BOTH VOL CONTROLS ON SAME SHAFT 66558
100,000Ω
GREEN
2500Ω
66373
32Ω
35830
5V LAMP
PHONOGRAPH
TELEVISION
MAGNETIC SPEAKER
DYN SPKR
110 V DC
11460
12Ω
62197
1300Ω
.25
61303
BLACK
GREEN

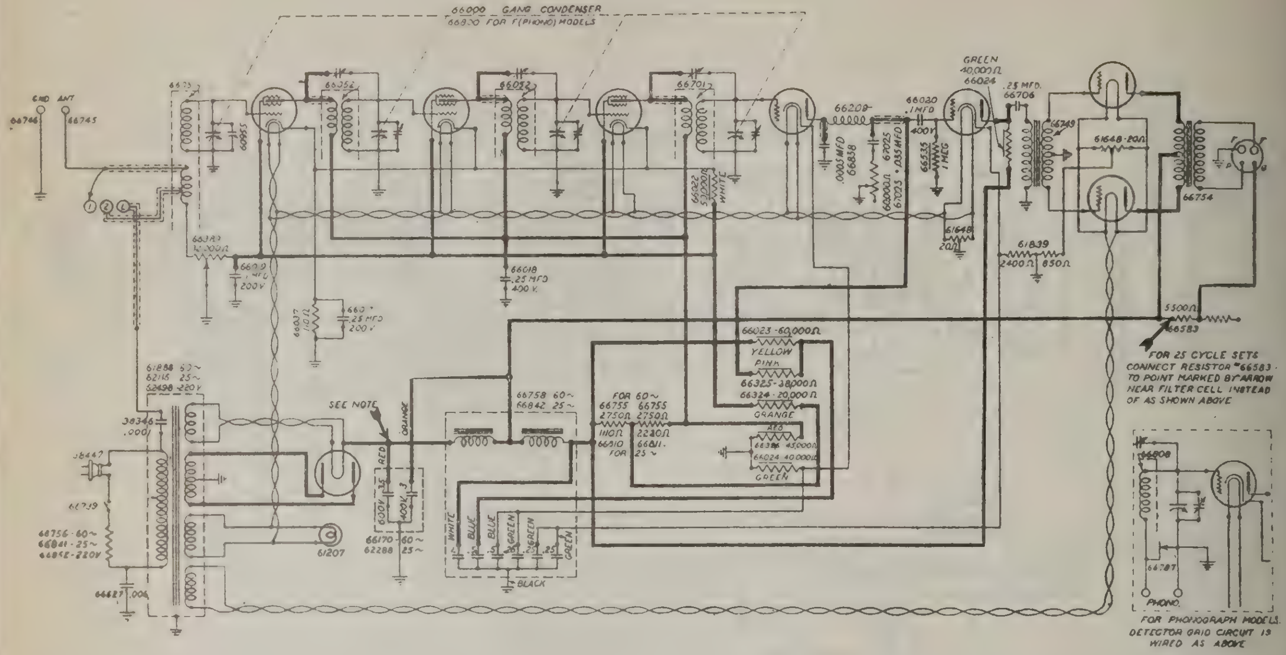
CIRCUIT DIAGRAM FOR STEWART WARNER SERIES 970 D.C. RADIO RECEIVERS


ONE DIAL CONTROL 66454
PHONO. TELEV.
BLUE
222
222
222
201-A
201-A
171-A
171-A
37613
.002
37612
.002
37612
.002
36261
.00025
1 MEG.
66535
61022 SHIELD
61022 SHIELD
61022 SHIELD
66400
60253 TRIMMER COND
61470
.002
66018
66010
35830
61916
1000Ω
100,000Ω
BOTH VOLUME CONTROLS ON SAME SHAFT 66272
BLACK
YELLOW BLACK
YELLOW
GREEN
YELLOW GREEN
GREEN BLACK
BLACK RED
MAROON
RED YELLOW
RED BROWN
RED
A-
A+
C-
C-9
C-POWER
B-
B+45
B+67
B+135
B-POWER
SPEAKER
CABLE ASSEMBLY 62342

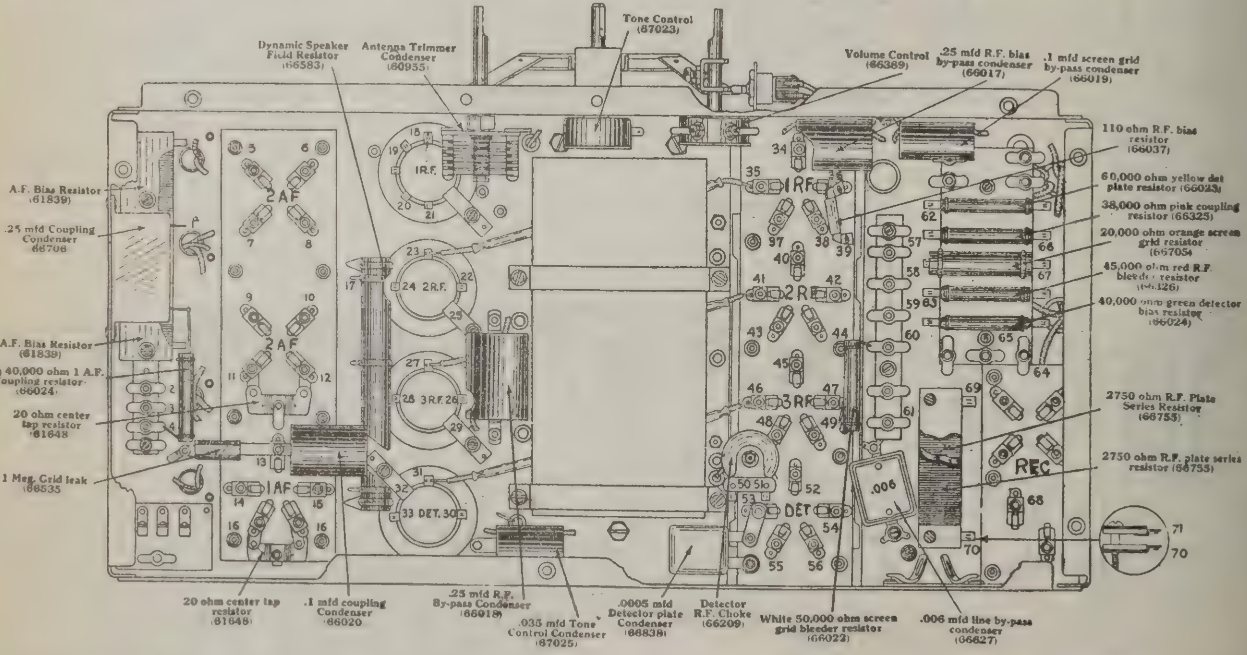
CIRCUIT DIAGRAM FOR STEWART WARNER 980 SERIES BATTERY RECEIVERS

MODEL R-100-A,B,E (AC)
MODEL R-100 Series
Schematic,Chassis

STEWART-WARNER CORP.


66000 GANG CONDENSER
66800 FOR F(PHONO) MODELS
GND
ANT
66746
66745
6673
60955
66052
66052
66701
66383 10,000Ω
66019 .1 MFD 200 V
66018 .25 MFD 400 V.
66037 110Ω
660 .25 MFD 200 V
66022 50,000Ω WHITE
66208
.0005 MFD 66838
60000Ω 67025
67025 .035 MFD
66020 .1 MFD 400 V
66535 1 MEG
GREEN 40,000Ω 66024
.25 MFD. 66706
66749
61648 20Ω
61648 20Ω
61839 2400Ω 850Ω
66754
5500Ω
66583
FOR 25 CYCLE SETS CONNECT RESISTOR #66583 TO POINT MARKED BY ARROW NEAR FILTER CELL INSTEAD OF AS SHOWN ABOVE
61888 60~
62116 25~
62498 220 V
38346 .0001
38447
66739
66756 60~
66841 25~
66852 220 V
66627 .006
61207
SEE NOTE
RED
ORANGE
600 V .35
400 V .3
66170 60~
62288 25~
66758 60~
66842 25~
WHITE
BLUE
BLUE
GREEN
GREEN
GREEN
.25
.25
BLACK
FOR 60~
66755 2750Ω
66755 2750Ω
110Ω 66310 FOR
2220Ω 66811 25~
66023 60,000Ω
YELLOW
PINK
66325 38,000Ω
66324 20,000Ω
ORANGE
RED
66326 45,000Ω
66024 40,000Ω
GREEN
66808
66787
PHONO.
FOR PHONOGRAPH MODELS. DETECTOR GRID CIRCUIT IS WIRED AS ABOVE

Stewart-Warner Model R-100-A, B, and E, Alternating Current Sets


Tone Control (67023)
Dynamic Speaker Field Resistor (66583)
Antenna Trimmer Condenser (60935)
Volume Control (66389)
.25 mfd R.F. bias by-pass condenser (66017)
.1 mfd screen grid by-pass condenser (66019)
110 ohm R.F. bias resistor (66037)
60,000 ohm yellow det plate resistor (66023)
38,000 ohm pink coupling resistor (66325)
20,000 ohm orange screen grid resistor (66705)
45,000 ohm red R.F. bleeder resistor (66326)
40,000 ohm green detector bias resistor (66024)
2750 ohm R.F. Plate Series Resistor (66755)
2750 ohm R.F. plate series resistor (66755)
A.F. Bias Resistor (61839)
.25 mfd Coupling Condenser 66706
A.F. Bias Resistor (61839)
Green 40,000 ohm 1 A.F. Coupling resistor (66024)
20 ohm center tap resistor 61648
1 Meg. Grid leak (66535
20 ohm center tap resistor (61648)
.1 mfd coupling Condenser 66020
.25 mfd R.F. By-pass Condenser (66018)
.035 mfd Tone Control Condenser (67025)
.0005 mfd Detector plate Condenser (66838)
Detector R.F. Choke (66209)
White 50,000 ohm screen grid bleeder resistor (66022)
.006 mfd line by-pass condenser (66627)
2AF
2AF
1AF
1R.F.
2R.F.
3R.F.
DET.
1RF
2RF
3RF
DET
REC
.006
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
70
71

BOTTOM VIEW OF R-100 SERIES A. C. RADIO RECEIVERS

Tube	Position	Fil.	Plate	Grid	Screen	Plate Crnt.	
224	1st RF	2.18	135	2.2	87	5.4	
224	2nd RF	2.2	137	2.2	86	4.	
224	3rd RF	2.22	135	2.2	86.5	4.9	
227	Det	2.2	165	15.5	-	.5	
227	1st AF	2.18	120	.6	-	3.6	
245	Output	2.3	245	48.	-	27.	Line voltage 115
280	Rect	5.0	Plate current is 50 mils per anode				V.C. Full

STEWART - WARNER CORP

MODEL R-100-A
Continuity Tests

RECEIVER CONTINUITY TESTS

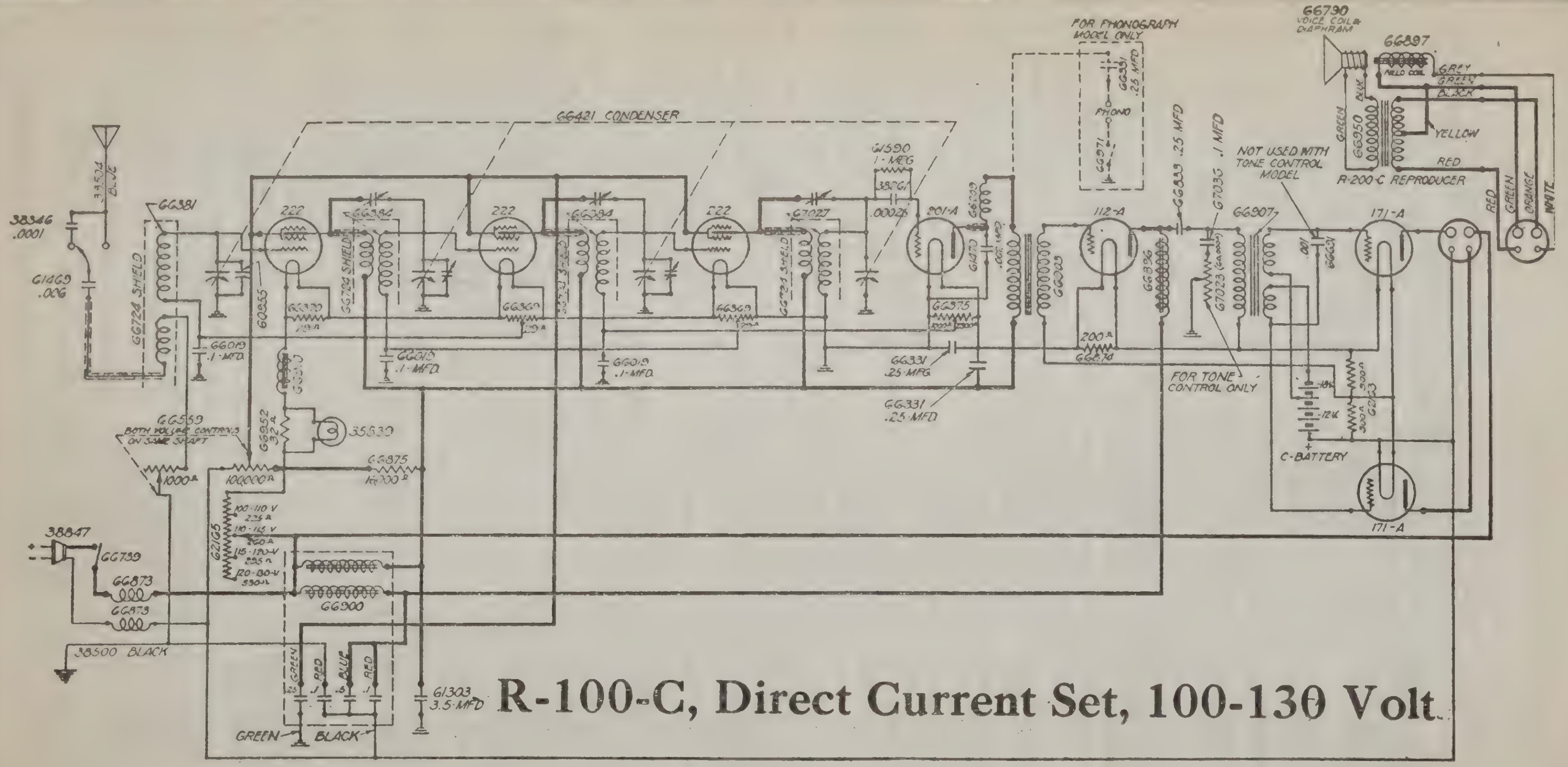
USE HIGH RESISTANCE VOLTMETER. TUBES AND SPEAKER MUST BE IN PLACE BUT SET DISCONNECTED AT SOCKET

CIRCUIT	TERMINALS	APPROX. NORMAL RESIST. READING	NO READING CAUSED BY	HIGH READING (LOW RESISTANCE) CAUSED BY
1 R.F. Plate	35 to 24	60 ohms*	Open 2 RF trans. primary	Shorted RF trans. primary
	35 to 63	17500 ohms*	Open red resistor	Grounded RF transformer primar Broken down or grounded red resistor
	35 to 70	5000 ohms*	Open plate resistor	Shorted "66755 series plate resistor
	35 to 57	6500 ohms	Open filter chokes	Shorted or grounded filter choke
1 R.F. Screen Grid	34 to 47	14000 ohms*	Open white resistor	Shorted or broken down white resistor
	Note; Above test must be made with volume control full on. Volume control is tested at this point by turning it back slowly while watching reading. Voltmeter should go to full reading slowly as control is rotated.			
	34 to 67	14000 ohms*	Open orange resistor	Shorted or defective orange resistor
1 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open 1 RF transformer secondary	Shorted 1 R.F. transformer secondary
1 R.F. Cathode	30 to Grnd.	110 ohms	Open RF bias resistor	Short circuited RF bias resistor
2 R.F. Plate	41 to 28	60 ohms	Open primary 3d RF transformer	Short circuited RF trans. primary
2 R.F. Screen Grid	40 to 47	14000 ohms*	Open white resistor	Short circuited or broken down white resistor
2 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open secondary 2 R.F. transformer	Shorted 2 R.F. transformer secondary
2 R.F. Cathode	42 to Grnd.	110 ohms	Open RF bias resistor	Shorted RF bias resistor
3 R.F. Plate	46 to 33	60 ohms	Open 4th RF trans. primary	Shorted RF transformer primary
3 R.F. Screen Grid	45 to 47	15000 ohms*	Open white resistor	Shorted or broken down white resistor
3 R.F. Control Grid	Grid Wire to Ground	4 ohms	Open 3d R.F. trans. secondary	Shorted 3d R.F. transformer secondary
3 R.F. Cathode	47 to Grnd.	110 ohms	Open RF bias resistor	Shorted RF bias resistor
Det. Plate	53 to 51	80 ohms	Open R.F. choke	Shorted RF trans. primary
	53 to 66	35000 ohms*	Open pink resistor	Shorted or defective pink resist.
	53 to 62	100000 ohms*	Open yellow resistor	Shorted or def. yellow resist.
	53 to 57	100000 ohms	Open filter choke	Shorted or def. yellow or pink resistors
Det. Grid	52 to Grnd.	4 ohms	Open 4th RF trans. secondary	Shorted 4th RF transformer secondary
Det. Cathode	54 to Grnd.	40000 ohms*	Open green resistor	Shorted or def. green resist.
1 A.F. Plate	14 to 4	40000 ohms	Open green plate resist.	Shorted or defective green plate resistor
	1 to Grnd.	1500 ohms	Open primary input trans.	Shorted input trans. primary
1 A.F. Grid	13 to Grnd.	Barely perceptible reading	Open grid leak	Shorted grid leak
1 A.F. Cathode	15 to Grnd.	2400 ohms	Open bias resistor	Shorted bias resistor
2 A.F. Plate	9 to 17 5 to 17	300 ohms) 300 ohms)	Open output transformer primary	Shorted output trans. primary
2 A.F. Grid	10 to Grnd. 6 to Grnd.	5000 ohms) 4500 ohms	Open input transformer secondary	Shorted input trans. secondary

*The value obtained here is not the true resistance because of parallel resistance networks in the set. To obtain true resistance values, one side of the resistor must be unsoldered and then checked when out of the circuit.

MODEL R-100-C (DC)
Schematic,Voltage

STEWART - WARNER CORP.


66421 CONDENSER
FOR PHONOGRAPH MODEL ONLY
66331 .25 MFD
PHONO
66971
66790 VOICE COIL & DIAPHRAM
66897
FIELD COIL
GREY
GREEN
BLACK
YELLOW
RED
GREEN
66950
R-200-C REPRODUCER
RED
GREEN
ORANGE
WHITE
38346 .0001
39504 BLUE
66381
61469 .006
66724 SHIELD
66019 .1 MFD
60355
222
66384
66724 SHIELD
66360
66019 .1 MFD
222
66384
66360
66019 .1 MFD
222
67027
66724 SHIELD
66369
61590 1 MEG
38761
.00025
201-A
66375
66331 .25 MFD
66331 .25 MFD
112-A
66896
200Ω
66874
66833 .25 MFD
67036 .1 MFD
67023
FOR TONE CONTROL ONLY
66907
NOT USED WITH TONE CONTROL MODEL
66661 .001
171-A
62153
300Ω
300Ω
C-BATTERY
171-A
66559 BOTH VOLUME CONTROLS ON SAME SHAFT
1000Ω
10,000Ω
66952 32Ω
35630
66875 10,000Ω
62105
100-110 V 225Ω
110-115 V 260Ω
115-120 V 295Ω
120-130 V 330Ω
38847
66739
66873
66873
38500 BLACK
66900
GREEN
RED
BLUE
RED
GREEN
BLACK
61303 3.5 MFD

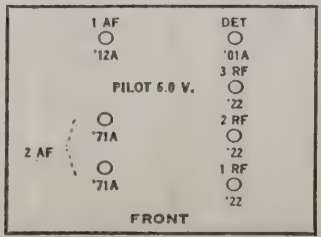
R-100-C, Direct Current Set, 100-130 Volt.

VOLTAGE READINGS

LINE VOLTAGE 112

Tube Position	Filament	Screen Grid	Plate	Control Grid
1 R.F.	3	44	68	– 1.5
2 R.F.	3	47	71	– 1.5
3 R.F.	3	51	74	– 1.5
Det.	4.25		69	+ 4.2 ★
1 A.F.	4.25		92	– 3.7
2 A.F.	4.8		97	–14.8
2 A.F.	4.8		102	–15.2

Model R100C


1 AF
'12A
DET
'01A
3 RF
'22
PILOT 6.0 V.
2 RF
'22
2 AF
'71A
'71A
1 RF
'22
FRONT

All screen grid, control grid, and plate voltages are taken with respect to the NEGATIVE filament terminal of the tube.

★This reading must be taken from negative filament to grid side of tuning coil because of the grid leak in this circuit.

STEWART - WARNER CORP.

VARIABLE RESISTORS: VOLUME CONTROLS AND RHEOSTATS

Model	Use in Set	Part No.	Resistance	Description
300 315 305 320 310 325	Filament Rheostat	18056	4.5 ohms	Wire-wound rheostat.
	Volume Control	18057	200 ohms	Wire-wound potentiometer.
330 335 340	Filament Rheostat	31923	10 ohms	Wire-wound rheostat
	Volume Control	18057	200 ohms	Wire-wound potentiometer.
345 355 350 360	Filament Rheostat	34762	3.2 ohms	Wire-wound rheostat
	Volume Control	34763	100,000 ohms	Combination wire-wound and carbon strip variable resistor.
385	Filament Rheostat	18056	4.5 ohms	Wire-wound rheostat.
390	Volume Control	18056	4.5 ohms	Wire-wound rheostat.
520 525	Volume Control and Filament Switch	37040	175,000 ohms	Combination wire-wound and carbon strip variable resisto combined with filament switch.
530 535	Volume Control	37892	5,000 ohms	Combination wire-wound and carbon strip variable resistor.
705	Detector Rheostat	37271	20 ohms	Wire-wound rheostat.
710	Vol Control & Switch	35947	175,000 ohms	Combination variable resistor and filament switch.
715 720	Volume Control	37995	5,000 ohms	Combination wire-wound and carbon strip variable resistor.
750 801 811	Volume Control	39256	10,000 ohms	Metal enclosed carbon strip variable resistor.
806	Volume Control	39725	175,000 ohms	Combination wire-wound and carbon strip variable resistor.
900 Series AC	Volume Control	61557	60,000 ohms	Metal enclosed carbon strip variable resistor.
930-1-2-3	Volume Control	62088	15,000 ohms	Metal enclosed carbon strip variable resistor.
950 Series AC	Volume Control	66389	32,000 ohms	Metal enclosed carbon strip potentiometer.
970-1-2-3	Volume Control	66559	1,000 ohms and 100,000 ohms	Double unit metal enclosed carbon strip variable resistor.
980-1-2-3	Volume Control	66559	1,000 ohms and 100,000 ohms	Double unit metal enclosed carbon strip variable resistor.
R100 A, B & F	Volume Control	66389	32,000 ohms	Metal enclosed carbon strip potentiometer.
	Tone Control	67023	60,000 ohms	Metal enclosed carbon strip variable resistor.
R100C	Volume Control	66559	1,000 ohms and 100,000 ohms	Double unit metal enclosed variable resistor.

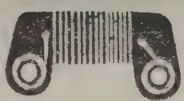
VOLTAGE REGULATORS*

Model	Part No.	Description
900-1-2-3	61816 66547	Brown. Machine Screw mounting. Brown. Two threaded contact pins for mounting.
910-1-2-3	66412	Brown. Plug in type.
940-1-2-3	62151	Brown. Plug in type.
950-1-2-3	62152	Brown. Plug in type.
960-1-2-3	66491	Brown. Plug in type.
990-1-2-3	66514	Brown. Plug in type.
R-100-A	66756	Gold. Plug in type.
R-100-B	66841	Gold. Plug in type.
R-100-E	66852	Gold. Plug in type.

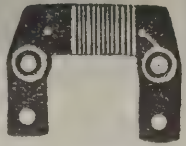
* Note — No resistance values are given since the resistance of all voltage regulators varies widely with temperature and current flowing through the wire.

WIRE-WOUND RESISTORS

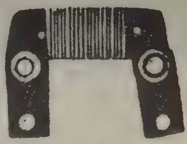
SHOWN APPROXIMATELY HALF SIZE



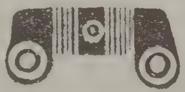
38918
1000 ohms. Grid resistor. Used in 800 Series receivers.



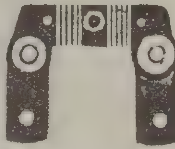
66370
29 ohms. 1 R. F. filament shunt. Used in 950 and R-100 Series D. C.



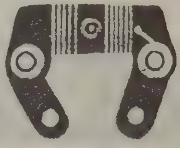
66037
110 ohms. R. F. bias. Used in 950 and R-100 Series A. C.



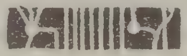
37621
20 ohms. Center tap resistor. Used in 500, 700, and 800 Series A. C. receivers.



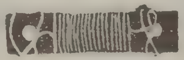
66369
29 ohms. 2 R. F. filament shunt. Used in 950 and R-100 Series D. C.



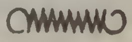
61648
20 ohms. Center tap resistor. Used in 900, 960, and R-100 Series A. C.



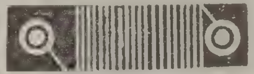
37553
1.65 ohms. A. F. filament resistor. Used in 700 Series battery receivers.



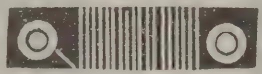
35679
3.0 ohms. R. F. filament resistor. Used in 700 Series battery receivers.



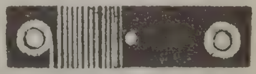
39023
.58 ohms. Filament resistor. Used in Model 806 only.



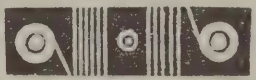
60297
10,000 ohms. 1 A. F. grid bias. Used in Model 811 only.



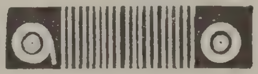
38879
4000 ohms. 1 A. F. grid bias. Used in Models 801 and 750.



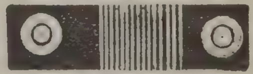
39956
1000 ohms. 2 A. F. grid bias. Used in 800 A. C. Series B.



38409
20 ohms. Center tap resistor. Used in Model 750 and 800 Series A. C. receivers.

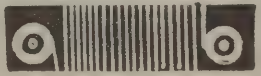


38882
2100 ohms. 2 A. F. grid bias in Model 811 and 800 Series A. Used also as R. F. grid bias in 800 A. C.



39586
1425 ohms. 2 A. F. grid bias. Used in Model 750 only.

39588
1700 ohms. R. F. grid bias. Used in Model 750 only.

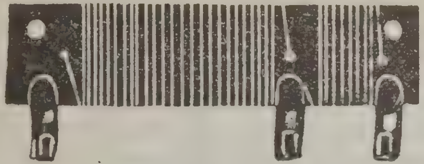


62199
32 ohms. Pilot light shunt. (2 A. F. grid bias.) Used in 950 D. C.

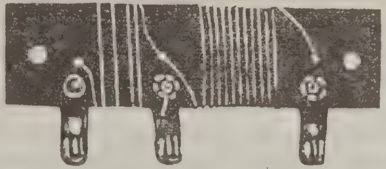
STEWART - WARNER CORP.

WIRE-WOUND RESISTORS

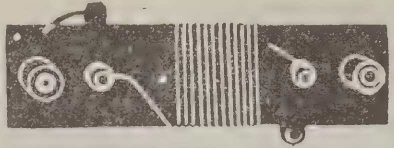
SHOWN APPROXIMATELY HALF SIZE



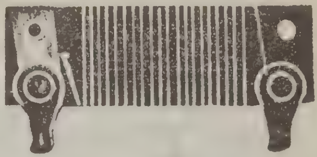
66036
2220 ohms and 1110 ohms. B supply resistor. Used in 900 and 950 Series A. C. receivers.



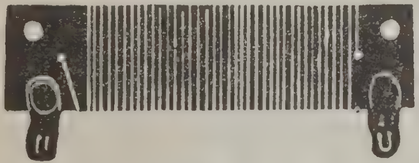
66397
4.4 ohms and .5 ohms. Filament resistor. Used in 950 Series battery receivers.



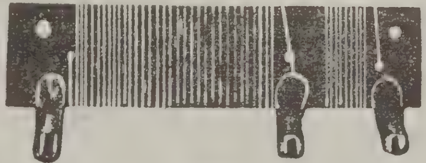
37559
58 ohms. Filament resistor. Used in 500 Series battery receivers.



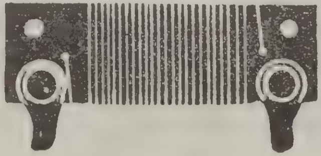
37727
5100 ohms. 1 A. F. grid bias. Used in 500 and 700 Series A. C. receivers.



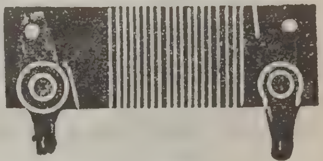
61833
7000 ohms. Series plate resistor Used in 900 Series A. C.



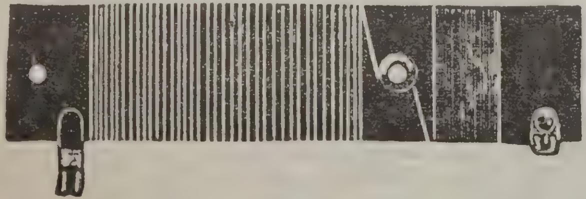
66375
2300 ohms and 1000 ohms. Detector filament shunt resistor. Used in 950 Series D. C. and R100C receivers.



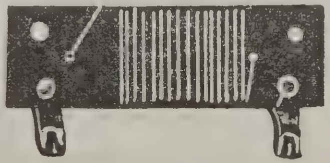
35733
1000 ohms. Grid resistor. Used in 1st R. F. of 500 Series A. C. and all R. F. of 500 Series battery.



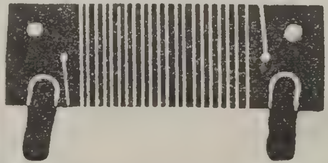
37726
1700 ohms. R. F. grid bias. Used in 500 and 700 Series A. C. receivers.



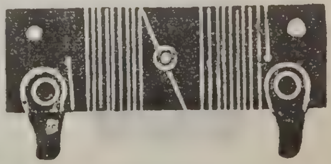
61839
850 ohms and 2400 ohms. A. F. grid bias. Used in 900, 950 and R-100 Series A. C.



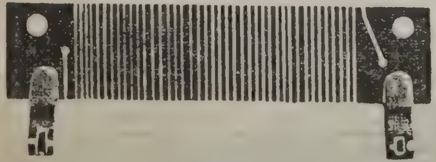
66372
2500 ohms. Detector plate resistor. Used in 950 Series D. C. receiver.



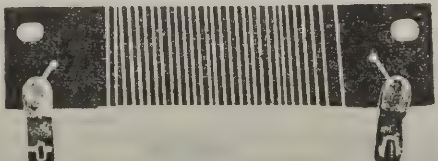
37763
1900 ohms. 2nd and 3rd R. F. grid resistor. Used in 500 Series A. C.



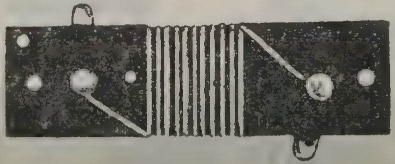
37629
20 ohms. Center tap. Used in 700 Series A. C. receivers.



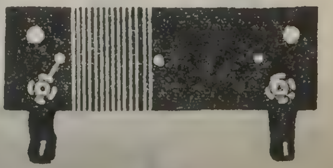
66755
2750 ohms. B supply resistor. Used in R-100-A and E
66810
1110 ohms. Screen Grid supply resistor. Used in R-100-B
66811
2220 ohms. B supply resistor. Used in R-100-B.



66952
32 ohms. Pilot light shunt resistor. Used in R-100-C.



37558
58 ohms. Filament resistor. Used in 900 Series battery receivers.



61836
800 ohms R. F. grid bias. Used in 900 Series A. C.

STEWART-WARNER CORP.

STEWART-WARNER AUDIO-TRANSFORMER DATA

Model of Receiver	Circuit in Which Used	Transformer Finish	Approximate Turns Ratio	*Approximate Resistance		**Color Code of Wires		Part Number	Price	Substitute Transformers
				Primary	Secondary	Primary	Secondary			
300 340 310 345 325 350 330 355 335 360	Both Audio Stages	Brown	3 to 1	800 ohms	3900 ohms	Soldering Lugs Used		38657	$3.50	38967 38977 61914 66566 66903
520 525	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid—Green C— Blue	35134	5.00	61914 66566 38977 38967 66903
705 710	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate—White B+ —Red	Grid—Green C— Black	36944	5.00	38967 38977 61914 66566 66903
	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid—Green C— Blue	35134	5 00	38967 38977 61914 66903 66566
530 535	Both Audio Stages	Black	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	35134	5.00	38967 66903 38977 66566 61914
	Output	Black	1 to 1	400 ohms	600 ohms	Plate—Slate or Orange B+ —Black	Output {Green Black	37598	5 00	38976
715 720	First Audio	Black	2 to 1	2800 ohms	7500 ohms	Plate—White B+ —Red	Grid —Green Ground—Black	36944	5.00	38967 66903 38977 66566 61914
	Second Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	35134	5 00	38967 66903 38977 66566 61914
	Output	Black	1 to 1	400 ohms	600 ohms	Plate—Slate or Orange B+ —Black	Output {Green Black	37598	5 00	38976
750	First Audio	Black	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	35134	5.00	38967 66903 38977 66566 61914
	Input Push-Pull	Black	1.5 to 1	2800 ohms	3200 and 3400 ohms	Plate—Orange B+ —Red	Grid #1—Blue Grid #2—Green Ground—White	60065	6.00	39978
	Output Push-Pull	Black	1 to 1.2	600 and 600 ohms	350 ohms	Plate #1—White with Black Tracer Plate #2—Red with Black Tracer B+—White with Red Tracer	Out-put {1. White with Brown Tracer 2. White with Green Tracer	60086	6.00	39977
801 } Series A 811 }	First Audio	Silver	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	38967	5.00	38977 61914 66903 66566
	Second Audio	Silver	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	38977	5.00	38967 61914 66903 66566
	Output	Silver	1 to 1	400 ohms	600 ohms	Plate—Slate or Orange B+ —Black	Output {Green Black	38976	5.00	37598

*Resistance values given here are only approximate. They will vary widely with date of manufacture and material used. Where two resistance values are given they apply to both halves of a winding. The outer winding always has the higher resistance.

**The color code given applies only to the cotton insulation of the terminal wire and not to the color of the spaghetti or cambric tubing around the wire.

STEWART-WARNER AUDIO-TRANSFORMER DATA

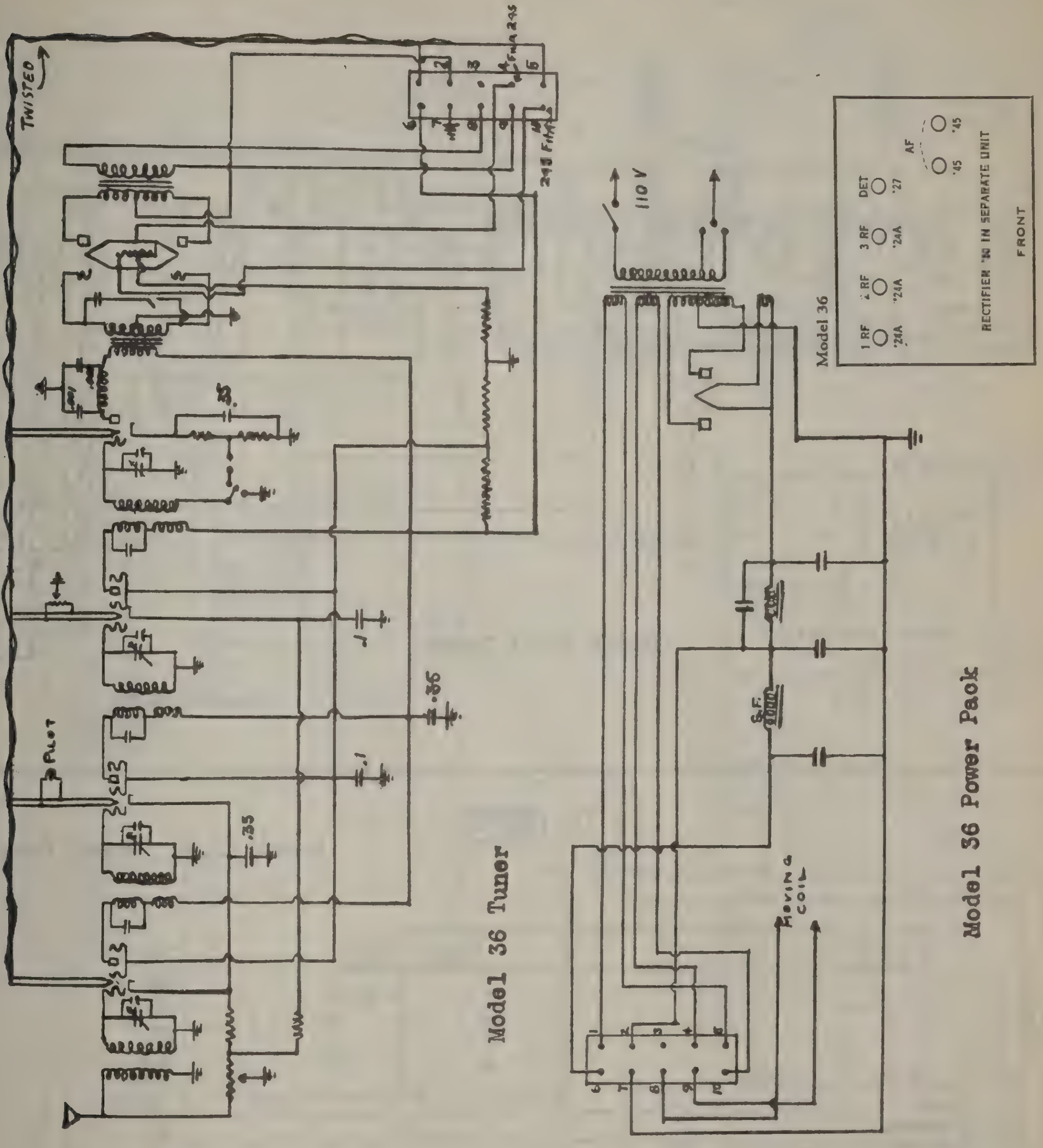
Model of Receiver	Circuit in Which Used	Transformer Finish	Approximate Turns Ratio	*Approximate Resistance		**Color Code of Wires		Part Number	Price	Substitute Transformers
				Primary	Secondary	Primary	Secondary			
801 } 806 } Series B. 811 }	First Audio	Silver	3 to 1	2100 ohms	8000 ohms	Plate—White B+ —Red	Grid —Green Ground } —Blue Or C— }	38977	$5 00	38967 61914 66903 66566
	Input Push-Pull	Silver	1.5 to 1	2800 ohms	3200 and 3400 ohms	Plate—Orange B+ —Red	Grid #1 —Blue Grid #2 —Green Ground } —White Or C— }	39978	6 00	
	Output Push-Pull	Silver	1 to 1.2	600 and 600 ohms	350 ohms	Plate #1—White with Black Tracer Plate #2—Red with Black Tracer B+ —White with Red Tracer	Out-put {1. White with Brown Tracer 2. White with Green Tracer	39977	6 00	
900 910 930	First Audio	Brown	3 5 to 1	2200 ohms	9000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	61914	5.00	66566 66903
	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate—White B+ —Red	Grid #1—Blue Grid #2—Green Ground—Orange	61915	5.00	66105 66749
	Output Push-Pull	Brown	1 to 16	280 and 380 ohms	2.6 ohms	Plate #1—White Plate #2—Red B+ —Orange	Output {Blue Green	61916	5 00	66754
950 960 990	Input Push-Pull	Brown	2.25 to 1	1500 ohms	9000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	66105	5 00	61915 66749
	Output Push-Pull	Brown	1 to 16	280 and 340 ohms	2.6 ohms	Plate #1—White Plate #2—Red B+ —Orange	Output {Blue Green	61916	5 00	66754
970	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate—White B+ —Red	Grid—Green Fil —Blue	61914	5 00	66566 66903
	Input Push-Pull	Brown	2.25 to 1	1600 ohms	4200 and 5000 ohms	Plate—White B+ —Red	Grid #1—Blue Fil #1—Orange Grid #2—Green Fil #2—Black	62397	5.00	66907
	Output Push-Pull	Brown	1 to 16	280 and 340 ohms	2.6 ohms	Plate #1 —White Plate #2 —Red B+ —Orange	Output {Blue Green	61916	5.00	66754
980	First Audio	Brown	3.5 to 1	2200 ohms	9000 ohms	Plate—White B+ —Red	Grid—Green C— —Blue	66566	5.00	61914 66903
	Input Push-Pull	Brown	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate—White B+ —Red	Grid #1—Blue Grid #2—Green C— —Orange	61915	5.00	66105 66749
	Output Push-Pull	Brown	1 to 16	280 and 340 ohms	2.6 ohms	Plate #1—White Plate #2—Red B+ —Orange	Output {Blue Green	61916	5.00	66754
R100A R100B R100E	Input Push-Pull	Gold	2.25 to 1	1500 ohms	4000 and 5000 ohms	Plate—White B+ —Red	Grid #1—Blue Grid #2—Green Ground—Orange	66749	3.75	61915 66105
	Output Push-Pull	Gold	1 to 16	280 and 340 ohms	2.6 ohms	Plate #1—White Plate #2—Red B+ —Orange	Output {Blue Green	66754	3.75	61916
R100C	1AF to 2AF Coupl'g Choke	Gold	....	1200 ohms		....	. . . . .	66896	3.00	
	First Audio	Gold	3.5 to 1	2200 ohms	9000 ohms	Plate—White B+ —Red	Grid —Green Ground—Blue	66903	3.50	61914 66566
	Input Push-Pull	Gold	2.25 to 1	1600 ohms	4200 and 5000 ohms	Plate—White B+ —Red	Grid #1—Blue Fil #1—Orange Grid #2—Green Fil #2—Black	66907	3.75	62397
	Output Push-Pull	Gold	1 to 12.5	200 and 260 ohms	2.3 ohms	Plate #1—Red Plate #2—White B+ —Orange	Output {Blue Green	66950	3.75	

*Resistance values given here are only approximate. They will vary widely with date of manufacture and material used. Where two resistance values are given they apply to both halves of a winding. The outer winding always has the higher resistance.

**The color code given applies only to the cotton insulation of the terminal wire and not to the color of the spaghetti or cambric tubing around the wire.

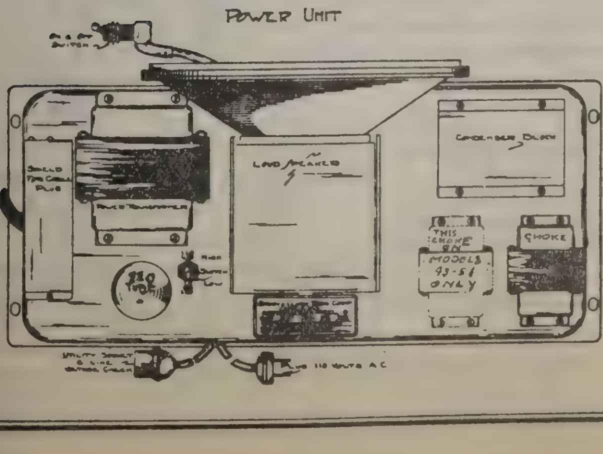
MODEL 36

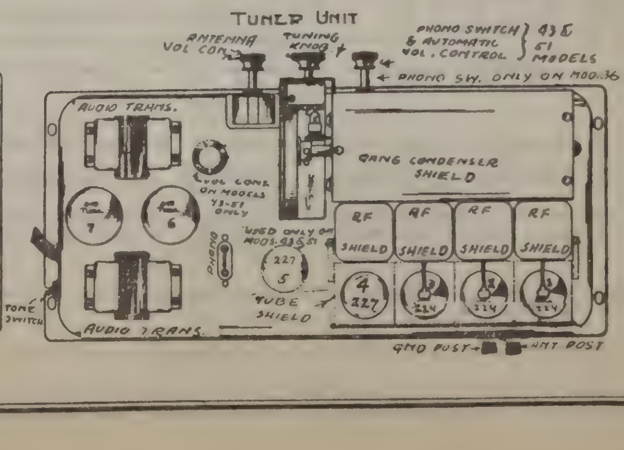
STORY & CLARK RADIO CORP.


TWISTED
245 Fila
245 Fila
.25
.1
.36
.1
.35
PILOT
110 V
S.F.
MOVING COIL
Model 36
1 RF '24A
2 RF '24A
3 RF '24A
DET '27
AF
'45
'45
RECTIFIER '80 IN SEPARATE UNIT
FRONT

Model 36 Tuner

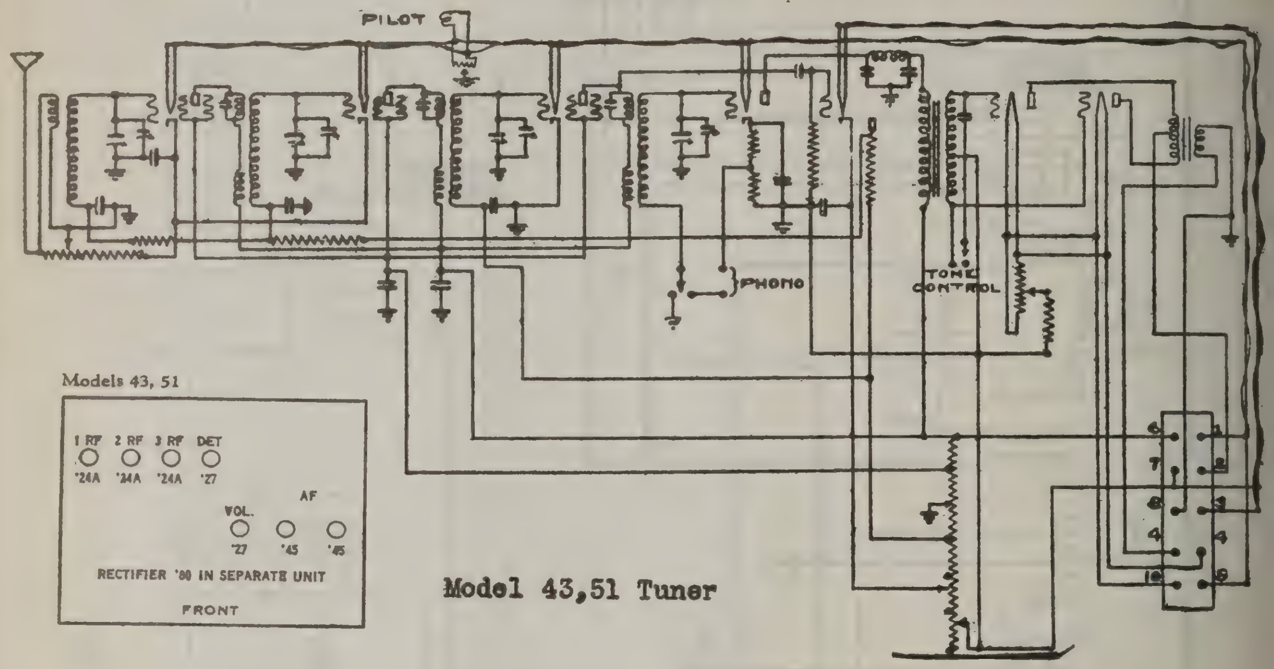
Model 36 Power Pack


POWER UNIT
ON & OFF SWITCH
SHIELD FOR CABLE PLUG
POWER TRANSFORMER
LOUD SPEAKER
CONDENSER BLOCK
THIS CHOKE ON MODELS 43-51 ONLY
CHOKE
HIGH
LOW
280 TUBE
UTILITY SOCKET
TO 110 VOLTS A.C.

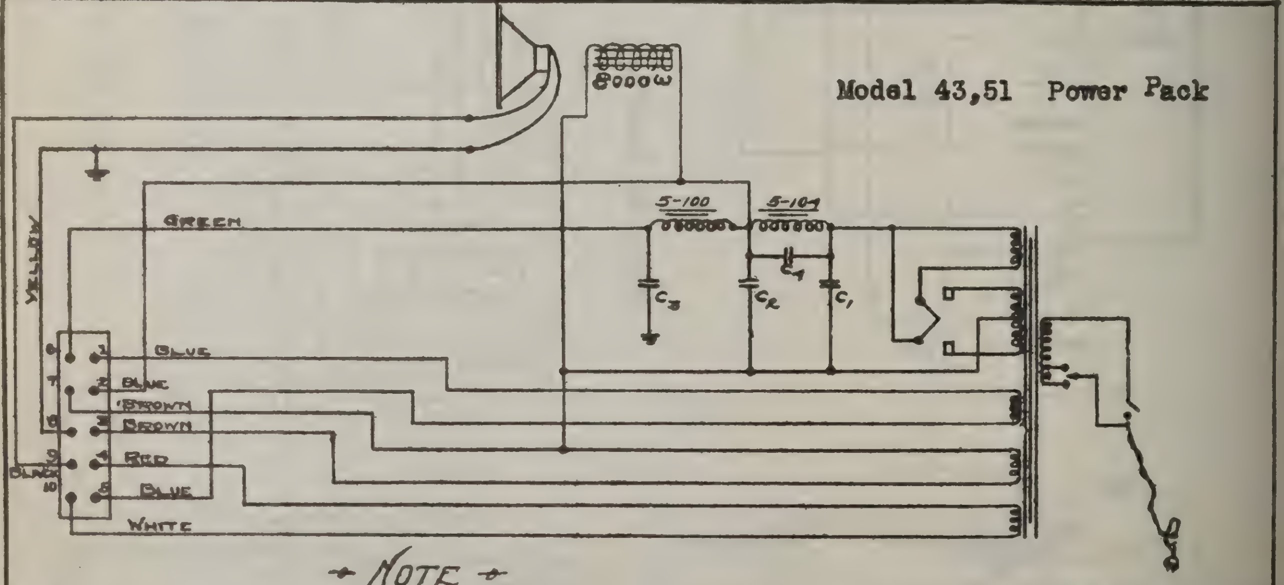

TUNER UNIT
ANTENNA VOL CON.
TUNING KNOB
PHONO SWITCH & AUTOMATIC VOL. CONTROL
43 & 51 MODELS
PHONO SW. ONLY ON MOD. 36
AUDIO TRANS.
VOL. CONT. ON MODELS 43-51 ONLY
GANG CONDENSER SHIELD
RF SHIELD
RF SHIELD
RF SHIELD
RF SHIELD
7
6
PHONO
USED ONLY ON MODS. 43 & 51
227
5
TUBE SHIELD
4
227
224
224
224
TONE SWITCH
AUDIO TRANS.
GND POST
ANT POST

MODELS 43,51

STORY & CLARK RADIO CORP.


PILOT
PHONO
TONE CONTROL
1
2
3
4
5
6
7
8
9
10
Models 43, 51
1 RF
2 RF
3 RF
DET
'24A
'24A
'24A
'27
AF
VOL.
'27
'45
'45
RECTIFIER '80 IN SEPARATE UNIT
FRONT

Model 43,51 Tuner


8000Ω
5-100
5-101
GREEN
YELLOW
C3
C2
C4
C1
1
2
3
4
5
6
7
8
9
10
BLUE
BLUE
BROWN
BROWN
RED
BLACK
BLUE
WHITE

Model 43,51 Power Pack

NOTE

COLORED LEADS ARE CABLE CONNECTIONS FROM POWER PACK TO R.F. UNIT.
C_1-2MFD. C_2-2MFD, C_3-3MFD C_4-.16MFD.

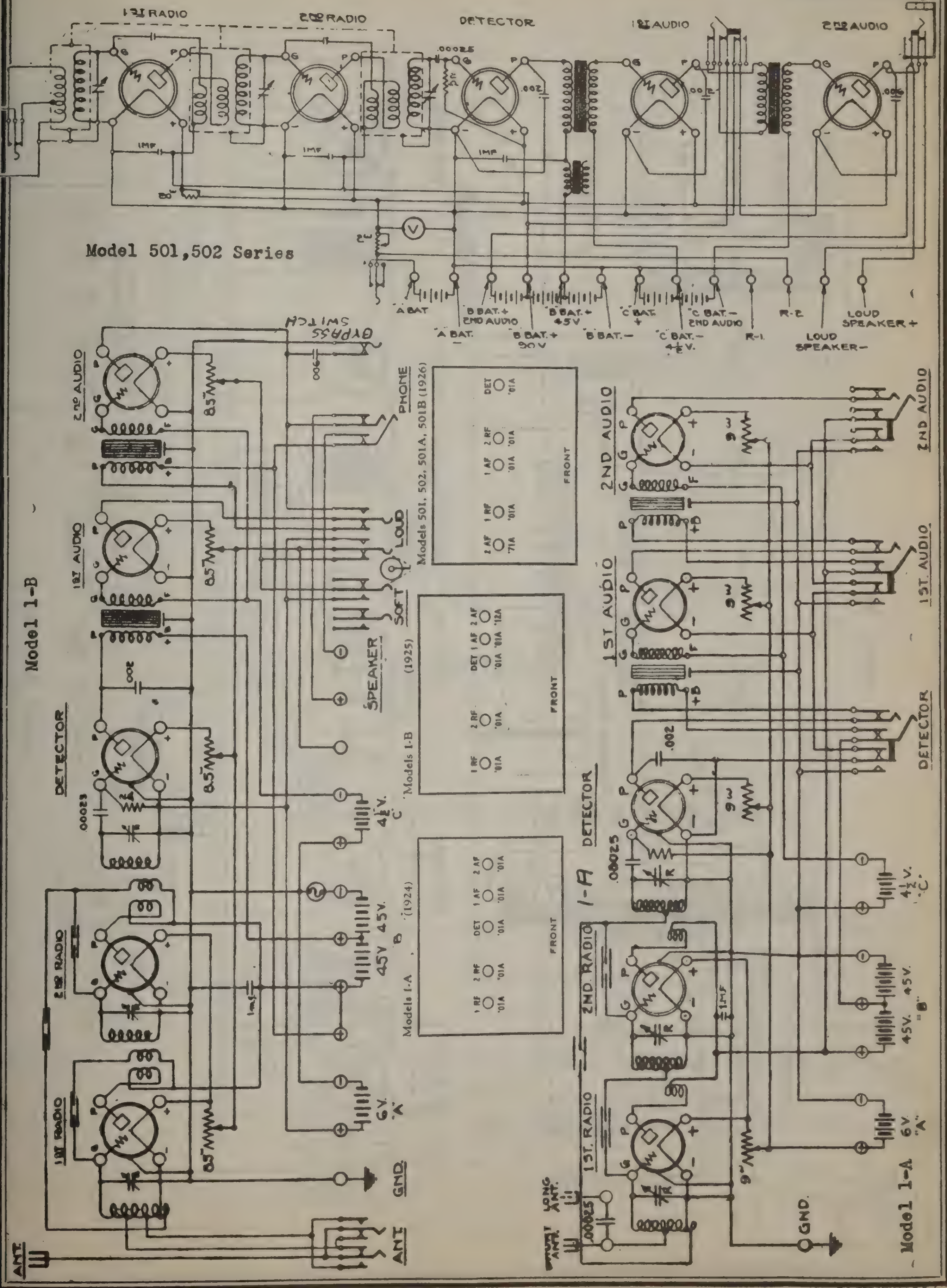
FOR 25 CYCLE SUPPLY, LOW POTENTIAL SIDE OF C_3 RETURNS TO -B, AS C_2 & C_1. ALSO CONDENSER C_4 HAS A TOTAL CAPACITY OF 3MF

STORY & CLARK RADIO CORP
173 N. MICHIGAN AVE
CHICAGO, USA

DATE	6-13-30
DRAWN	LG88
CHECKED	
APPROVED	

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 1-A
MODEL 1-B
MODEL 501,501-A,501-B
502,502-A,502-B



Model 501,502 Series

Model 1-B

Models 501, 502, 501A, 501B (1926)

Models 1-B (1925)

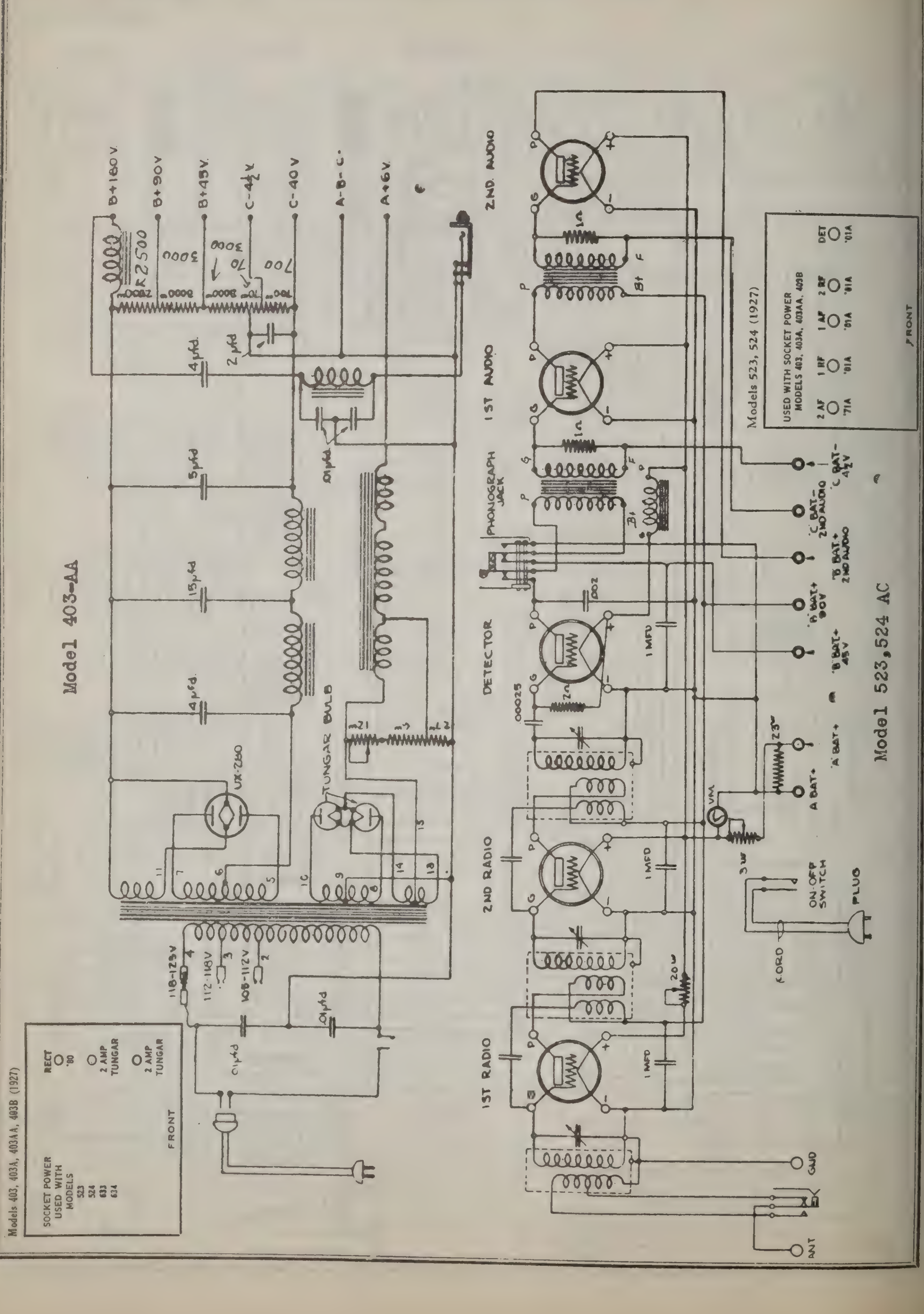
Models 1-A (1924)

Model 1-A

1ST RADIO
2ND RADIO
DETECTOR
1ST AUDIO
2ND AUDIO
.00025
.002
.006
1MF
V
A BAT.
A BAT. −
B BAT.+ 2ND AUDIO
B BAT.+ 90V
B BAT.+ 45V
B BAT.−
C BAT. +
C BAT.− 4½V.
C BAT.− 2ND AUDIO
R-1
R-2
LOUD SPEAKER −
LOUD SPEAKER +
BYPASS SWITCH
PHONE
LOUD
SOFT
SPEAKER
8.5Ω
4½V. C
45V 45V B
6V. A
GND.
ANT.
DET '01A
2 RF '01A
1 AF '01A
1 RF '01A
2 AF '71A
2 AF '12A
FRONT
9Ω
1MF
LONG ANT.
SHORT ANT.

MODEL 403-AA
MODEL 523,524 AC

STROMBERG-CARLSON TEL. MFG. CO.


Model 403-AA
B+180V.
B+90V.
B+45V.
C-4½V.
C-40V.
A-B-C-
A+6V.
R2500
3000
3000
70
700
4μfd.
2μfd.
5μfd.
15μfd.
4μfd.
.01μfd.
UX-280
TUNGAR BULB
118-125V
112-118V
108-112V
.01μfd
.01μfd
Models 403, 403A, 403AA, 403B (1927)
SOCKET POWER USED WITH MODELS 523 524 633 634
RECT '80
2 AMP TUNGAR
2 AMP TUNGAR
FRONT
2ND. AUDIO
1ST AUDIO
DETECTOR
2ND RADIO
1ST RADIO
PHONOGRAPH JACK
.00025
.002
1 MFD
1 MFD
1 MFD
VM
3w
20w
23w
ON-OFF SWITCH
PLUG
CORD
GND
ANT
'A' BAT+
'A' BAT+
'B' BAT+ 45V
'B' BAT+ 90V
'B' BAT+ 2ND AUDIO
'C' BAT- 2ND AUDIO
'C' BAT- 4½V
Models 523, 524 (1927)
USED WITH SOCKET POWER MODELS 403, 403A, 403AA, 403B
2 AF '71A
1 RF '01A
1 AF '01A
2 RF '01A
DET '01A
FRONT
Model 523,524 AC

STROMBERG-CARLSON TEL. MFG. CO.

MODEL 403,403-A
MODEL 403-B
MODEL 301-A

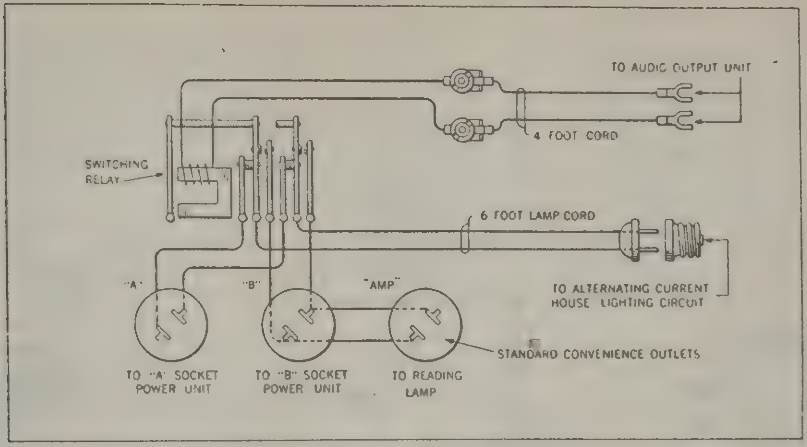
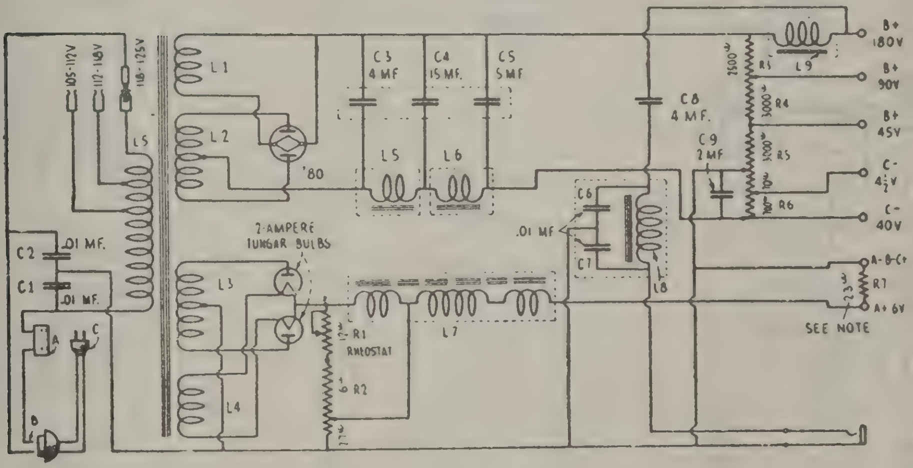
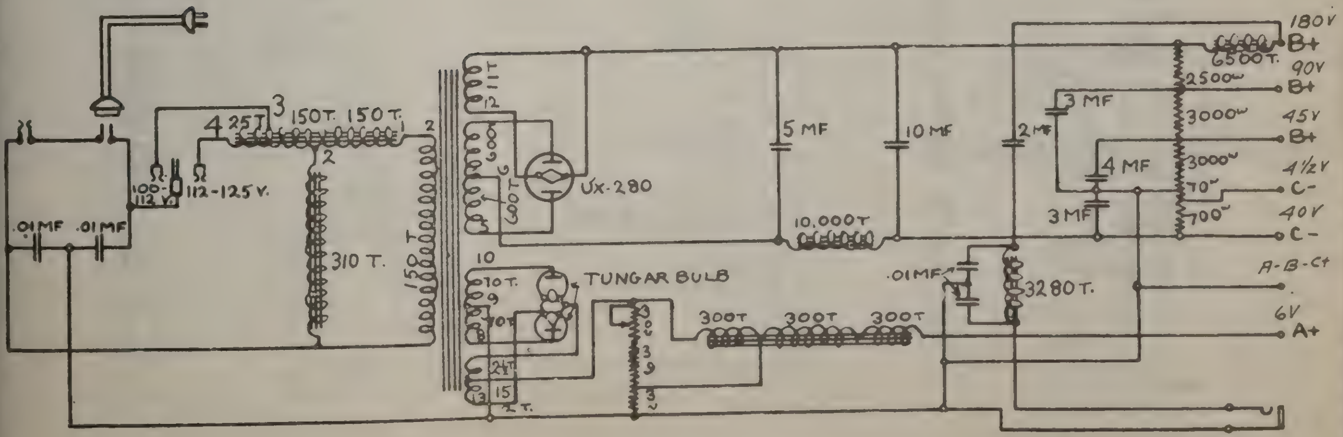

TO AUDIO OUTPUT UNIT
4 FOOT CORD
SWITCHING RELAY
6 FOOT LAMP CORD
"A"
"B"
"AMP"
TO ALTERNATING CURRENT HOUSE LIGHTING CIRCUIT
STANDARD CONVENIENCE OUTLETS
TO "A" SOCKET POWER UNIT
TO "B" SOCKET POWER UNIT
TO READING LAMP

Diagram of Connections in No. 301-A Power Switching Relay


105-112V
112-118V
118-125V
L5
L1
L2
'80
C3 4 MF
C4 15 MF.
C5 5 MF
L5
L6
C8 4 MF.
C9 2 MF
2500
R3
L9
3000
R4
3000
R5
70
700
R6
B+ 180V
B+ 90V
B+ 45V
C- 4½V
C- 40V
C2 .01 MF.
C1 .01 MF.
A
B
C
2-AMPERE TUNGAR BULBS
L3
L4
R1 RHEOSTAT
R2
L7
.01 MF
C6
C7
L8
A-B-C+
R7
A+ 6V
SEE NOTE

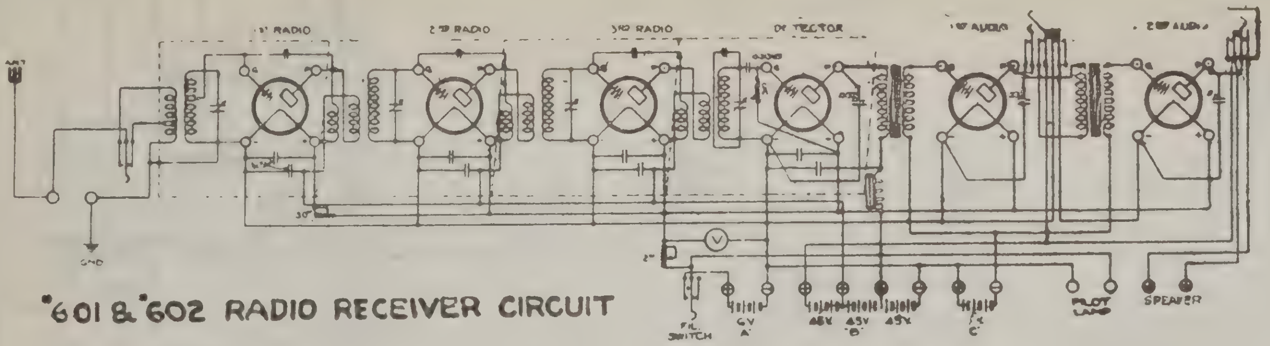
Model 403,403-A


3
4
25T
150T.
150T.
1
2
2
100-112V.
112-125V.
.01MF
.01MF
310 T.
158 T.
11T
12
600
6
600T
UX-280
5 MF
10 MF
2 MF
3 MF
4 MF
3 MF
10,000T
6500T.
2500
3000
3000
70
700
180V B+
90V B+
45V B+
4½V C-
40V C-
A-B-C+
6V A+
10
10T.
9
10T
8
2½T
15
13
2T.
TUNGAR BULB
.01MF
3280T.
300T
300T
300T

Model 403-B

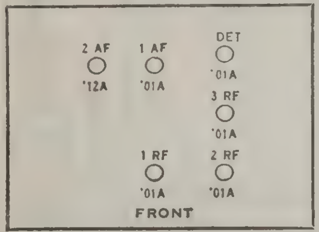
MODEL 601,602
MODEL 633,634

STROMBERG - CARLSON TEL. MFG. CO.

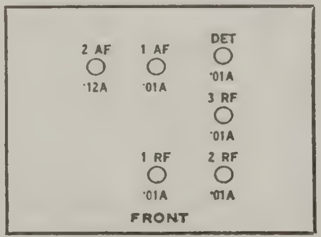

1ST RADIO
2ND RADIO
3RD RADIO
DETECTOR
1ST AUDIO
2ND AUDIO
GND
V
FIL. SWITCH
6V 'A'
45V 45V 45V 'B'
'C'
PILOT LAMP
SPEAKER

*601 & *602 RADIO RECEIVER CIRCUIT

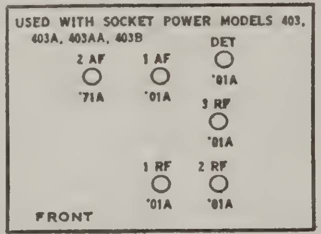
Models 601, 601A, 601B (1925-26)

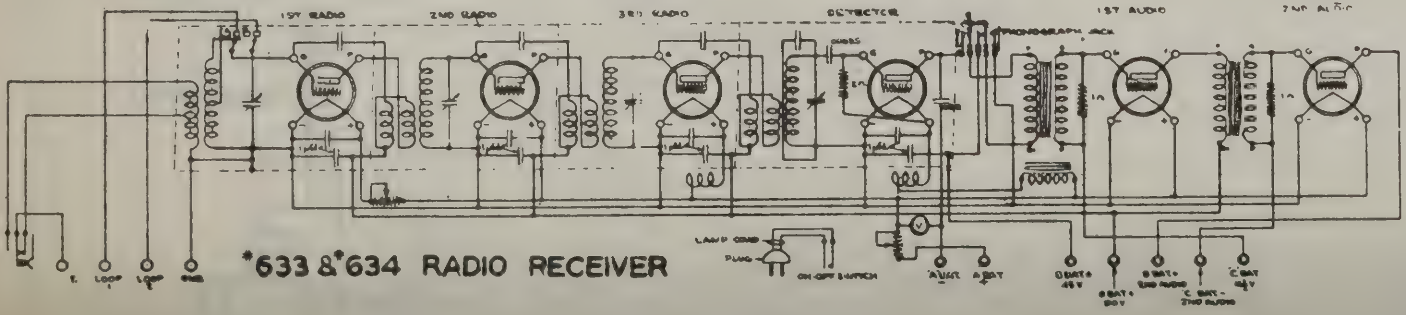

2 AF
'12A
1 AF
'01A
DET
'01A
3 RF
'01A
1 RF
'01A
2 RF
'01A
FRONT

Models 602A, 602B (1925-26)


2 AF
'12A
1 AF
'01A
DET
'01A
3 RF
'01A
1 RF
'01A
2 RF
'01A
FRONT

Models 633, 634 (1927)


USED WITH SOCKET POWER MODELS 403, 403A, 403AA, 403B
2 AF
'71A
1 AF
'01A
DET
'01A
3 RF
'01A
1 RF
'01A
2 RF
'01A
FRONT


1ST RADIO
2ND RADIO
3RD RADIO
DETECTOR
PHONOGRAPH JACK
1ST AUDIO
2ND AUDIO
LOOP
LOOP
GND
LAMP CORD
PLUG
ON-OFF SWITCH
V
'A' BAT -
'A' BAT +
'B' BAT + 45 V
'B' BAT + 90 V
'B' BAT + 2ND AUDIO
'C' BAT - 2ND AUDIO
'C' BAT 4½ V

*633 & *634 RADIO RECEIVER

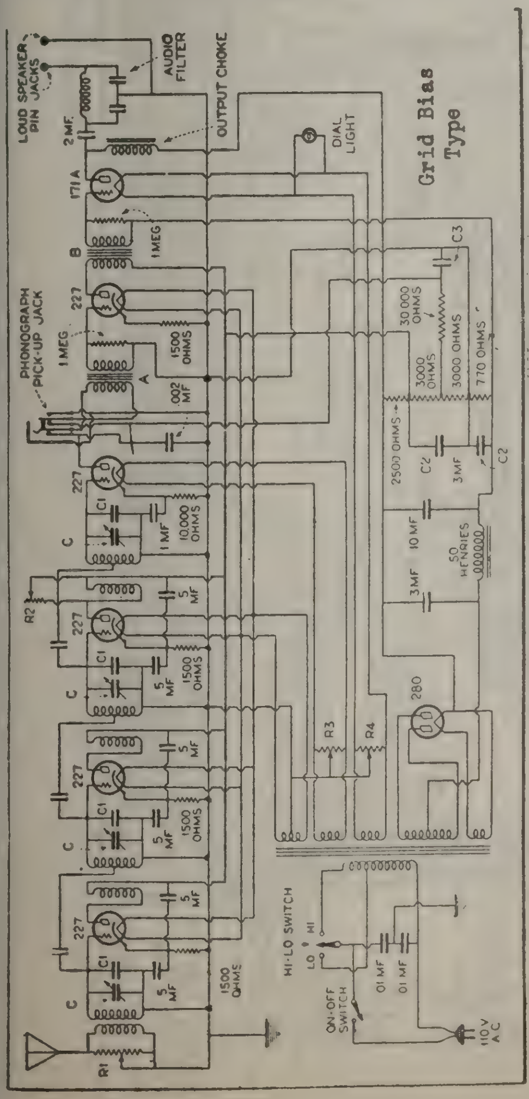
MODEL 635,636 AC
Two Types

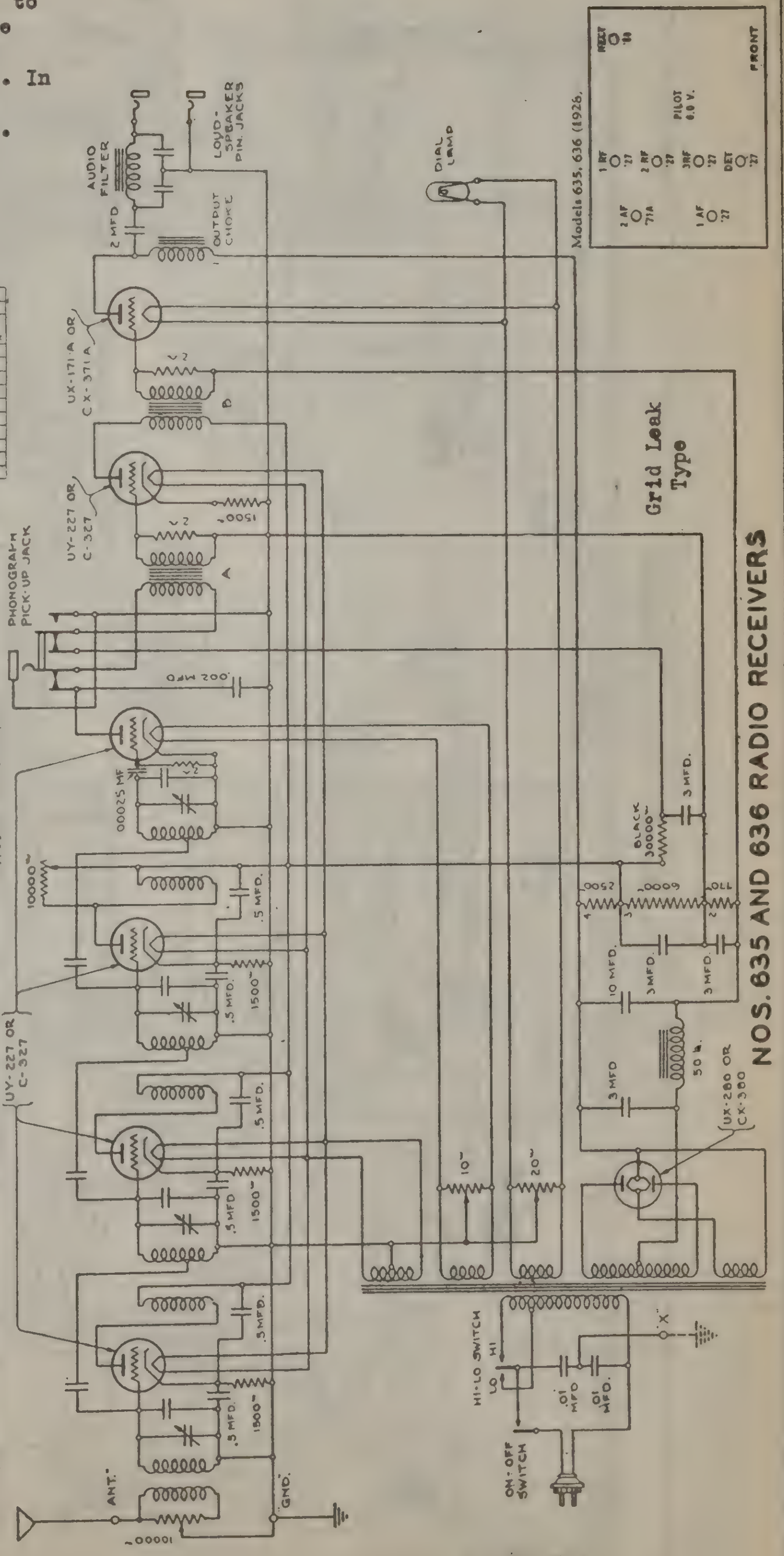
STROMBERG - CARLSON TEL. MFG. CO.

The difference between the two types is to be found in the detector circuit. In one of the types, type 1, the detector tube secures its bias via a cathode resistor. In the other type, the detector circuit is equipped with a grid leak and condenser.

STROMBERG-CARLSON—Models 635-636
Line Voltage 115—High Volt Tap—Volume Control Full

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF, DET ETC	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE M A CHANGE
1	227	1st.R.F.	2.35	102	2.25	92	5.0	-	3.5	6.8	3.3
2	227	2nd.R.F.	2.35	102	2.25	92	5.0	-	3.5	6.8	3.3
3	227	3rd.R.F.	2.35	102	2.25	92	5.0	-	3.5	6.8	3.3
4	227	Detector	2.35	90	2.20	32	-	-	2.0	2.1	0.1
5	227	1st.A.F.	2.35	100	2.25	84	4.0	-	3.2	6.3	3.1
6	171	2nd.A.F.	4.73	219	4.70	164	34.5	-	16.0	20.0	4.0
7	280	Rectifier	4.90	-	4.65	-	-	-	19.5	-	-
8											
9											
10											

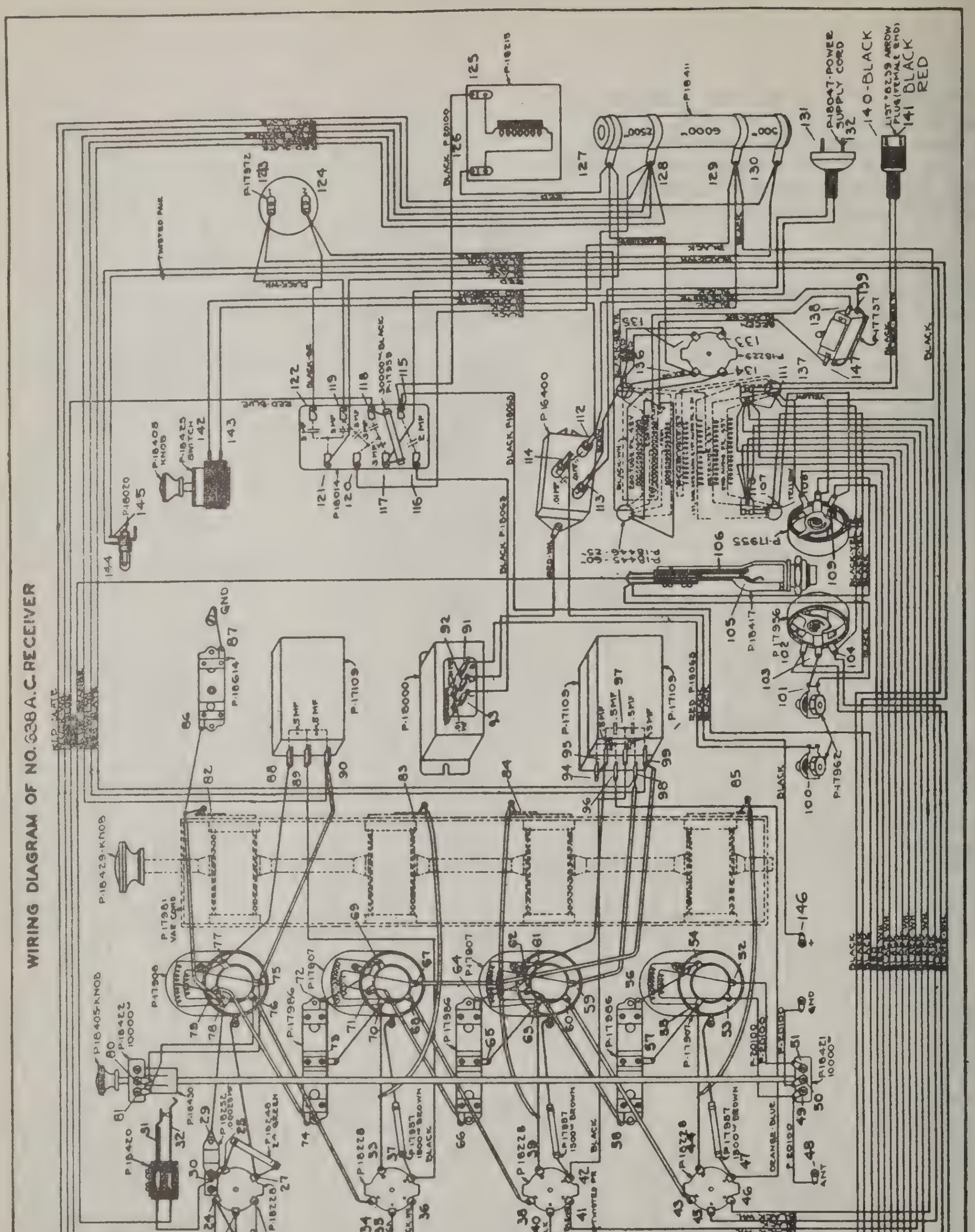

Grid Bias Type
LOUD SPEAKER PIN JACKS
AUDIO FILTER
OUTPUT CHOKE
2 MF.
DIAL LIGHT
171 A
1 MEG
B
227
PHONOGRAPH PICK-UP JACK
1 MEG
1500 OHMS
A
.002 MF
C3
30,000 OHMS
3000 OHMS
3000 OHMS
770 OHMS
2500 OHMS
C2
3 MF
C2
10 MF
3 MF
50 HENRIES
C1
1 MF
10,000 OHMS
C
R2
5 MF
1500 OHMS
280
R3
R4
HI-LO SWITCH
HI
LO
ON-OFF SWITCH
.01 MF
.01 MF
110 V AC
R1


Grid Leak Type
Models 635, 636 (1926)
RECT 80
PILOT 6.0 V.
FRONT
1 RF 27
2 RF 27
3 RF 27
DET 27
2 AF 71A
1 AF 27
AUDIO FILTER
LOUD-SPEAKER PIN JACKS
2 MFD
OUTPUT CHOKE
DIAL LAMP
UX-171 A OR CX-371 A
B
UY-227 OR C-327
1500
A
PHONOGRAPH PICK-UP JACK
.002 MFD
.00025 MF
2
10000
.5 MFD
1500
BLACK 30000
3 MFD
2500
6000
770
4
3
2
1
10 MFD
3 MFD
3 MFD
50 H
3 MFD
UX-280 OR CX-380
UY-227 OR C-327
10
20
HI-LO SWITCH
HI
LO
.01 MFD
.01 MFD
X
ON-OFF SWITCH
ANT.
GND.
10000

NOS. 635 AND 636 RADIO RECEIVERS

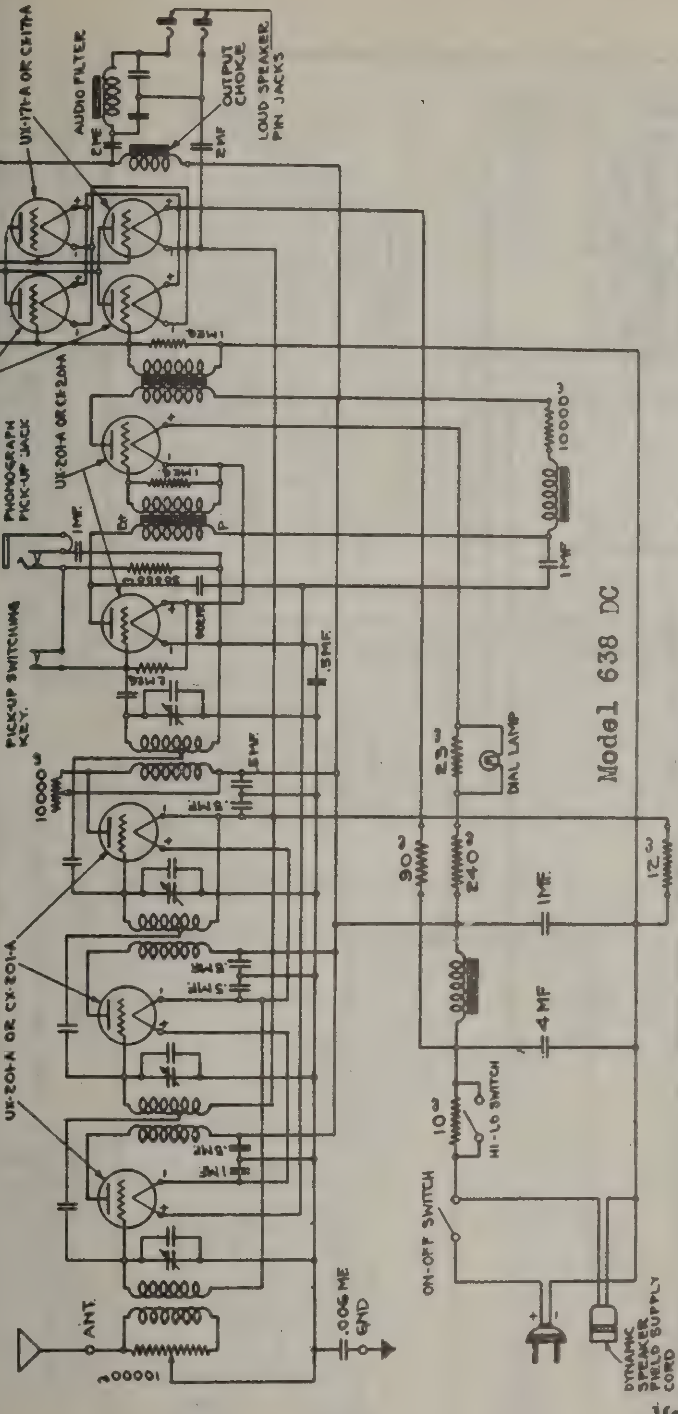
MODEL 638 AC
Chassis Wiring

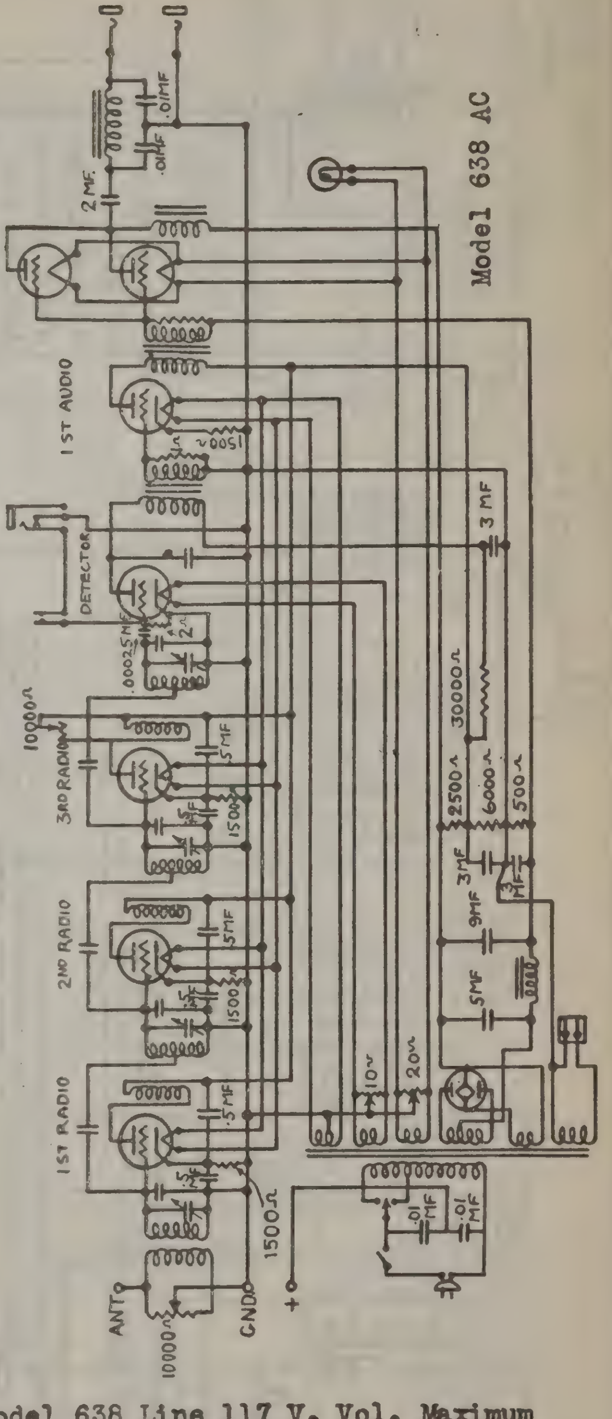
STROMBERG-CARLSON TEL. MFG. CO


WIRING DIAGRAM OF NO. 638 A.C. RECEIVER
NOTE-NUMBERS IN RED TO BE USED FOR CONTINUITY TEST ONLY.
P-18047-POWER SUPPLY CORD
131
132
140-BLACK
141 BLACK
RED
P-18411
2500
6000
300
127
128
129
130
125
126
P-18215
BLACK P-20100
P-17872
123
124
TWISTED PAIR
BLACK-WH
P-18408 KNOB
P-18425 SWITCH
142
143
P-18020
144
145
122
119
118
30000 BLACK P-17959
115
121
P-18014
120
117
116
RED BLACK
P-16400
112
114
113
BLACK P-18062
BLACK P-18063
135
133
134
136
P-18229
137
138
139
147
P-17757
BLACK
111
107
108
110
P-17955
109
106
105
P-18417
P-17936
103
102
101
104
100
P-17962
BLACK
GND
87
P-18614
86
P-17109
88
89
90
.5MF
P-18000
92
91
93
P-17105
P-17109
94
95
96
97
98
99
.5MF
RED P-18058
82
83
84
85
P-18429-KNOB
P-17981 VAR COND
146
P-17908
77
75
76
78
79
P-17907
72
69
67
71
70
68
P-17986
73
P-17807
64
62
61
65
63
59
60
54
52
56
53
55
57
P-17986
P-17907
P-18405-KNOB
P-18422 10000
80
81
P-18430
P-18420
31
32
29
P-18232 .00025MF
P-18240 2½ GREEN
28
27
30
P-18228
24
25
26
74
P-18228
33
37
P-17857 1800 BROWN BLACK
34
35
36
66
P-18228
39
P-17857 1500 BROWN
40
41
42
38
58
P-18228
44
45
46
43
47
P-17857 1800 BROWN
BLACK
ORANGE-BLUE
P-20100
49
50
51
P-18421 10000
GND
48
ANT
22
23
P-17964 .002MF
P-17857 1500 BROWN
P-18015
1
2
3
4
5
6
7
8
9
P-18226
P-17968
10
11
12
13
PLATE
BLACK WH
TWISTED PAIR
P-18229
14
15
16
17
18
19
20
21
P-18229
BLACK
SLATE WH
RED-SLATE
BLACK-WHITE
SLATE-WHITE
BLACK
RED WH

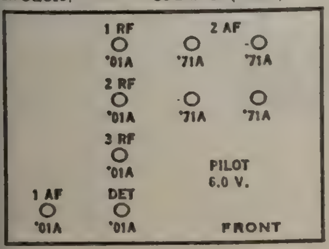
STROMBERG - CARLSON TEL. MFG. CO.

MODEL 638 AC
MODEL 638 DC

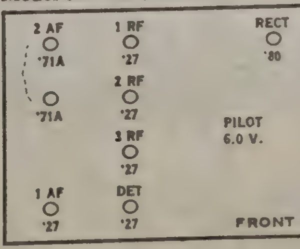

UX-171-A OR CX-171-A
UX-171-A OR CX-171A
AUDIO FILTER
2MF
OUTPUT CHOKE
LOUD SPEAKER PIN JACKS
1 MEG
UX-201-A OR CX-201-A
PHONOGRAPH PICK-UP JACK
1MF
10000Ω
PICK-UP SWITCHING KEY
.5MF
23Ω
DIAL LAMP
Model 638 DC
90Ω
240Ω
12Ω
1MF
4 MF
10Ω
HI-LO SWITCH
ON-OFF SWITCH
DYNAMIC SPEAKER FIELD SUPPLY CORD
UX-201-A OR CX-201-A
ANT.
.006 MF
GND
10000Ω


.01MF
2MF
Model 638 AC
1ST AUDIO
1500Ω
3 MF
DETECTOR
.00025MF
2Ω
10000Ω
3RD RADIO
.5MF
1500Ω
30000Ω
2500Ω
6000Ω
500Ω
3MF
9MF
2ND RADIO
1ST RADIO
10Ω
20Ω
1500Ω
ANT
GND
+

Models. 638 DC (1928)


1 RF
'01A
2 AF
'71A
'71A
2 RF
'01A
'71A
'71A
3 RF
'01A
PILOT 6.0 V.
1 AF
'01A
DET
'01A
FRONT

Model 638 AC (1929)


2 AF
'71A
1 RF
'27
RECT
'80
'71A
2 RF
'27
PILOT 6.0 V.
3 RF
'27
1 AF
'27
DET
'27
FRONT

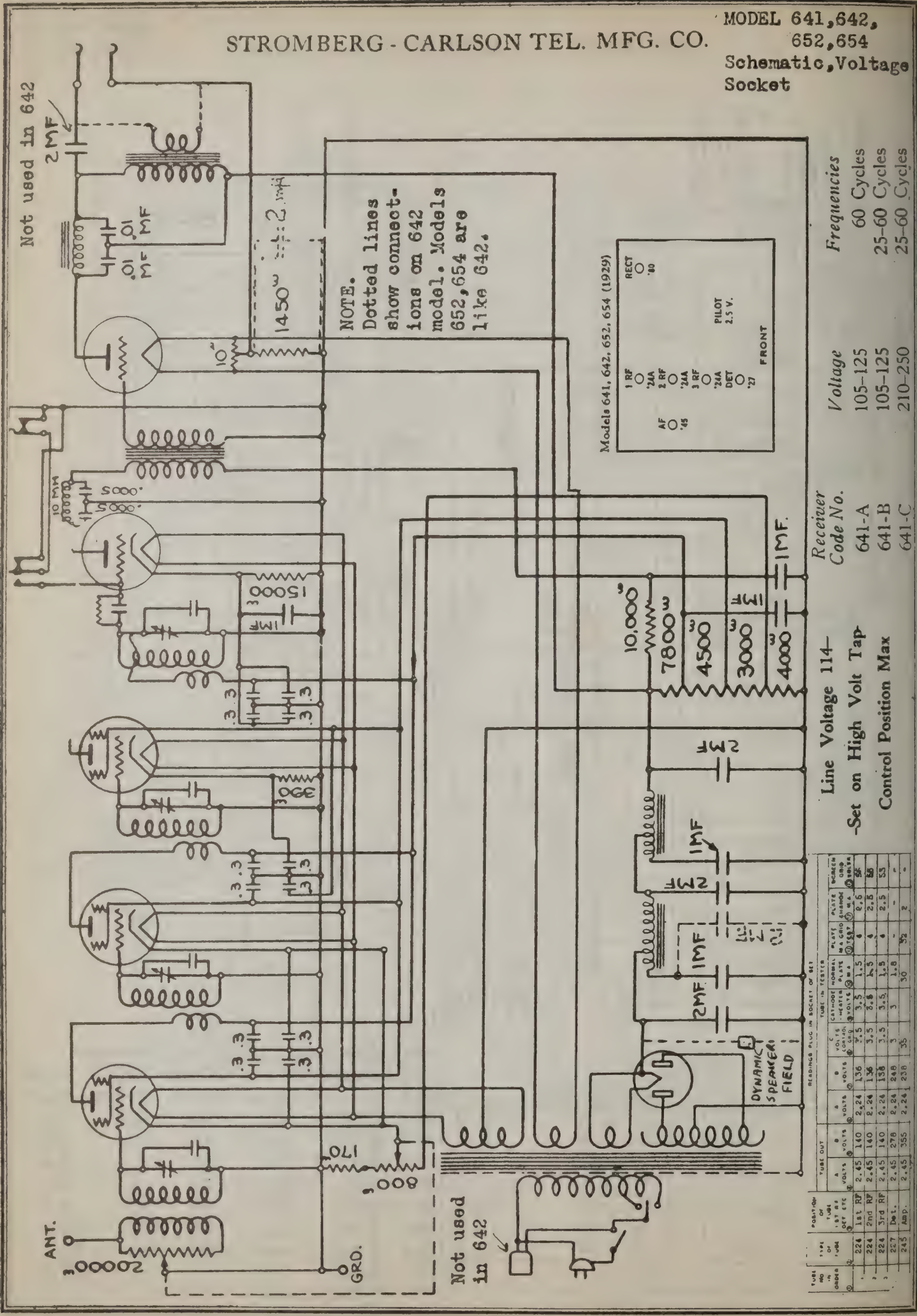
Model 638 Line 117 V. Vol. Maximum

Tube Type	Stage	Fil Volts	Plate Volts	Grid Volts	Plate Ma.
'27	1 RF	2.1	90	4.	2.5
'27	2 RF	2.1	90	4.	2.8
'27	3 RF	2.1	90	4.	3.5
'27	Det.	2.	35	-	2.
'27	1 AF	2.	80	4.	3.5
'71A	2 AF	4.4	155	30.	22.
'71A	2 AF	4.4	155	30.	22.
'80	Rec.	4.4	---	-	37.*

* Per Anode

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 641,642,
652,654
Schematic,Voltage
Socket


Not used in 642
2MF
.01 MF
.01 MF
1450w
.2 mfd
10"
10 MH
.0005
.0005
15000
1MF
3.3
3.3
3.3
3.3
3.3
3.3
30 Ω
10,000w
7800w
4500w
3000w
4000w
1MF.
1MF
2MF
2MF
1MF
2MF
1MF
2MF
DYNAMIC SPEAKER FIELD
ANT.
.00002
GRD.
170
800
Not used in 642

NOTE.
Dotted lines show connections on 642 model. Models 652,654 are like 642.

Models 641, 642, 652, 654 (1929)
RECT '80
1 RF '24A
2 RF '24A
3 RF '24A
DET '27
AF '45
PILOT 2.5 V.
FRONT

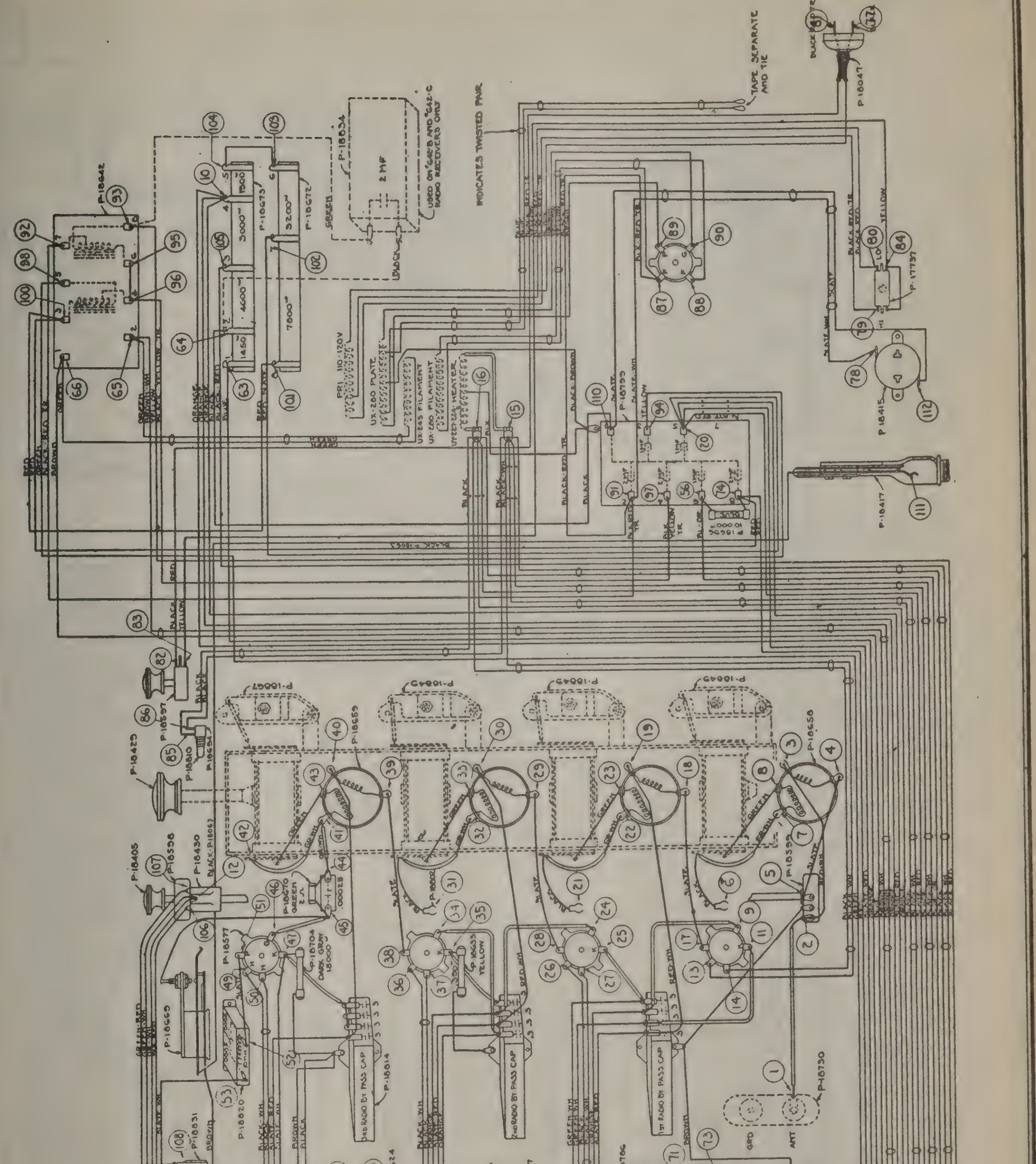
Receiver Code No.	Voltage	Frequencies
641-A	105–125	60 Cycles
641-B	105–125	25–60 Cycles
641-C	210–250	25–60 Cycles

Line Voltage 114—
—Set on High Volt Tap
Control Position Max

Tube No. in Order ①	Type of Tube ②	Position of Tube 1st RF Det. etc. ③	Tube Out: A Volts ④	Tube Out: B Volts ⑤	Readings Plug in Socket of Set: A Volts ⑥	B Volts ⑦	C Volts Control Grid ⑧	Tube in Tester: Cathode-Heater Volts ⑨	Normal Plate M.A. ⑩	Plate M.A. Grid Test ⑪	Plate Change M.A. ⑫	Screen Grid Volts ⑬
1	224	1st RF	2.45	140	2.24	136	1.5	3.5	1.5	4	2.6	55
2	224	2nd RF	2.45	140	2.24	136	3.5	3.5	1.5	4	2.5	56
3	224	3rd RF	2.45	140	2.24	138	3.5	3.5	1.5	4	2.5	53
	227	Det.	2.45	278	2.24	248	3	3	1.8	-	-	-
	245	Amp.	2.45	355	2.24	238	35		30	32	2	-

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 642
Chassis Wiring


TAPE SEPARATE AND TIE
INDICATES TWISTED PAIR
USED ON 642-B AND 642-C RADIO RECEIVERS ONLY
P-18634
2 MF
GREEN
BLACK
P-18642
P-10673
P-10672
3000"
3200"
4600"
7800"
1450
1500
PRI 110-120V
UX-280 PLATE
UX-245 FILAMENT
UX-280 FILAMENT
UY-227 HEATER
P-18799
P-18415
P-18417
P-17737
P-18047
P-18043
P-18049
P-18067
P-18659
P-18658
P-18429
P-18430
P-18405
P-18598
P-18810
P-18597
P-18577
P-18665
P-18820
P-18831
P-18614
P-18623
P-18624
P-18578
P-18617
P-18786
P-18651
P-18730
P-18704
DARK GRAY 15000"
.00025
GRD
ANT
1ST RADIO BY PASS CAP
2ND RADIO BY PASS CAP
3RD RADIO BY PASS CAP
170"
BLACK
RED
YELLOW
GREEN
BROWN
ORANGE
SLATE
BLUE
SLATE WH
BLACK RED TR
GREEN WH
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
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66
67
68
69
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72
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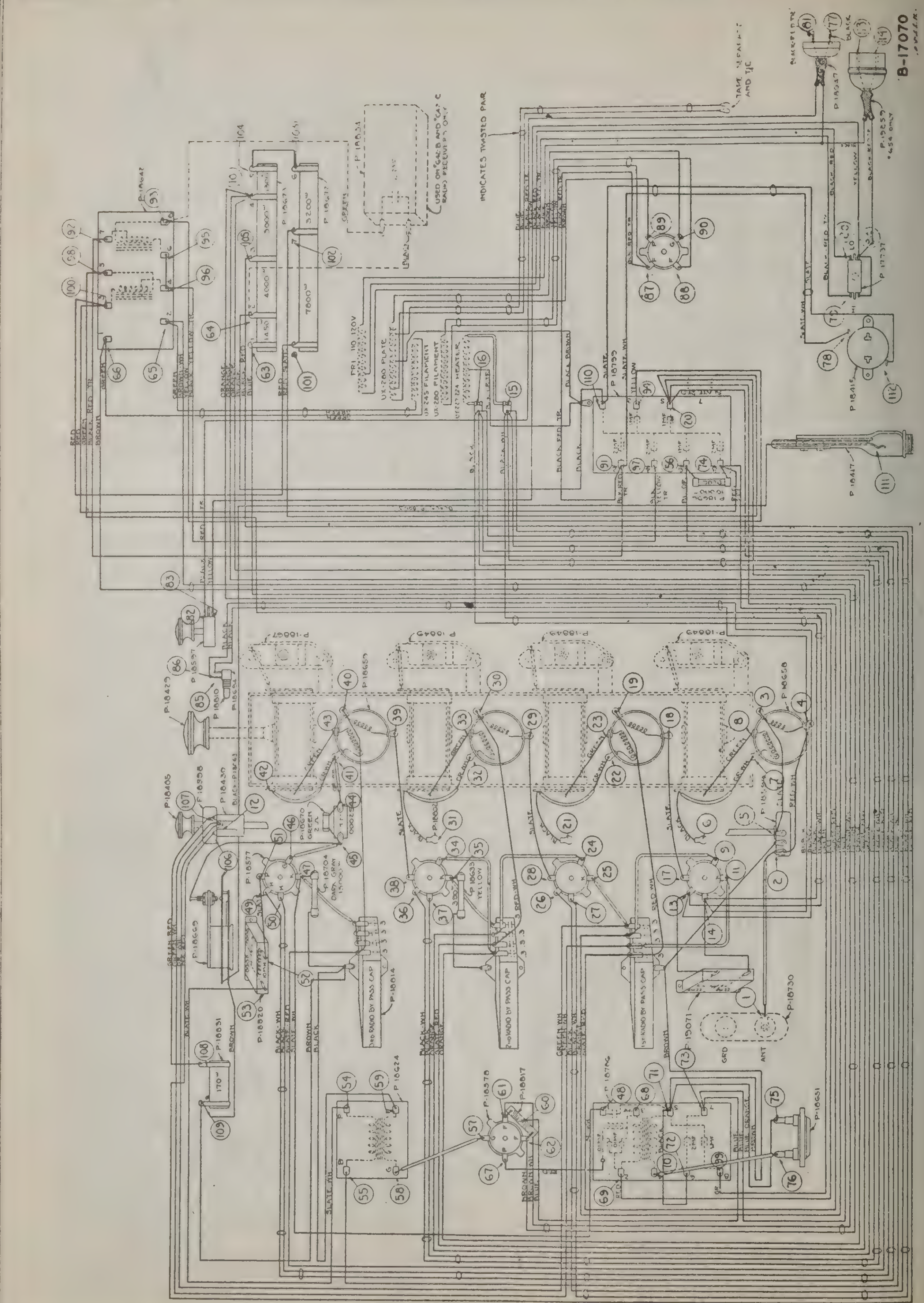
75
76
78
79
80
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113

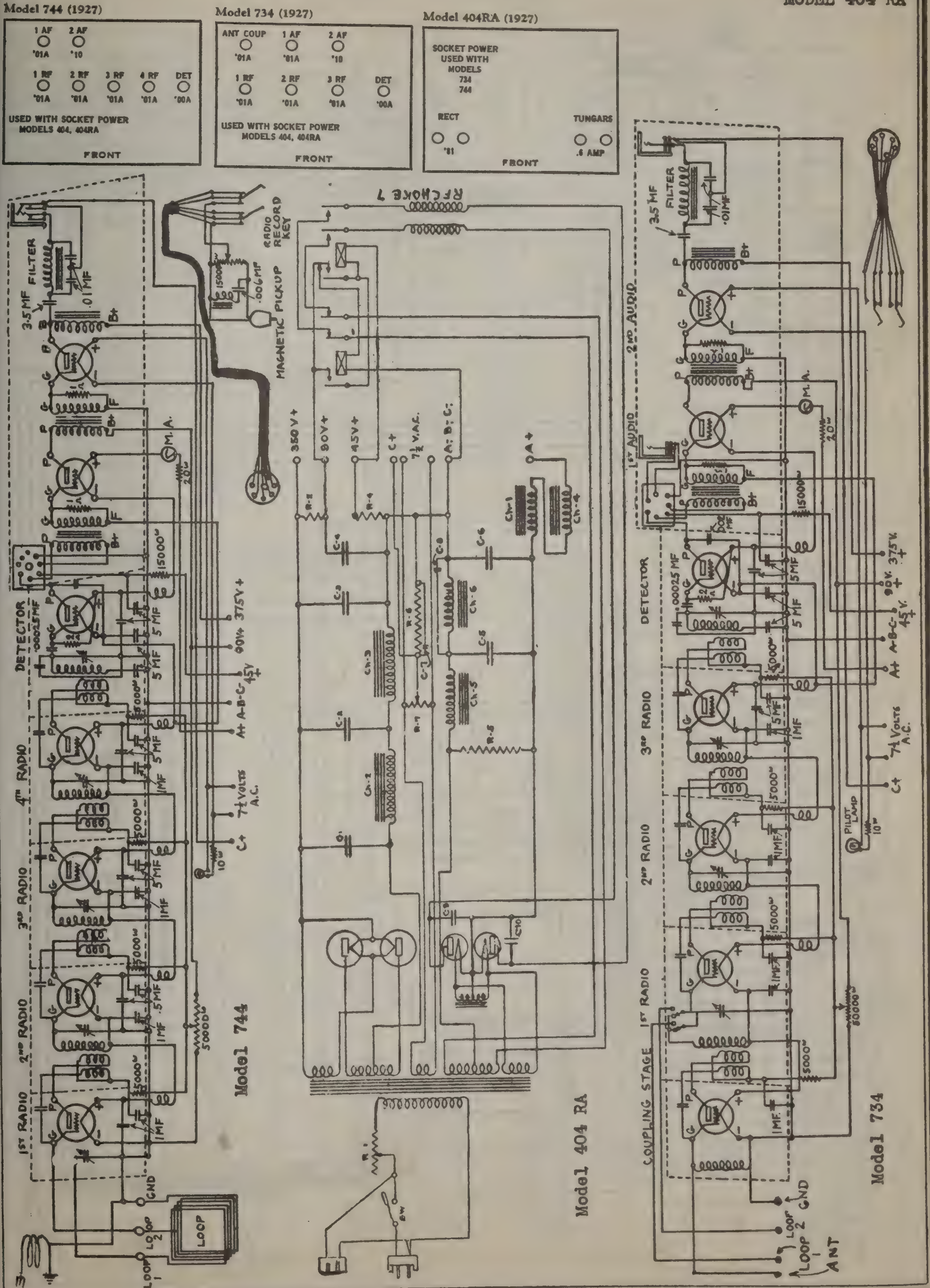
MODEL 652,654
Chassis Wiring

STROMBERG - CARLSON TEL. MFG. CO.


B-17070
INDICATES TWISTED PAIR
TAPE SPLICE AND TIE
USED ON "CAL B" AND "CAL C" RADIO RECEIVERS ONLY
PRI 110 120V
UX-280 PLATE
UX-245 FILAMENT
UX-280 FILAMENT
UY-227 HEATER
1ST RADIO BY PASS CAP
2ND RADIO BY PASS CAP
3RD RADIO BY PASS CAP
GRD
ANT
P-18658
P-18659
P-18730
P-18651
P-18624
P-18014
P-18578
P-18817
P-18669
P-18631
P-18820
P-18577
P-18405
P-18429
P-18417
P-18415
P-17737
P-18799
3000"
4000"
7800"
3200"
1450"
170"
SLATE
GREEN
YELLOW
BLACK
BROWN
RED
ORANGE
BLUE

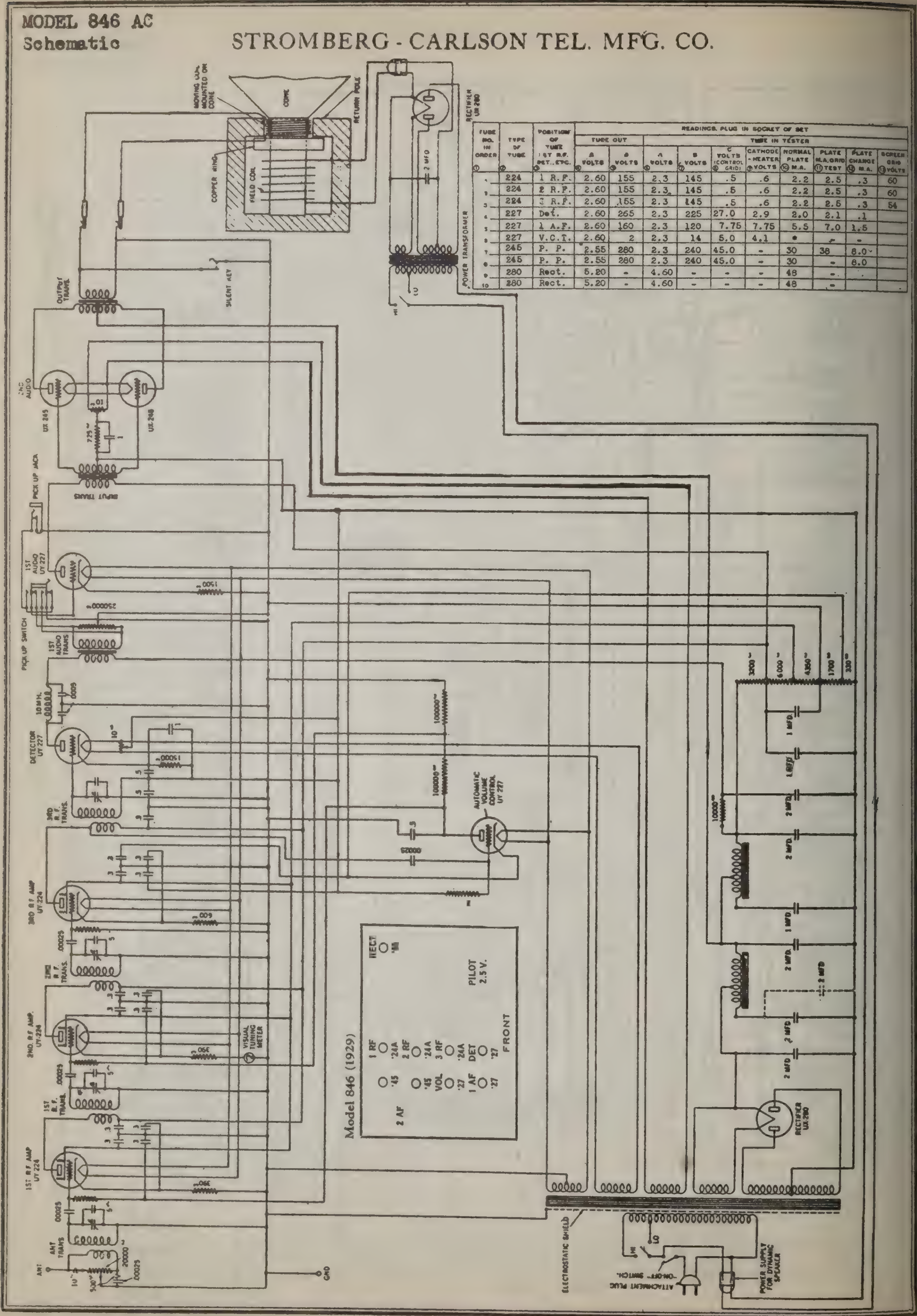
STROMBERG - CARLSON TEL. MFG. CO.

MODEL 734
MODEL 744
MODEL 404 RA


Model 744 (1927)
1 AF '01A
2 AF '10
1 RF '01A
2 RF '01A
3 RF '01A
4 RF '01A
DET '00A
USED WITH SOCKET POWER MODELS 404, 404RA
FRONT
Model 734 (1927)
ANT COUP '01A
1 AF '01A
2 AF '10
1 RF '01A
2 RF '01A
3 RF '01A
DET '00A
USED WITH SOCKET POWER MODELS 404, 404RA
FRONT
Model 404RA (1927)
SOCKET POWER USED WITH MODELS 734 744
RECT '81
TUNGARS .6 AMP
FRONT
RF CHOKE 7
RADIO RECORD KEY
MAGNETIC PICKUP
.006 MF
1500
350 V+
90 V+
45 V+
C+
7½ V.A.C.
A; B; C;
A+
FILTER
3.5 MF
.01 MF
DETECTOR
.00025 MF
1ST RADIO
2ND RADIO
3RD RADIO
4TH RADIO
1ST AUDIO
2ND AUDIO
COUPLING STAGE
M.A.
20"
15000"
5000"
50000"
5 MF
.5 MF
1 MF
375 V+
90 V+
45 V+
A-B-C-
A+
7½ VOLTS A.C.
C+
10"
PILOT LAMP
LOOP 1
LOOP 2
LOOP
GND
ANT
SW
Model 744
Model 404 RA
Model 734

MODEL 846 AC
Schematic

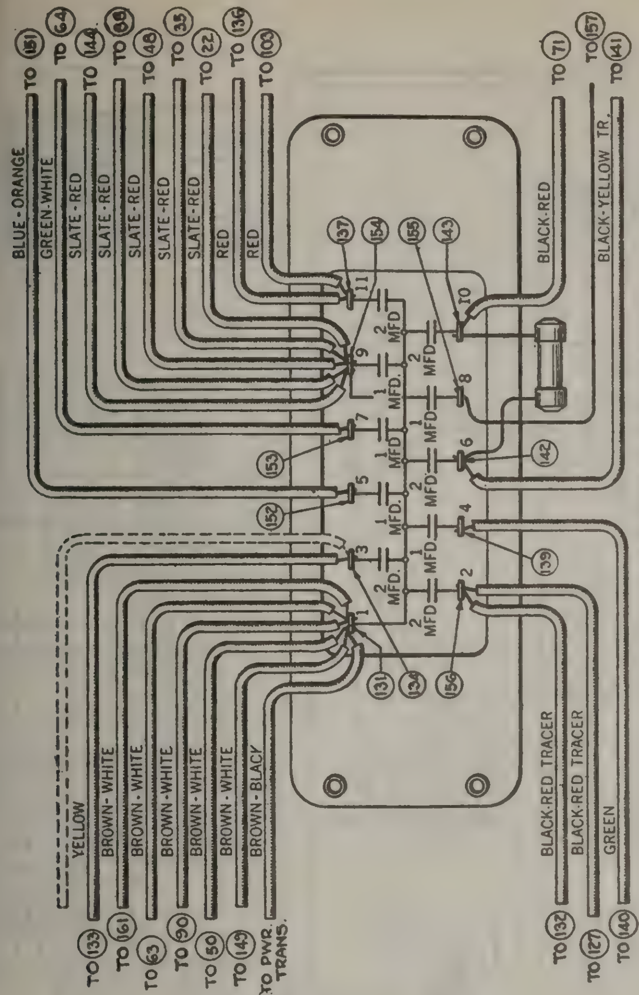
STROMBERG - CARLSON TEL. MFG. CO.


MOVING COIL MOUNTED ON CONE
CONE
RETURN POLE
COPPER RING
FIELD COIL
RECTIFIER UX 280
2 MFD
POWER TRANSFORMER
HI
LO
OUTPUT TRANS
SILENT KEY
2ND AUDIO
UX 245
UX 245
.01
725Ω
1
INPUT TRANS
PICK UP JACK
1ST AUDIO UY 227
15000Ω
250000Ω
PICK UP SWITCH
1ST AUDIO TRANS
10 M.H.
.0005
DETECTOR UY 227
10Ω
150000Ω
.5
.5
.5
3RD R.F. TRANS.
100000Ω
100000Ω
AUTOMATIC VOLUME CONTROL UY 227
.5
.00025
3RD R.F. AMP UY 224
600Ω
.00025
2ND R.F. TRANS.
2ND. R.F. AMP. UY 224
390Ω
VISUAL TUNING METER
1ST R.F. TRANS.
1ST R.F. AMP UY 224
390Ω
.00025
ANT TRANS
20000Ω
.00025
ANT
10Ω
500Ω
GND
3200Ω
6000Ω
4350Ω
1700Ω
330Ω
1 MFD
1 MFD
10000Ω
2 MFD
2 MFD
1 MFD
2 MFD
2 MFD
2 MFD
2 MFD
RECTIFIER UX 280
ELECTROSTATIC SHIELD
HI
LO
"ON-OFF" SWITCH
ATTACHMENT PLUG
POWER SUPPLY FOR DYNAMIC SPEAKER
Model 846 (1929)
RECT '80
PILOT 2.5 V.
1 RF '24A
2 RF '24A
3 RF '24A
DET '27
2 AF '45
'45
VOL '27
1 AF '27
FRONT

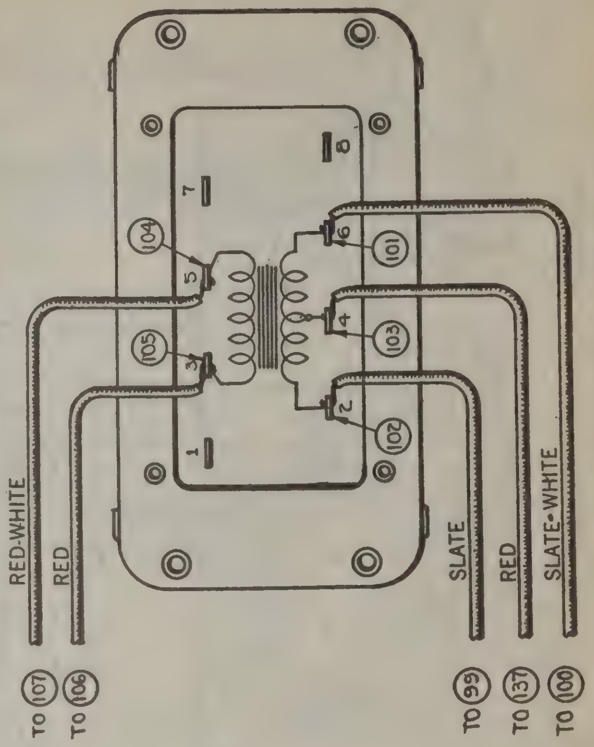
① TUBE NO. IN ORDER	② TYPE OF TUBE	③ POSITION OF TUBE 1ST R.F. DET., ETC.	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			④ A VOLTS	⑤ B VOLTS	⑥ A VOLTS	⑦ B VOLTS	⑧ C VOLTS (CONTROL GRID)	⑨ CATHODE-HEATER VOLTS	⑩ NORMAL PLATE M.A.	⑪ PLATE M.A. GRID TEST	⑫ PLATE CHANGE M.A.	⑬ SCREEN GRID VOLTS
1	224	1 R.F.	2.60	155	2.3	145	.5	.6	2.2	2.5	.3	60
2	224	2 R.F.	2.60	155	2.3	145	.5	.6	2.2	2.5	.3	60
3	224	3 R.F.	2.60	155	2.3	145	.5	.6	2.2	2.5	.3	54
4	227	Det.	2.60	265	2.3	225	27.0	2.9	2.0	2.1	.1	
5	227	1 A.F.	2.60	160	2.3	120	7.75	7.75	5.5	7.0	1.5	
6	227	V.C.T.	2.60	2	2.3	14	5.0	4.1	•	-	-	
7	245	P. P.	2.55	280	2.3	240	45.0	-	30	38	8.0	
8	245	P. P.	2.55	280	2.3	240	45.0	-	30	-	8.0	
9	280	Rect.	5.20	-	4.60	-	-	-	48	-		
10	280	Rect.	5.20	-	4.60	-	-	-	48	-		

MODEL 846
Internal Wiring

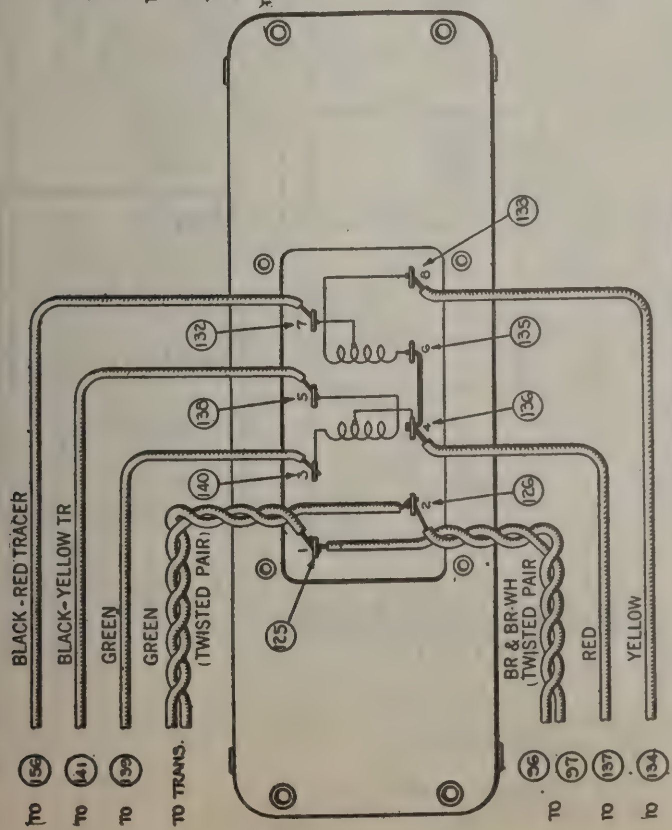
STROMBERG - CARLSON TEL. MFG. CO.


TO 151
BLUE - ORANGE
TO 64
GREEN-WHITE
TO 144
SLATE - RED
TO 88
SLATE - RED
TO 48
SLATE - RED
TO 35
SLATE - RED
TO 22
SLATE - RED
TO 136
RED
TO 100
RED
TO 71
BLACK-RED
TO 157
TO 141
BLACK-YELLOW TR.
137
154
155
143
11
10
9
8
7
6
5
4
3
2
1
2 MFD
1 MFD.
2 MFD.
1 MFD
153
152
142
139
131
134
156
YELLOW
BROWN - WHITE
BROWN - WHITE
BROWN - WHITE
BROWN - WHITE
BROWN - WHITE
BROWN - BLACK
BLACK-RED TRACER
BLACK-RED TRACER
GREEN
TO 133
TO 161
TO 63
TO 90
TO 50
TO 149
TO PWR. TRANS.
TO 132
TO 127
TO 140

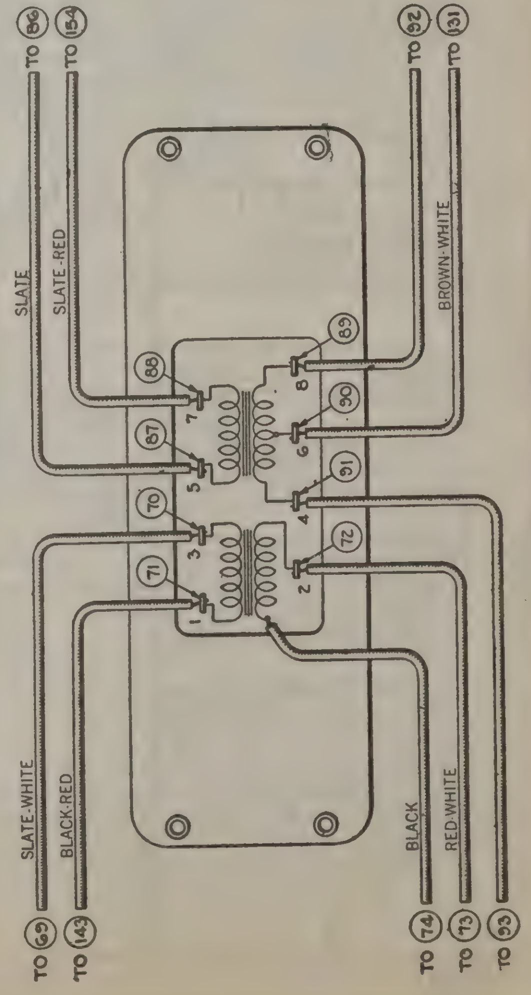
Detail of P-19038 Capacitor Assembly.


7
8
104
5
101
6
105
3
4
103
1
2
102
RED-WHITE
RED
SLATE
RED
SLATE-WHITE
TO 107
TO 106
TO 99
TO 137
TO 100

Detail of P-18781 Output Transformer.


133
132
7
8
6
135
5
138
4
134
3
140
2
126
1
125
BLACK - RED TRACER
BLACK - YELLOW TR
GREEN
GREEN
(TWISTED PAIR)
BR & BR-WH (TWISTED PAIR)
RED
YELLOW
TO 156
TO 141
TO 139
TO TRANS.
TO 96
TO 97
TO 137
TO 134

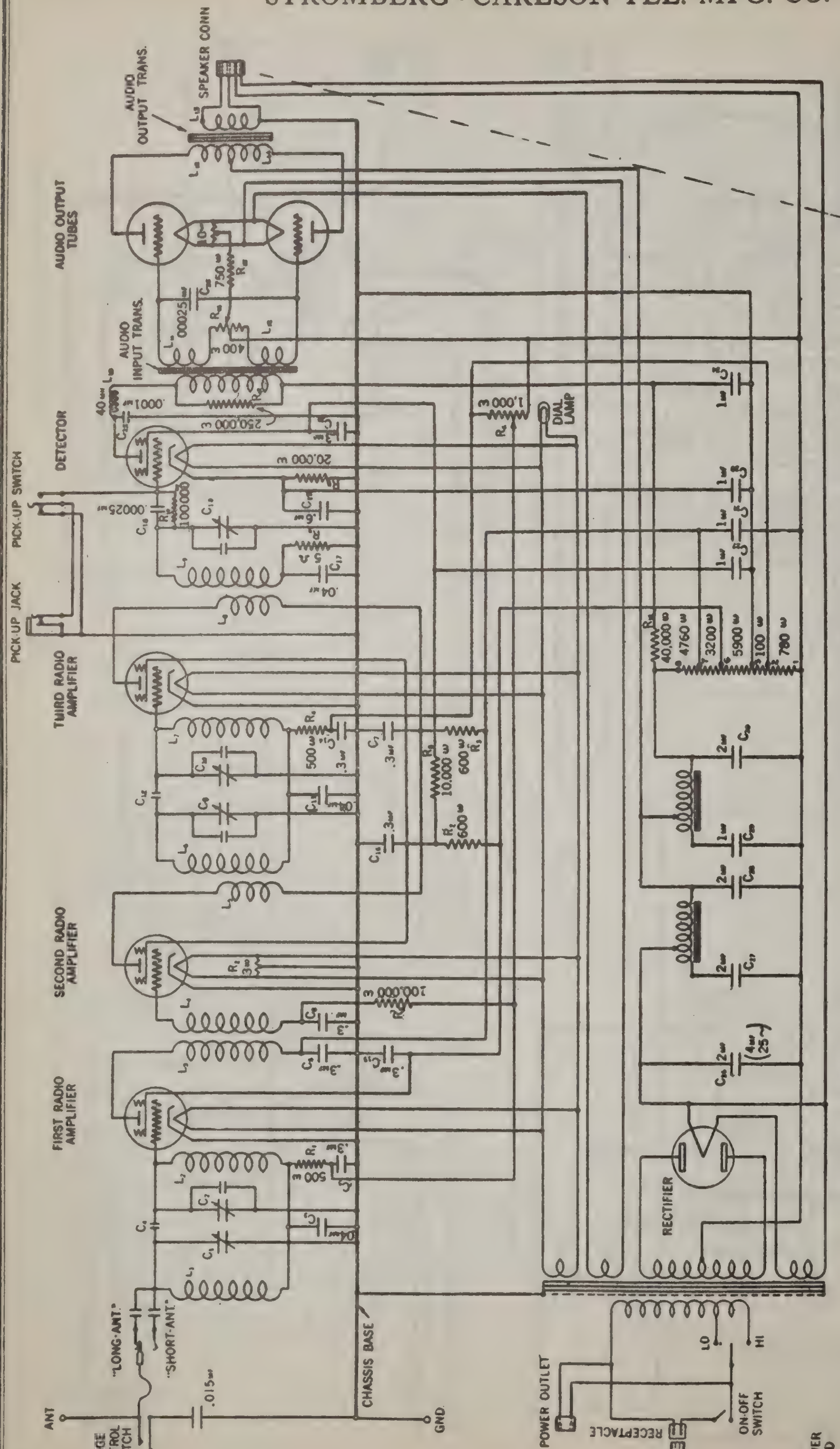
Detail of P-18200 Filter Inductor Assembly.

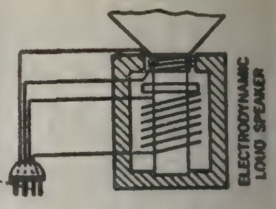

TO 86
TO 134
SLATE
SLATE-RED
TO 92
TO 131
BROWN-WHITE
88
89
87
8
7
90
6
5
91
4
70
3
72
2
71
1
SLATE-WHITE
BLACK-RED
BLACK
RED-WHITE
TO 69
TO 143
TO 74
TO 73
TO 93

Detail of P-18780 Audio Transformers Assembly.

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 10-11
Schematic


ANT
RANGE CONTROL SWITCH
"LONG-ANT."
"SHORT-ANT."
.015 mf
GND.
CHASSIS BASE
FIRST RADIO AMPLIFIER
SECOND RADIO AMPLIFIER
THIRD RADIO AMPLIFIER
PICK-UP JACK
PICK-UP SWITCH
DETECTOR
AUDIO INPUT TRANS.
AUDIO OUTPUT TUBES
AUDIO OUTPUT TRANS.
SPEAKER CONN
DIAL LAMP
RECTIFIER
POWER OUTLET
RECEPTACLE
ON-OFF SWITCH
A.C. POWER CORD
LO
HI
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28
R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13
500 Ω
100,000 Ω
3 mf
10,000 Ω
600 Ω
500 Ω
.3 mf
.04 mf
.00025 mf
100,000
20,000 Ω
250,000 Ω
.0001
40 mf
400
.00025 mf
750 Ω
1,000 Ω
40,000 Ω
4760 Ω
3200 Ω
5900 Ω
100 Ω
780 Ω
1 mf
2 mf
(4 mf 25~)

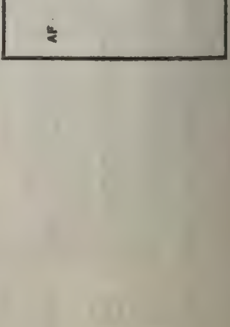

ELECTRODYNAMIC LOUD SPEAKER

STROMBERG-CARLSON—Models 10 and 11
Line Voltage 120—Voltage Tap High

METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET

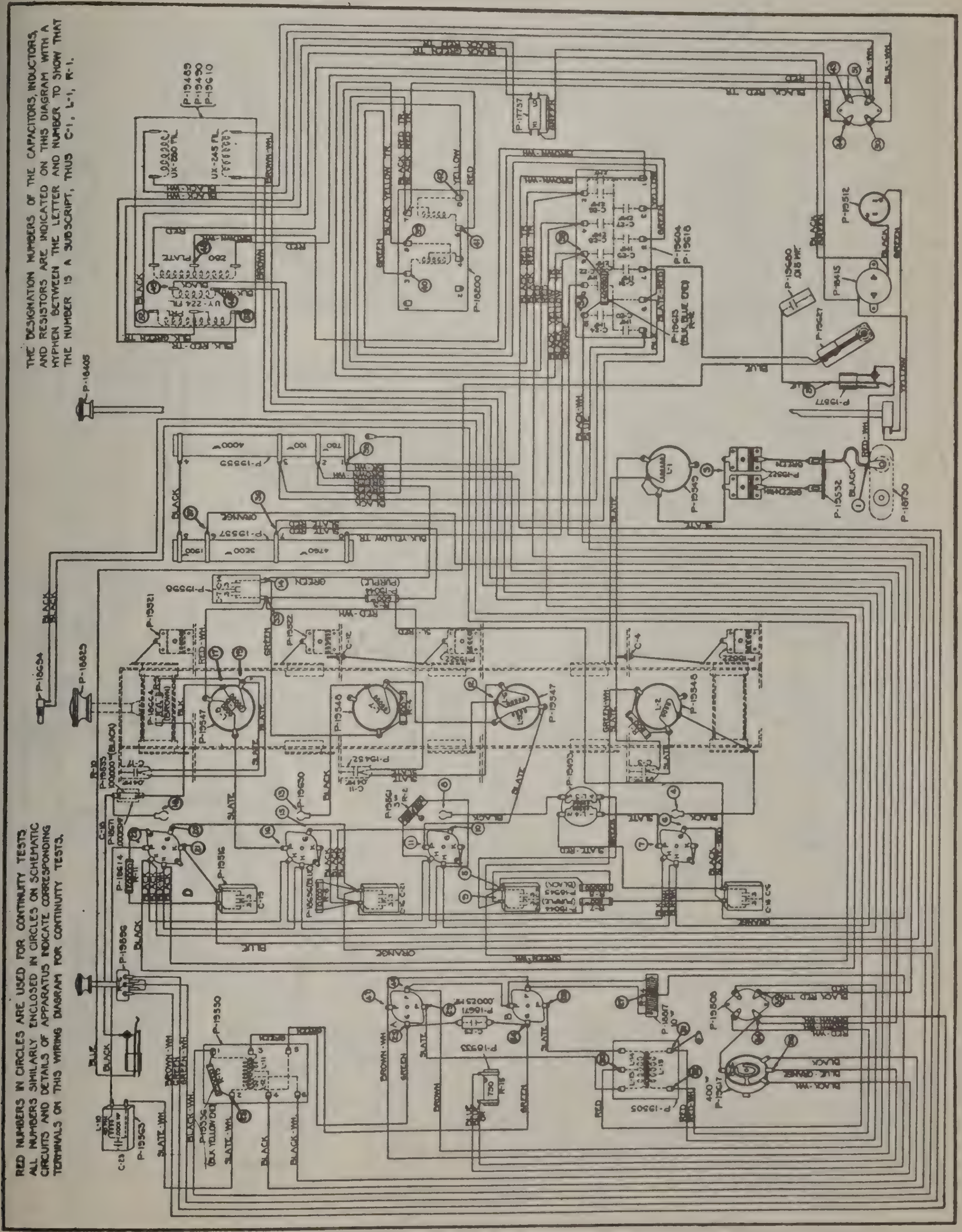
Tube No. in Order Tested ①	Type of Tube ②	Position of Tube in Set ③	OPERATING VOLTAGES Filament or Heater ④	Plate or Anode ⑤	Control Grid—Space Chg.+ ⑥	Normal Grid—SC Grid Chg.+ ⑦	Cathode to Heater ⑧	MILLIAMPERES Screen or "L.R." '30 Plate ⑨	Plate "L.R." '30 Plate ⑩	Tube Test ⑪	Plate Current Change
1	224	1 R.F.	2.4	135	2.5	80					
2	224	2 R.F.	2.4	135	2.5	80					
3	224	3 R.F.	2.4	135	2.5	80					
4	224	Det.	2.4	200	-	75					
5	245	PP-AF	2.4	235	-	45					
6	245	PP-AF	2.4	235	-	45					
7	280	Rect.	4.8	-	-	-					

Models 10, 11 (1930)


AF
'45
'45
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'24A
RECT
'80
PILOT
2.5 V
FRONT

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 10-11
Chassis Wiring

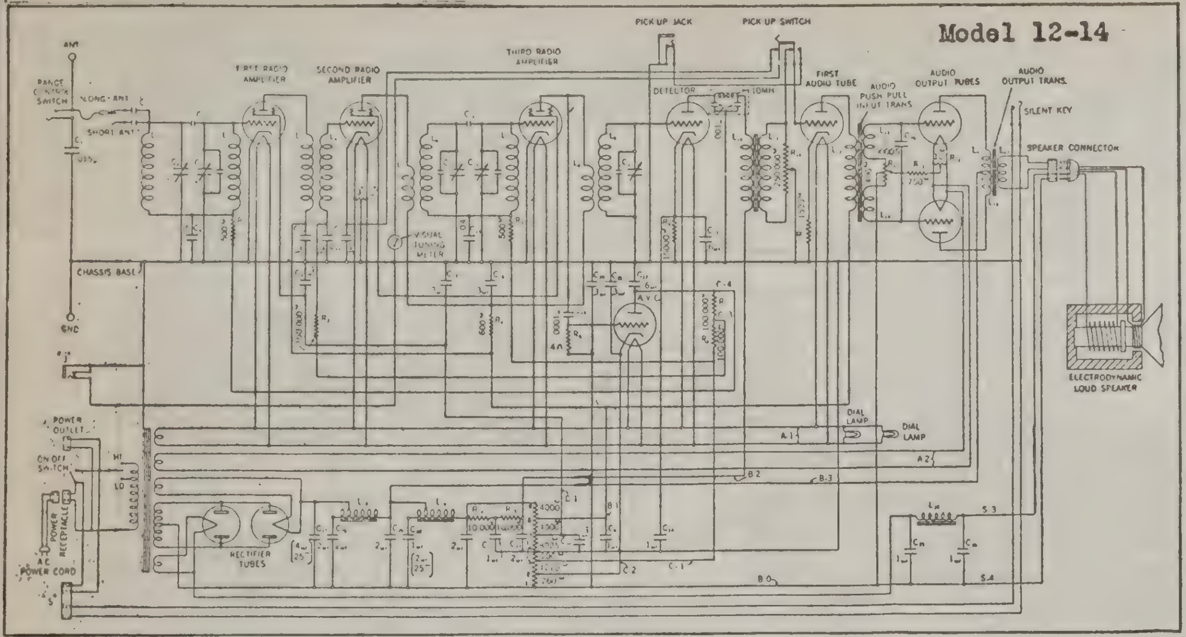

P-19489
P-19490
P-19610
UX-280 FIL.
UX-245 FIL.
UY-224 FIL.
PLATE
P-18405
P-18200
P-17737
P-19604
P-19618
P-19512
P-18415
P-19627
P-19577
P-19555
P-19557
P-19556
P-19921
P-19634
P-18629
P-19546
P-19547
P-19548
P-19549
P-19532
P-18730
P-19530
P-19563
P-19533
P-19505
P-19508
BLACK
RED
GREEN
YELLOW
BROWN
SLATE
ORANGE
BLUE

THE DESIGNATION NUMBERS OF THE CAPACITORS, INDUCTORS, AND RESISTORS ARE INDICATED ON THIS DIAGRAM WITH A HYPHEN BETWEEN THE LETTER AND NUMBER TO SHOW THAT THE NUMBER IS A SUBSCRIPT, THUS C-1, L-1, R-1.

RED NUMBERS IN CIRCLES ARE USED FOR CONTINUITY TESTS. ALL NUMBERS SIMILARLY ENCLOSED IN CIRCLES ON SCHEMATIC CIRCUITS AND DETAILS OF APPARATUS INDICATE CORRESPONDING TERMINALS ON THIS WIRING DIAGRAM FOR CONTINUITY TESTS.

MODEL 12-14
Schematic,Pickup

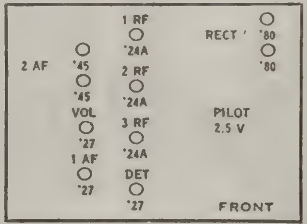
STROMBERG - CARLSON TEL. MFG. CO.

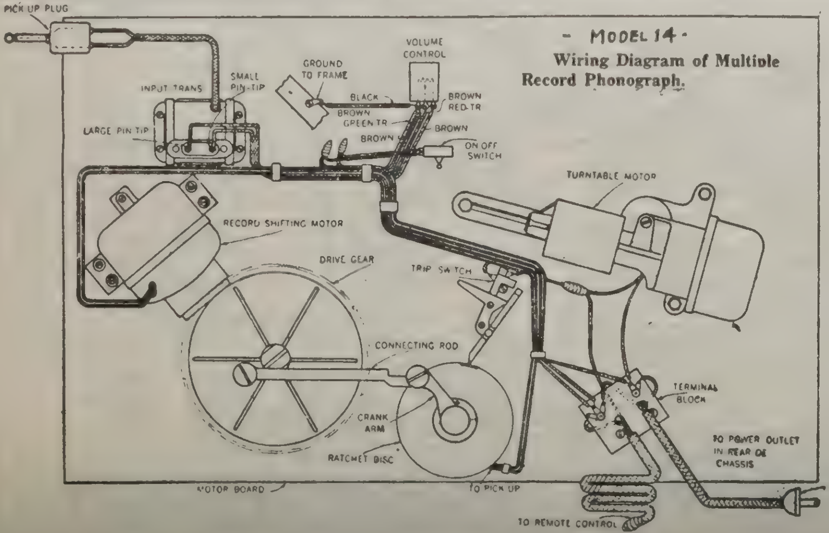

Model 12-14
ANT
RANGE CONTROL SWITCH
LONG ANT
SHORT ANT
FIRST RADIO AMPLIFIER
SECOND RADIO AMPLIFIER
THIRD RADIO AMPLIFIER
VISUAL TUNING METER
DETECTOR
PICK UP JACK
PICK UP SWITCH
FIRST AUDIO TUBE
AUDIO PUSH PULL INPUT TRANS
AUDIO OUTPUT TUBES
AUDIO OUTPUT TRANS.
SILENT KEY
SPEAKER CONNECTOR
ELECTRODYNAMIC LOUD SPEAKER
A V C
CHASSIS BASE
GND
DIAL LAMP
POWER OUTLET
ON OFF SWITCH
HI
LO
POWER RECEPTACLE
AC POWER CORD
RECTIFIER TUBES
A 1
A 2
B 2
B 3
B 0
S 3
S 4
C 1
C 2

STROMBERG-CARLSON—Models 12 and 14
Line Voltage 120—Voltage Tap High

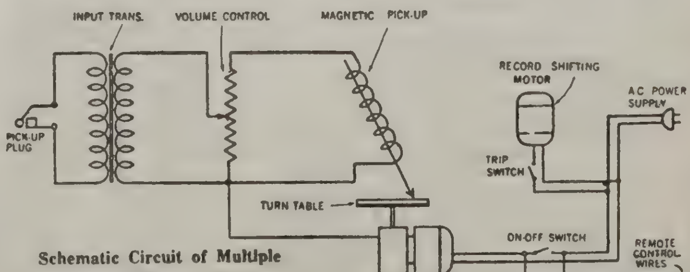
TUBE NO IN ORDER TESTED (1)	TYPE OF TUBE (2)	POSITION OF TUBE IN SET (3)	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR HEATER (4)	PLATE OR ANODE (5)	CONTROL GRID—SPACE (6) GD +	NORMAL GRID—SCREEN (7) GD +	CATHODE TO HEATER (8)	SCREEN 80 L M 80 PLATE (9)	PLATE R M 80 PLATE (10)	TUBE TEST (11)	PLATE CURRENT CHANGE (12)	(13)
1	224	1 R.F.	2.6	135	3.0*	85						
2	224	2 R.F.	2.4	135	3.0*	85						
3	224	3 R.F.	2.4	135	3.0*	85						
4	227	Det.	2.4	195	-	85						
5	227	1 A.F.	2.4	115	-	4.5						
6	245	PP-AF	2.4	245	-	45						
7	245	PP-AF	2.6	115	-	45						
8	280	Rect.	4.8	-	-	-						
9	280	Rect.	4.8	-	-	-						
10												

Models 12, 14 (1930)


1 RF
'24A
RECT
'80
'80
2 AF
'45
'45
2 RF
'24A
VOL
'27
3 RF
'24A
PILOT
2.5 V
1 AF
'27
DET
'27
FRONT


PICK UP PLUG
INPUT TRANS
SMALL PIN-TIP
LARGE PIN TIP
GROUND TO FRAME
VOLUME CONTROL
BLACK
BROWN
GREEN TR
BROWN
BROWN RED-TR
BROWN
ON OFF SWITCH
TURNTABLE MOTOR
RECORD SHIFTING MOTOR
DRIVE GEAR
TRIP SWITCH
CONNECTING ROD
CRANK ARM
RATCHET DISC
TERMINAL BLOCK
TO POWER OUTLET IN REAR OF CHASSIS
MOTOR BOARD
TO PICK UP
TO REMOTE CONTROL

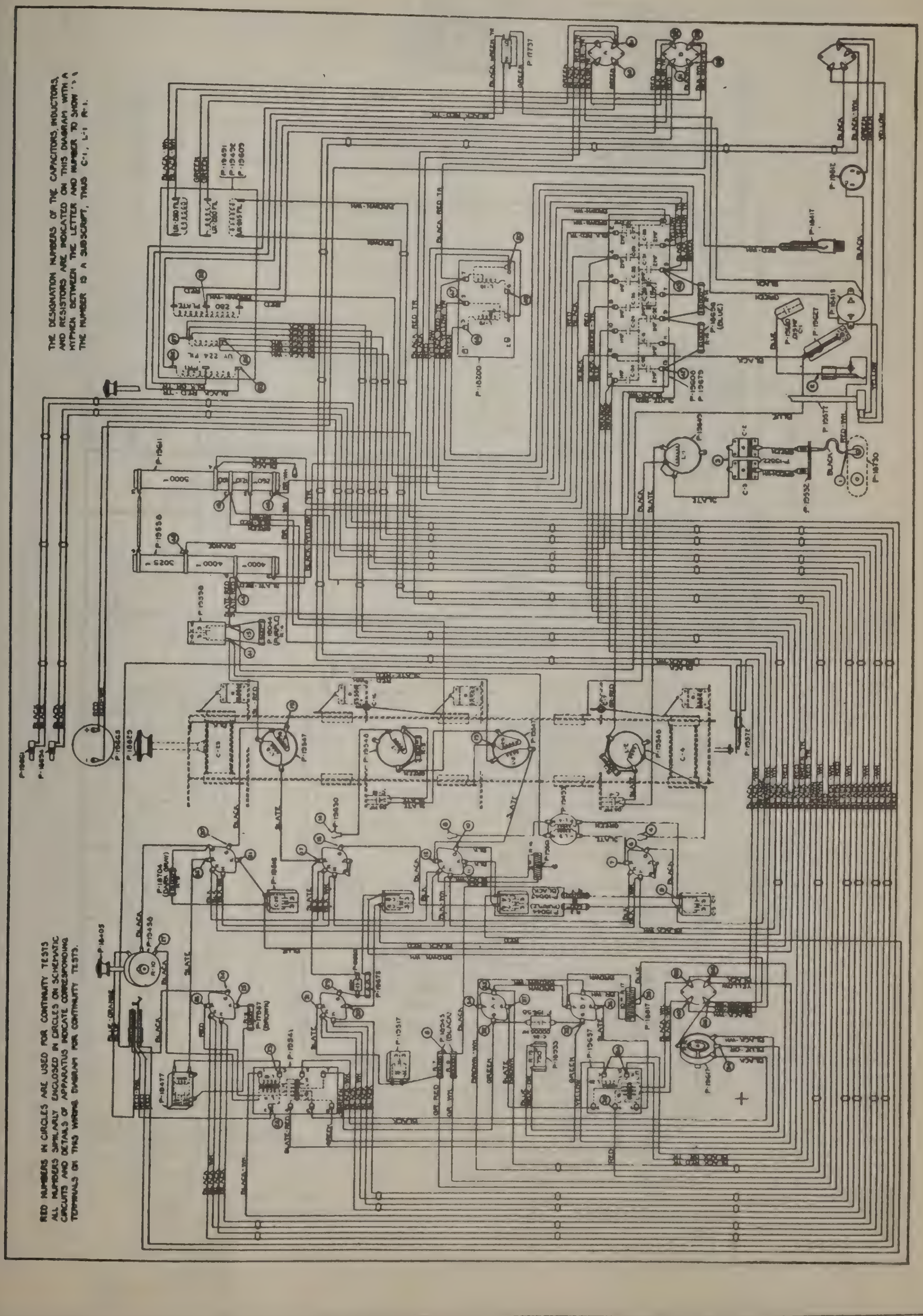
- MODEL 14 -
Wiring Diagram of Multiple Record Phonograph.


INPUT TRANS.
VOLUME CONTROL
MAGNETIC PICK-UP
PICK-UP PLUG
TURN TABLE
RECORD SHIFTING MOTOR
A.C. POWER SUPPLY
TRIP SWITCH
ON-OFF SWITCH
REMOTE CONTROL WIRES
TURNTABLE MOTOR

Schematic Circuit of Multiple Record Phonograph.

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 12-14
Chassis Wiring

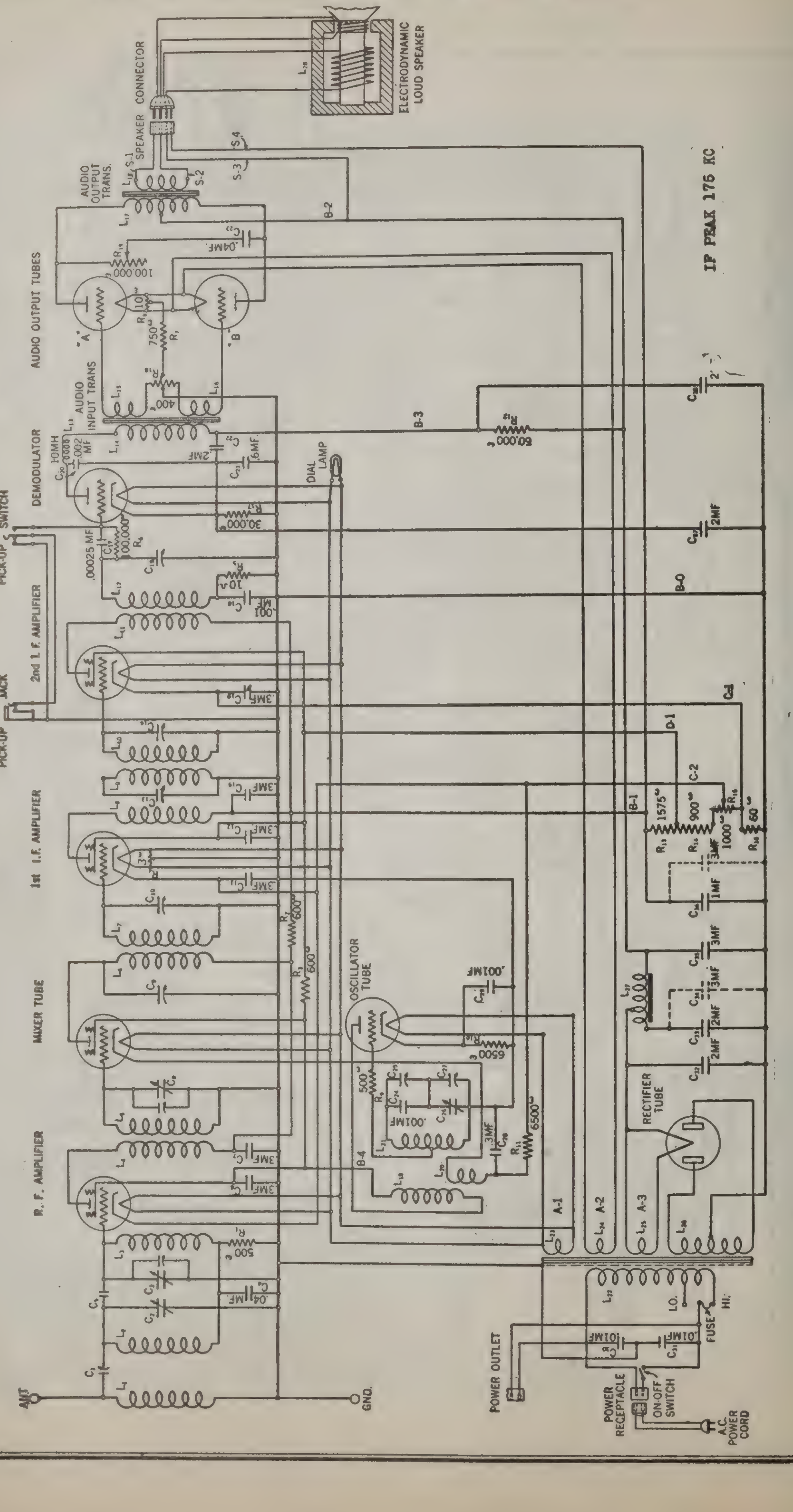

THE DESIGNATION NUMBERS OF THE CAPACITORS, INDUCTORS, AND RESISTORS ARE INDICATED ON THIS DIAGRAM WITH A HYPHEN BETWEEN THE LETTER AND NUMBER TO SHOW [illegible] THE NUMBER IS A SUBSCRIPT, THUS C-1, L-1 R-1.

RED NUMBERS IN CIRCLES ARE USED FOR CONTINUITY TESTS ALL NUMBERS SIMILARLY ENCLOSED IN CIRCLES ON SCHEMATIC CIRCUITS AND DETAILS OF APPARATUS INDICATE CORRESPONDING TERMINALS ON THIS WIRING DIAGRAM FOR CONTINUITY TESTS.

UY 224 PL
PLATE
BLACK
GREEN
YELLOW
RED
BLUE
P-19200
P-19341
P-19405
5000
4000
3025
C-1
C-2
C-3
C-4
L-1

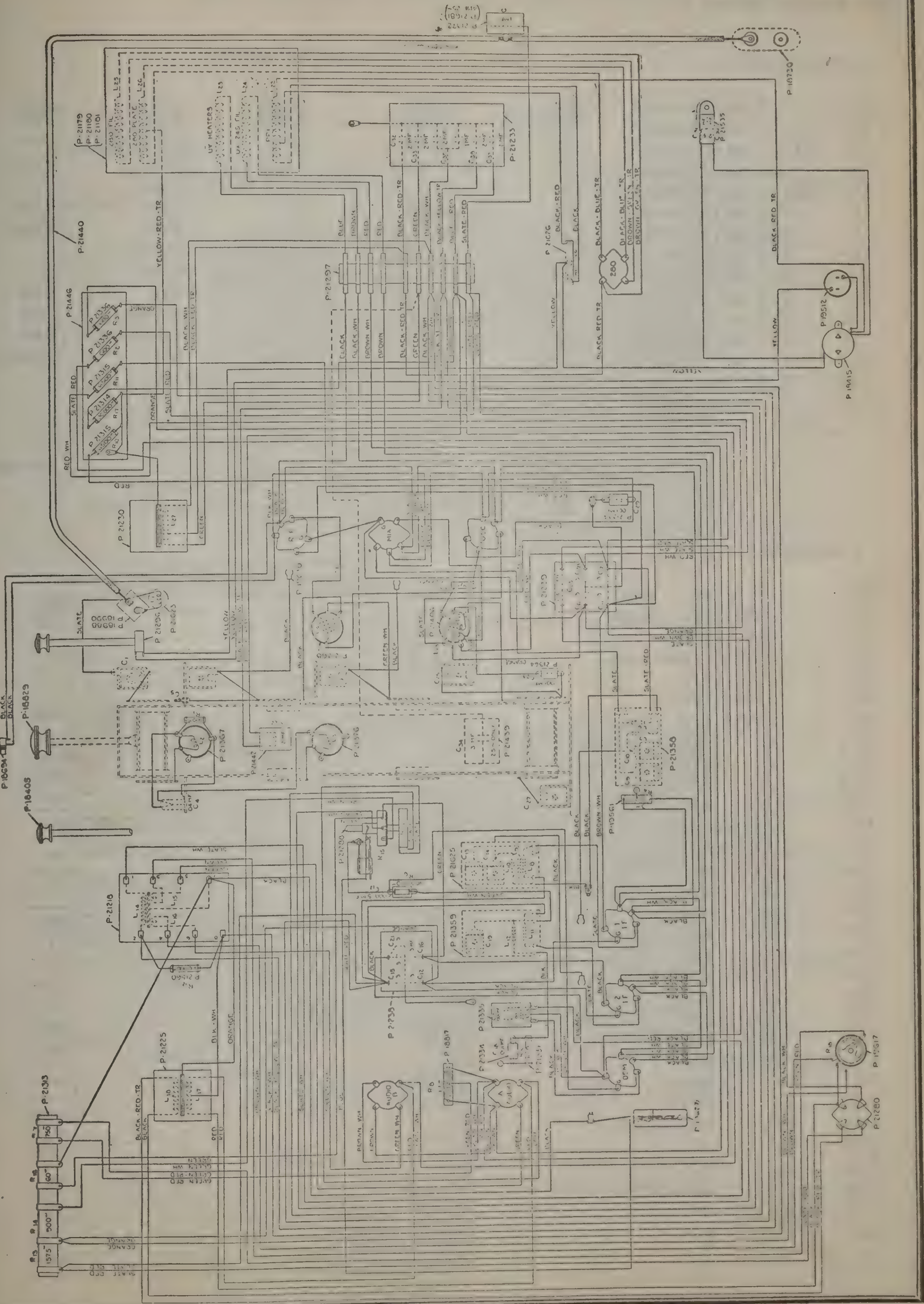
MODEL 19,20 AC
Schematic

STROMBERG CARLSON TEL. MFG. CO.


ELECTRODYNAMIC LOUD SPEAKER
SPEAKER CONNECTOR
AUDIO OUTPUT TRANS.
S-1
S-2
S-3
S-4
B-2
AUDIO OUTPUT TUBES
"A"
"B"
100,000
.04MF
10"
750"
400"
AUDIO INPUT TRANS
DEMODULATOR
10MH
.002 MF
2MF
6MF
DIAL LAMP
B-3
60,000
30,000
.00025 MF
100,000
PICK-UP SWITCH
2nd I. F. AMPLIFIER
10
.001 MF
B-O
PICK-UP JACK
.3MF
D-1
C-2
B-1
1575"
900"
1000"
60"
1st I. F. AMPLIFIER
.3MF
1MF
3MF
2MF
MIXER TUBE
600"
OSCILLATOR TUBE
.001MF
6500
500"
.001MF
.3MF
6500"
B-4
R. F. AMPLIFIER
.3MF
500
.04MF
RECTIFIER TUBE
A-1
A-2
A-3
LO.
HI.
FUSE
.01MF
.01MF
ANT
GND.
POWER OUTLET
POWER RECEPTACLE
ON-OFF SWITCH
A.C. POWER CORD
IF PEAK 175 KC

STROMBERG - CARLSON TEL. MFG. CO.

MODEL 19,20 AC
Chassis Wiring


P-21440
P-21179
P-21180
P-21181
UY HEATERS
P-21233
P-18720
P-21535
P-21297
YELLOW-RED TR
BLUE
BROWN
RED
BLACK-RED TR
GREEN
BLACK WH
BLACK-YELLOW TR
SLATE-RED
BLACK-BLUE TR
BLACK-RED TR
BLACK
YELLOW
P-19512
P-19415
P-21446
P-21336
P-21315
P-21314
RED
SLATE
ORANGE
RED WH
P-21230
L27
GREEN
P-18998
P-21296
P-21623
SLATE
BLACK
P-18629
P-18694
P-18405
P-21367
P-21442
P-21356
P-21439
P-21358
P-19561
SLATE-RED
BROWN WH
P-21218
L14
L15
L16
P-21200
P-21025
P-21359
P-21235
P-18817
P-21339
P-21334
P-21225
L10
L17
BLK-WH
ORANGE
BLACK-RED TR
P-21313
750
60
300
1575
P-19617
P-21280
AUDIO
GREEN WH
BROWN WH
GREEN

MODEL 19,20 AC
Voltage
Electrical Values

STROMBERG - CARLSON TEL. MFG CO.

INDUCTANCES

L1	.9	millihenry
L2	215.	microhenry
L3	215.	microhenry
L4	5.5	millihenry
L5	215.	microhenry
L6	5.5	millihenry
L7	5.5	millihenry
L8	5.5	millihenry
L9	5.5	millihenry
L10	5.5	millihenry
L11	5.5	millihenry
L12	5.5	millihenry
L19	15.	microhenry
L20	5.5	microhenry
L21	172.	microhenry

RESISTANCES

No.	Value	Body	Tip	Dot
R1	500	Green	Blk	Brn
R2	600	Blue	Blk	Brn
R3	600	Blue	Blk	Brn
R4	3	(Wire wound)		
R5	10 megs	Brn	Blk	Blue
R6	100,000	Brn	Blk	Green
R7	750	(Wire wound)		
R8	10	(Wire wound)		
R9	500	Green	Blk	Brn
R10	6,500	Blue	Green	Red
R11	6,500	Blue	Green	Red
R12	60,000	Blue	Blk	Orange
R13	1,575	(Wire wound)		
R14	900	(Wire wound)		
R15	1,000	(Wire wound)		
R16	60	(Wire wound)		
R17	30,000	Orange	Blk	Orange
R18	400	(Wire wound)		
R19	100,000	Carbon potentiometer		

CONDENSERS

C2	.0004 mfd	max.
C3	.0004 mfd	max.
C4	.04 mfd	
C5	.000001 mfd	app.
C6	.3 mfd	
C7	.3 mfd	
C8	.0004 mfd	max.
C11	.3 mfd	
C12	.3 mfd	
C15	.3 mfd	
C16	.3 mfd	
C17	.00025 mfd	
C18	.001 mfd	
C20	.002 mfd	
C21	.6 mfd	
C22	.2 mfd	
C23	.04 mfd	
C24	.001 mfd	
C26	.0004 mfd	max.
C28	.3 mfd	
C29	.001 mfd	
C30	.01 mfd	
C31	.01 mfd	
C32	2. mfd	
C33	2. mfd	
C34	3. mfd	
C35	3. mfd	
C36	1. mfd	
C36	4. mfd	(25 cy.)
C37	1. mfd	
C38	1. mfd	

TABLE 4.

Normal Voltage Readings

(Be sure to make these readings with the Meter and Scale indicated, otherwise the results will not agree with those tabulated. Alternating voltages are indicated by italics)

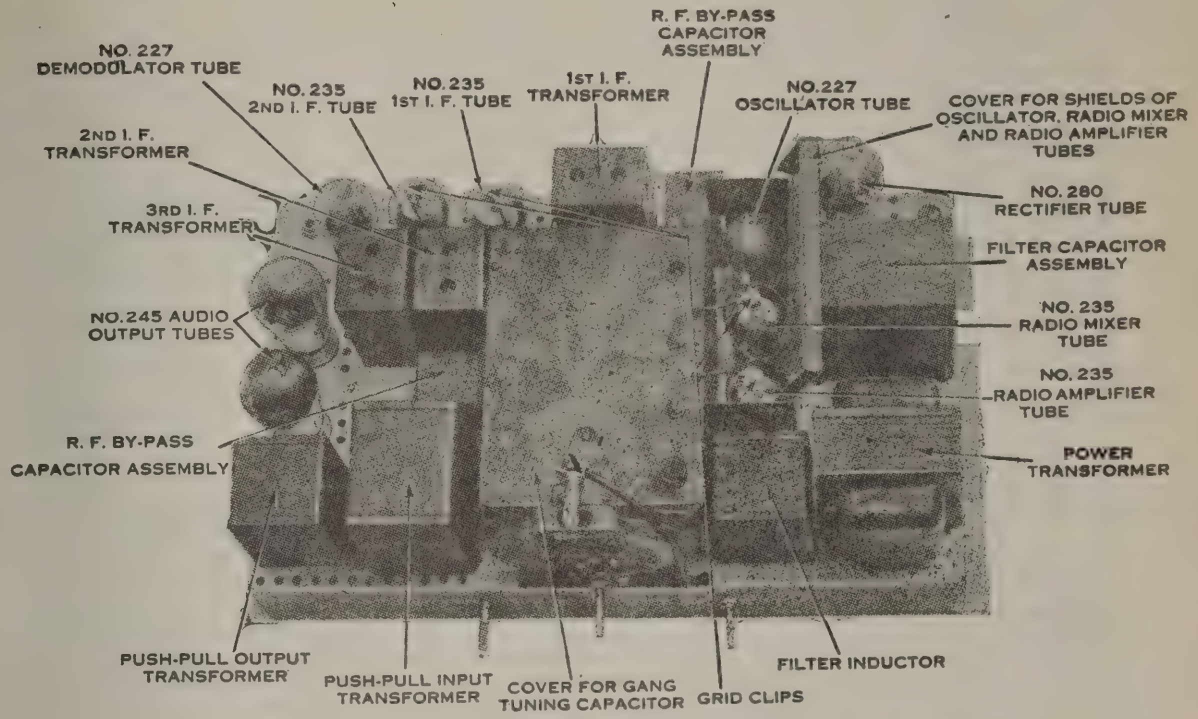
Voltage	Meter	Scale	Where Measured	Approx. Value in Volts
Heater Voltage Nos. 227 & 235 Tubes	A.C.	0-4	Across Heater Terminals of Sockets	*2.4*
Filament Voltage No. 245 Tubes	A.C.	0-4	Across Filament Terminals of Audio Output Sockets	*2.4*
Filament Voltage No. 280 Tube	A.C.	0-6	Across Filament Terminals of Rectifier Socket	*4.8*
Plate Voltage Radio Amplifiers	D.C.	0-250	Between Plate Terminal of R. F. Amplifier Socket (+) and Chassis Base (−)	150-170
Plate Voltage Mixer Tube	D.C.	0-250	Between Plate Terminal Mixer Tube Socket (+) and Chassis Base (−)	150-170
Plate Voltage Oscillator	D.C.	0-250	Between Plate Terminal of Oscillator Socket (+) and Chassis Base (−)	85-90
Plate Voltage I.F. Tubes	D.C.	0-250	Between Plate Terminals of I. F. Amplifier Sockets (+) and Chassis Base (−)	150-170
Plate Voltage Demodulator	D.C.	0-250	Between Plate Terminal of Demodulator Socket (+) and Chassis Base (−)	190-215
Plate Voltage Audio Output Tubes	D.C.	0-250	Between Plate Terminals Audio Output Socket (+) and 10 ohm Mid Tap Resistor R_6(−)	250
Control Grid Voltage R.F Amplifier	D.C.	0-10	Between Control Grid Clip of R. F. Amplifier Tube (−) and Cathode (+) of R. F. Amplifier Tube	3
Control Grid Voltage Mixer Tube	D.C.	0-250	Between Control Grid Clip Mixer Tube (−) and Cathode (+) of Mixer Tube	10-12
Control Grid Voltage 1st I.F. Amplifier	D.C.	0-10	Between Control Grid Clip 1st I. F. Tube (−) to Cathode (+) of 1st I. F. Tube	3
Control Grid Voltage 2nd I.F. Tube	D.C.	0-10	Between Control Grid Clip 2nd I. F. Tube (−) to Cathode (+) of 2nd I. F. Tube	3
Grid Voltage Oscillator	D.C.	0-250	Across 6500 ohm Resistor R_{10}	10-15
Grid Voltage Demodulator	D.C.	0-250	Across 30,000 ohm Resistor R_{17}	20-25
Grid Voltage Audio Tubes	D.C.	0-250	Between Grids of Audio Tubes (−) to Mid Tap 10 ohm Resistor R_6 (+)	45-50*
Screen Voltage Radio Amplifier Mixer 1st & 2nd I.F. Tubes	D.C.	0-250	Between Screen Terminals of Tubes (+) to Chassis Base (−)	80-90*
B Voltage R.F. Amplifier and Mixer Tube	D.C.	0-250	Between Tube Side of 600 ohm Resistor R_2 and Chassis Base	150-170*
B Voltage 1st & 2nd I.F. and Mixer Tubes	D.C.	0-250	Between "High" Side of Voltage Divider and Chassis Base.	150-170*
B Voltage Audio Tubes	D.C.	0-250	Between Mid Tap of Audio Output Transformer + and Chassis Base (−	300
C Voltage Audio Output Tubes	D.C.	0-250	Across 750 ohm Biasing Resistor R_7	50
Speaker Field Voltage	D.C.	0-250	Across Small Pins of Speaker Connector Socket	150-170
Plate Voltage A.C. Pere Anode No. 280 Rectifier	A.C.	See Remarks	Between P Terminals No. 280 Rectifier Socket and Chassis Base	*325-350**

*These voltage vary with dial setting and position of volume control.

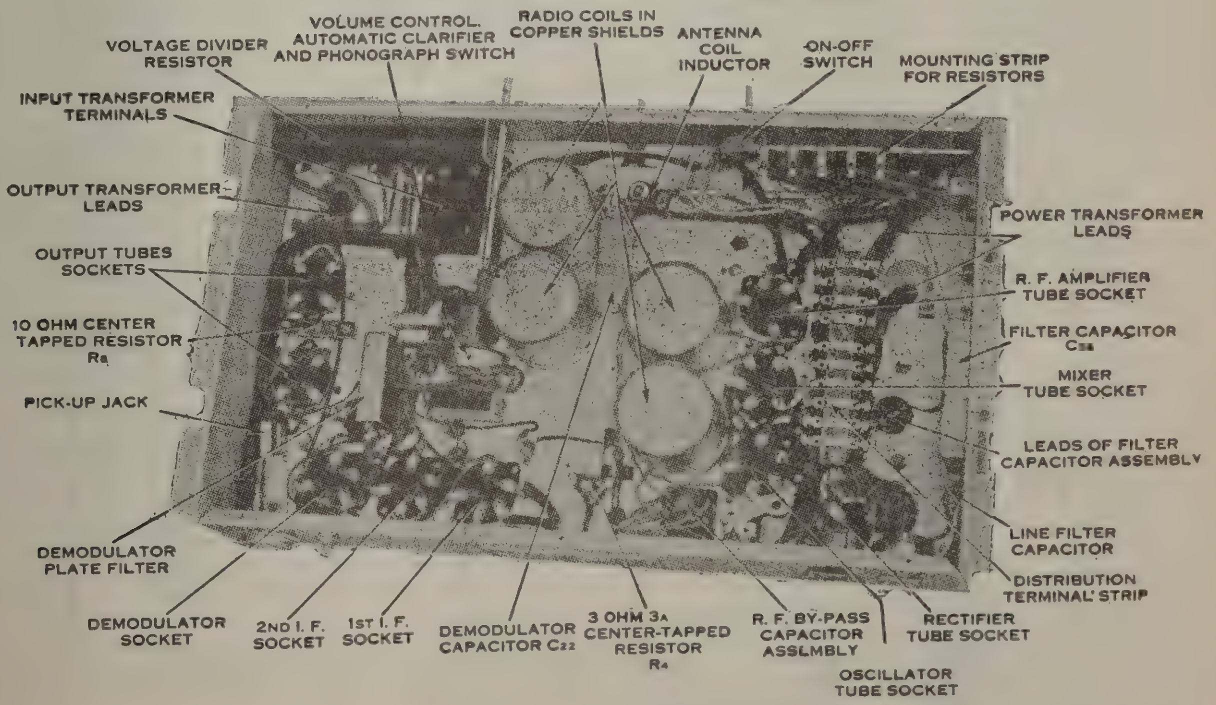
Cannot be measured on Weston Model 528 Meter unless multiplier is used.

STROMBERG-CARLSON TEL. MFG. CO.

MODEL 19,20 AC
Chassis Views


R. F. BY-PASS CAPACITOR ASSEMBLY
NO. 227 DEMODULATOR TUBE
NO. 235 2ND I. F. TUBE
NO. 235 1ST I. F. TUBE
1ST I. F. TRANSFORMER
NO. 227 OSCILLATOR TUBE
COVER FOR SHIELDS OF OSCILLATOR, RADIO MIXER AND RADIO AMPLIFIER TUBES
2ND I. F. TRANSFORMER
NO. 280 RECTIFIER TUBE
3RD I. F. TRANSFORMER
FILTER CAPACITOR ASSEMBLY
NO. 245 AUDIO OUTPUT TUBES
NO. 235 RADIO MIXER TUBE
NO. 235 RADIO AMPLIFIER TUBE
R. F. BY-PASS CAPACITOR ASSEMBLY
POWER TRANSFORMER
PUSH-PULL OUTPUT TRANSFORMER
FILTER INDUCTOR
PUSH-PULL INPUT TRANSFORMER
COVER FOR GANG TUNING CAPACITOR
GRID CLIPS

Top View of Chassis with Tubes in Place and Shields Removed.

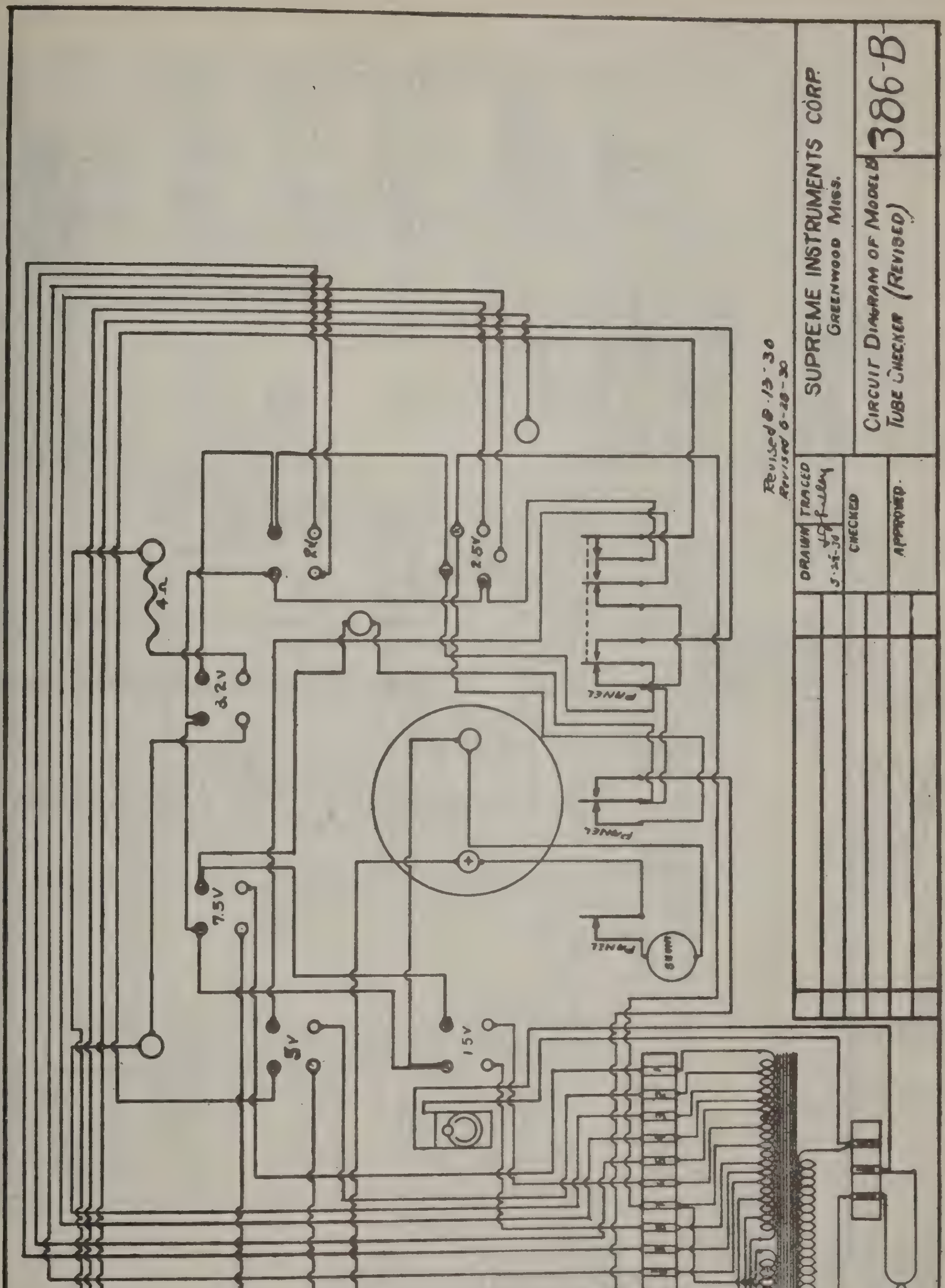

VOLUME CONTROL, AUTOMATIC CLARIFIER AND PHONOGRAPH SWITCH
RADIO COILS IN COPPER SHIELDS
ANTENNA COIL INDUCTOR
VOLTAGE DIVIDER RESISTOR
ON-OFF SWITCH
MOUNTING STRIP FOR RESISTORS
INPUT TRANSFORMER TERMINALS
OUTPUT TRANSFORMER LEADS
POWER TRANSFORMER LEADS
OUTPUT TUBES SOCKETS
R. F. AMPLIFIER TUBE SOCKET
10 OHM CENTER TAPPED RESISTOR R₆
FILTER CAPACITOR C₂₄
MIXER TUBE SOCKET
PICK-UP JACK
LEADS OF FILTER CAPACITOR ASSEMBLY
LINE FILTER CAPACITOR
DEMODULATOR PLATE FILTER
DISTRIBUTION TERMINAL STRIP
DEMODULATOR SOCKET
2ND I. F. SOCKET
1ST I. F. SOCKET
DEMODULATOR CAPACITOR C₂₂
3 OHM 3A CENTER-TAPPED RESISTOR R₄
R. F. BY-PASS CAPACITOR ASSEMBLY
RECTIFIER TUBE SOCKET
OSCILLATOR TUBE SOCKET

Bottom View of Chassis with Cover Removed.

The hum adjuster is next to the speaker connector receptacle which is at the rear left of the chassis looking at the chassis from the front. The fuse box is to the front of the rectifier tube socket looking at the chassis from the front. The two outlets near the rectifier tube socket are the power input and power output, the latter being nearest to the name and serial number plate. The pickup jack is to the rear of the audio output tubes.

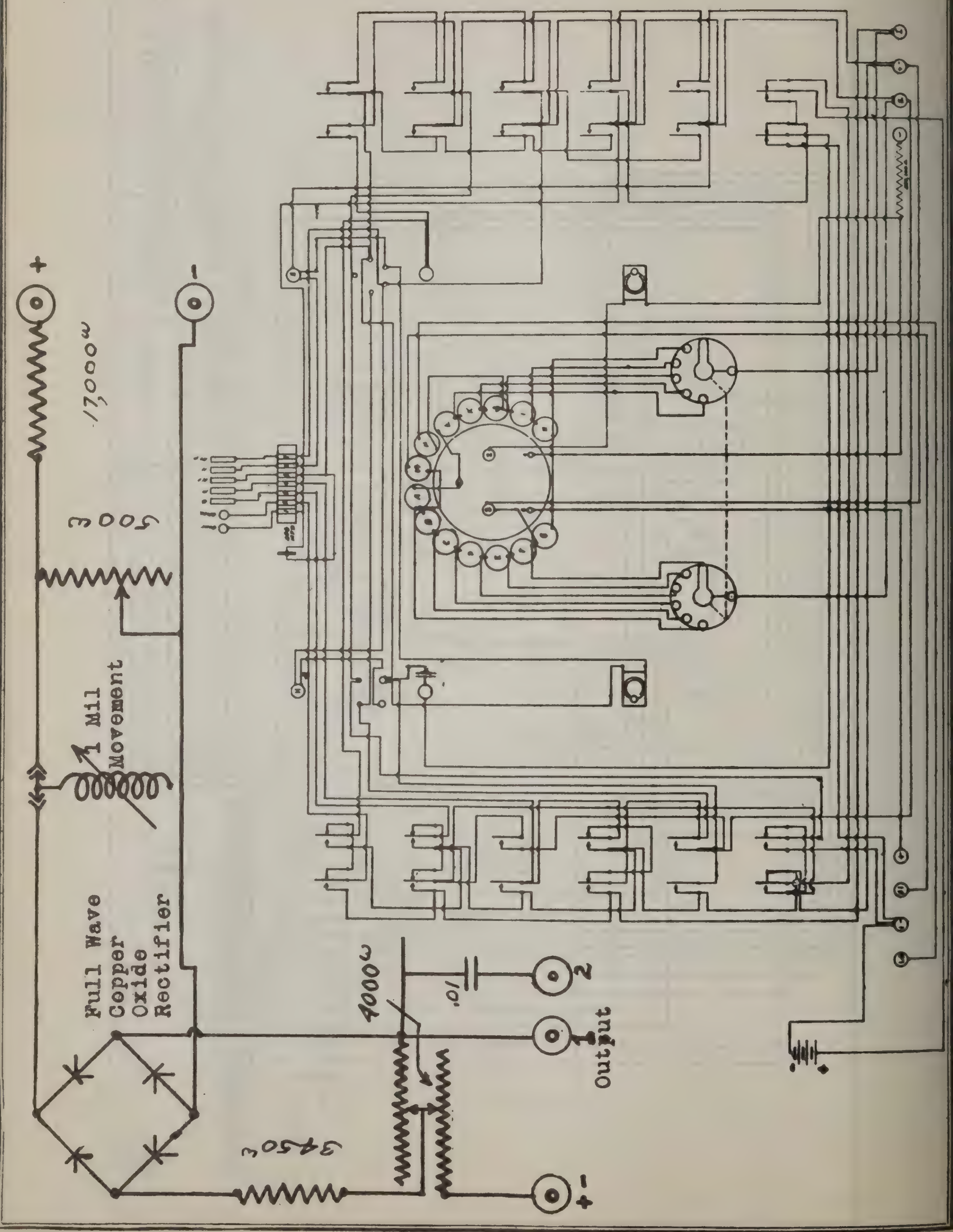
SUPREME INSTRUMENTS CORP.

MODEL 19
Revised
Tube Checker

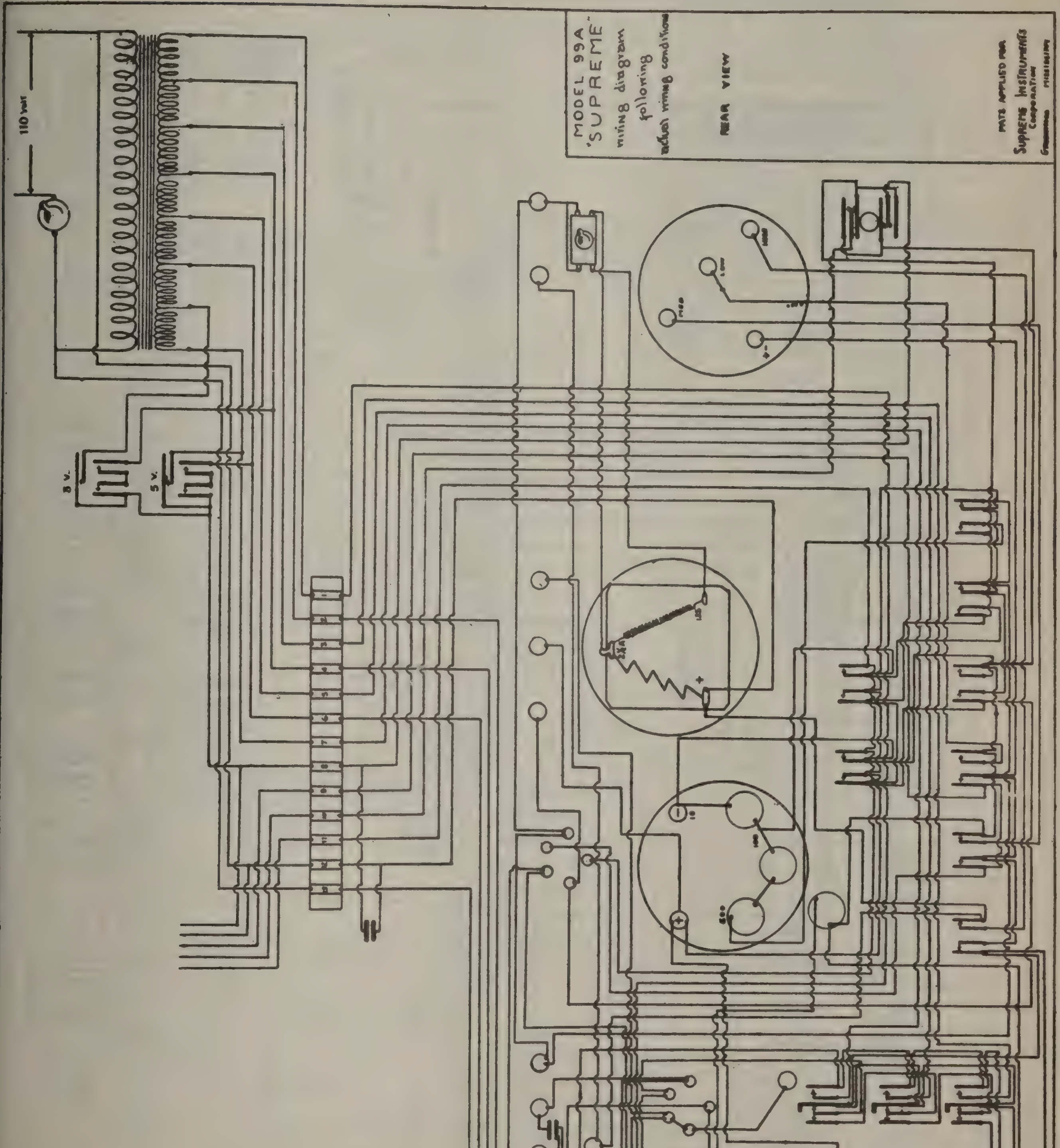

SUPREME INSTRUMENTS CORP.
GREENWOOD MISS.
CIRCUIT DIAGRAM OF MODEL B
TUBE CHECKER (REVISED)
386-B
Revised 8-13-30
Revised 6-28-30
DRAWN
TRACED
5-25-30
CHECKED
APPROVED
4Ω
1.1
2.5V
2.2V
7.5V
5V
15V
PANEL
PANEL
PANEL
400Ω

MODEL 90 Analyzer
MODEL Output Meter

SUPREME INSTRUMENTS CORP.

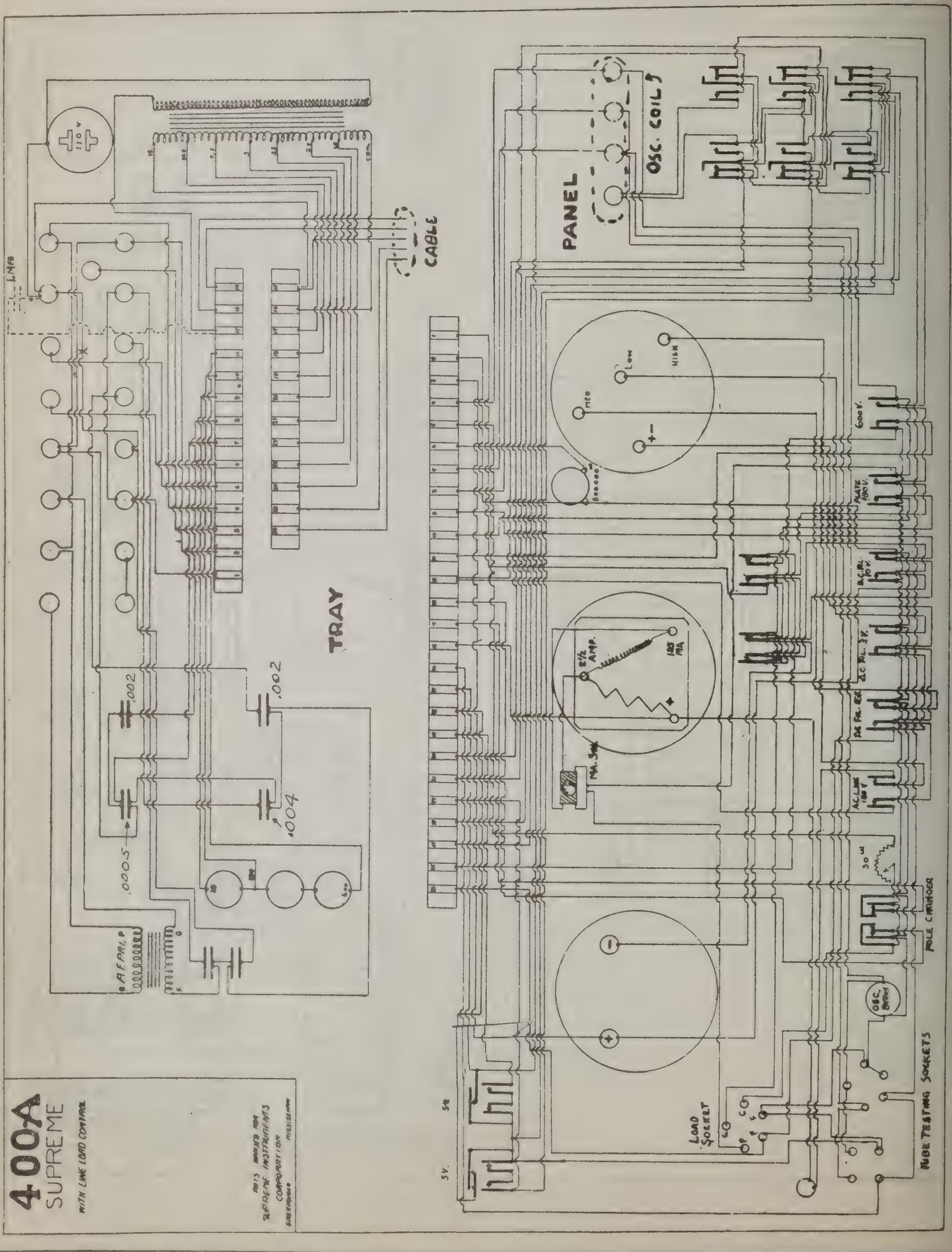

+
-
17000ω
500ω
1 Mil
Movement
Full Wave
Copper
Oxide
Rectifier
3450ω
4000ω
.01
2
Output
+-

SUPREME INSTRUMENTS CORP.


MODEL 99A
'SUPREME'
wiring diagram
following
actual wiring conditions
REAR VIEW
PATS APPLIED FOR
Supreme Instruments
Corporation
Greenwood Mississippi
110 volt
5 V.
5 V.

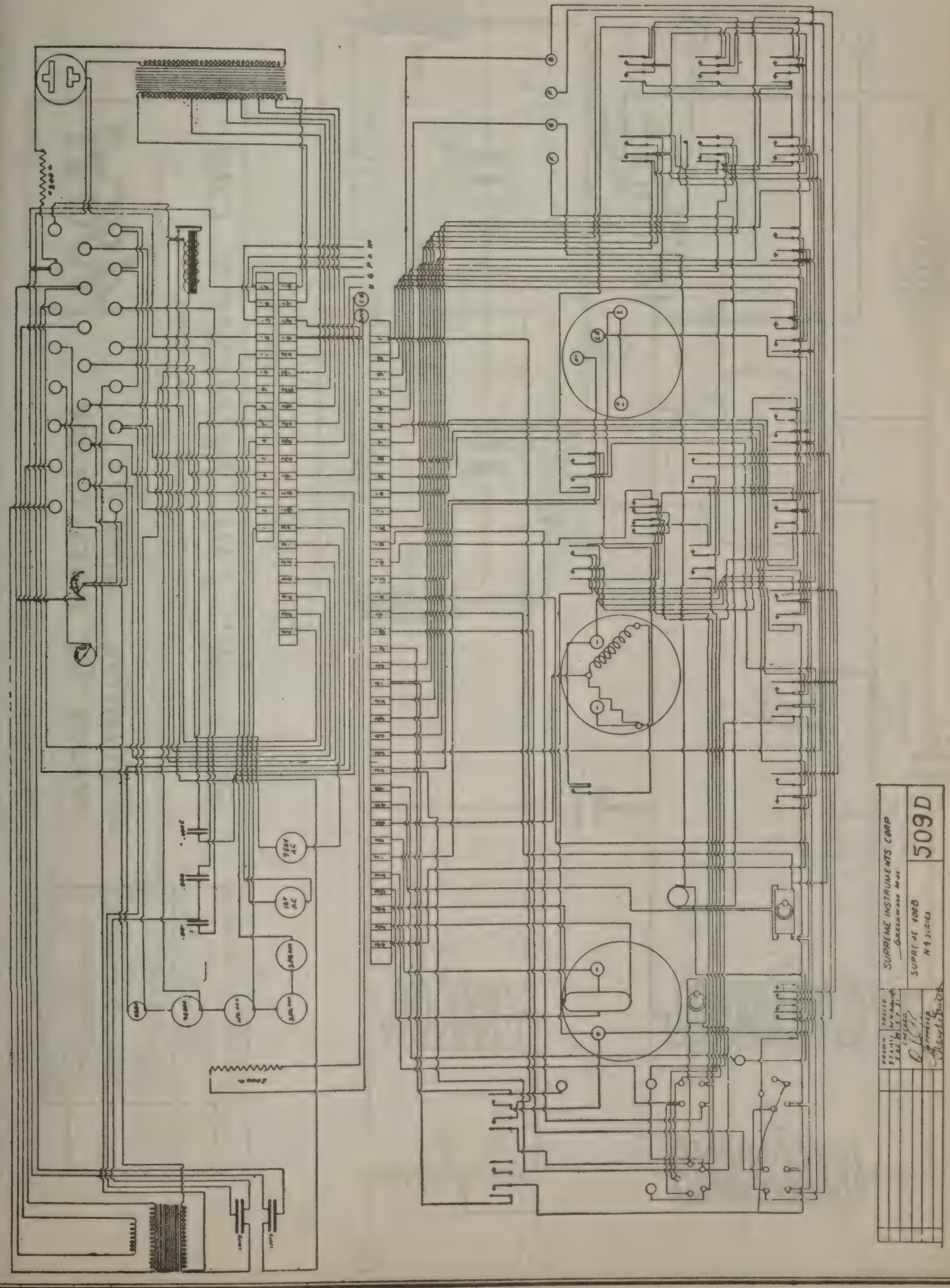
MODEL 400-A
Diagnometer

SUPREME INSTRUMENTS CORP.


110 V
CABLE
L.N.F.B.
TRAY
.002
.002
.004
.0005
A.F. PRI.
PANEL
OSC. COIL
MED
LOW
HIGH
+ -
2½ AMP.
125 MA.
MA. SW.
600 V.
PLATE 180 V.
B.C.PL. 30 V.
A.C. FIL. 3 V.
DC FIL. EX.
AC. LINE 110 V
30 ω
POLE CHANGER
OSC. BUTTON
TUBE TESTING SOCKETS
LOAD SOCKET
5V.
3V.
400A
SUPREME
WITH LINE LOAD CONTROL
THIS DRAWING FOR SUPREME INSTRUMENTS CORPORATION
GREENWOOD MISSISSIPPI

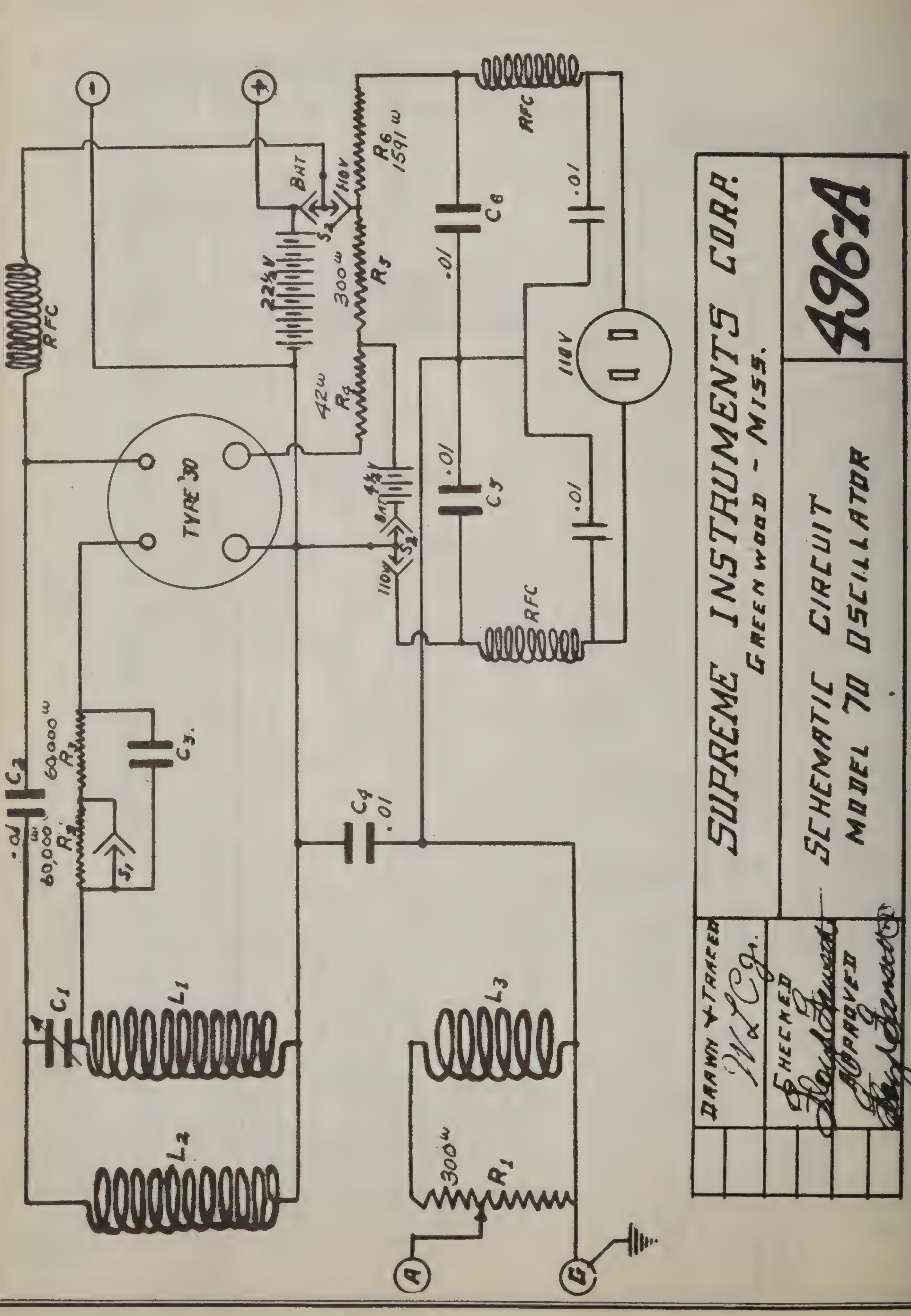
SUPREME INSTRUMENTS CORP.

MODEL 400-B
#4 Series
Diagnometer


SUPREME INSTRUMENTS CORP
GREENWOOD MISS
509D
SUPREME 400B
N4 SERIES
DRAWN
TRACED
CHECKED
APPROVED

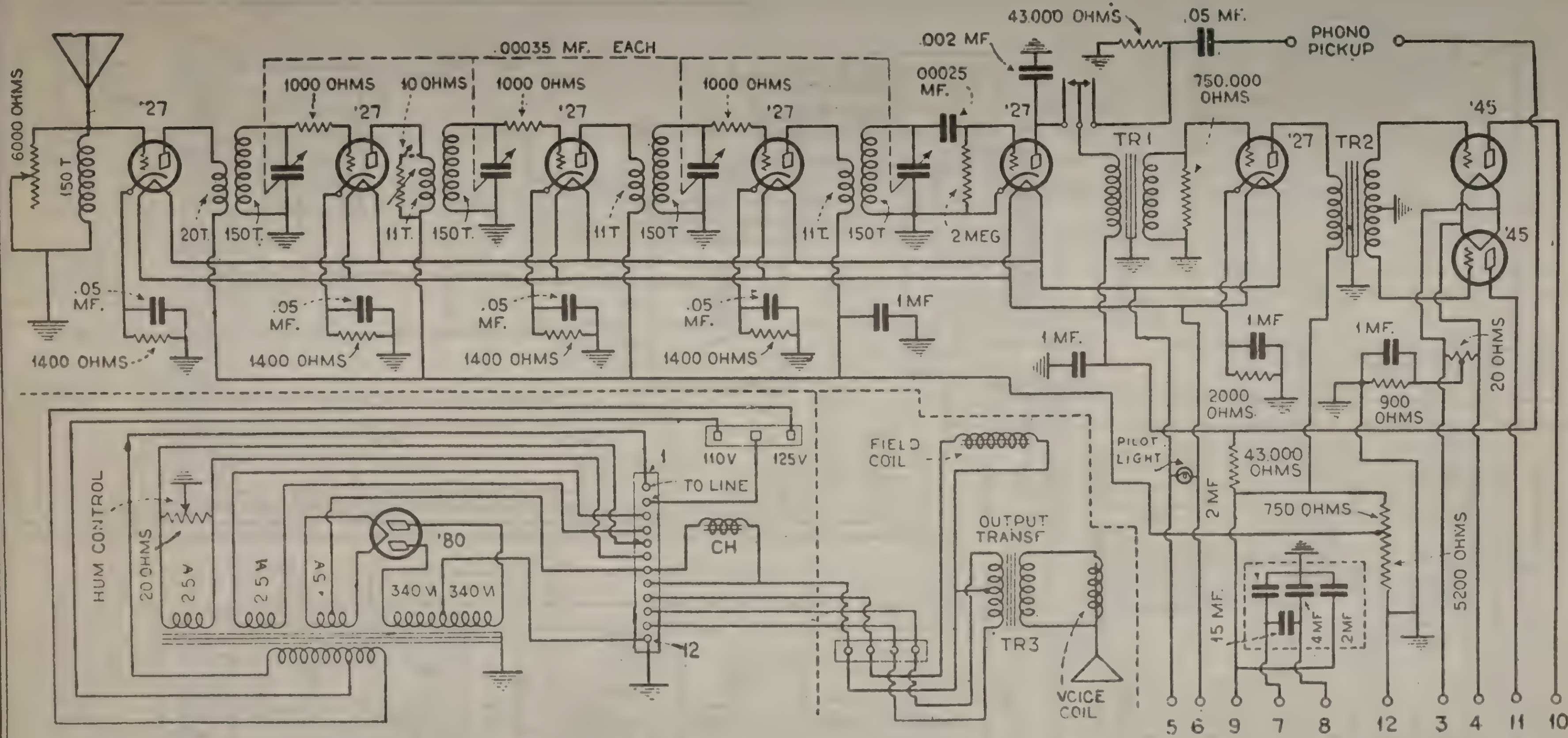
MODEL 70 Oscillator

SUPREME INSTRUMENTS CORP.


RFC
C2
.01
60,000w
R2
60,000w
R3
C3
S1
C1
L1
L2
C4
.01
L3
300w
R1
A
G
TYPE 30
22½V
BAT
110V
S2
R6
1591w
300w
R5
42w
R4
4½V
BAT
110V
S2
.01
C6
.01
C5
RFC
.01
110V
.01
RFC
SUPREME INSTRUMENTS CORP.
GREENWOOD - MISS.
496-A
SCHEMATIC CIRCUIT
MODEL 70 OSCILLATOR
DRAWN + TRACED
W L C Jr.
CHECKED
APPROVED

TEMPLE CORPORATION

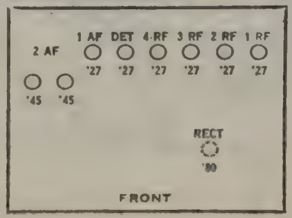
MODEL 8-60,8-80,8-90


6000 OHMS
150 T
'27
20T.
150T.
.05 MF.
1400 OHMS
.00035 MF. EACH
1000 OHMS
10 OHMS
11T.
11T
150T
1000 OHMS
1000 OHMS
.002 MF.
00025 MF.
2 MEG
1 MF
1 MF.
43,000 OHMS
.05 MF.
PHONO PICKUP
750,000 OHMS
TR 1
TR 2
'27
'45
'45
1 MF.
900 OHMS
20 OHMS
2000 OHMS
PILOT LIGHT
2 MF
43,000 OHMS
750 OHMS
5200 OHMS
15 MF.
4 MF
2 MF
FIELD COIL
OUTPUT TRANSF
TR3
VOICE COIL
110V
125V
TO LINE
CH
1
12
HUM CONTROL
20 OHMS
2.5 V
2.5 V
5 V
'80
340 V
340 V
5
6
9
7
8
12
3
4
11
10

TEMPLE—Models 860-880-890
Line Voltage 112—Volume Control Position Max

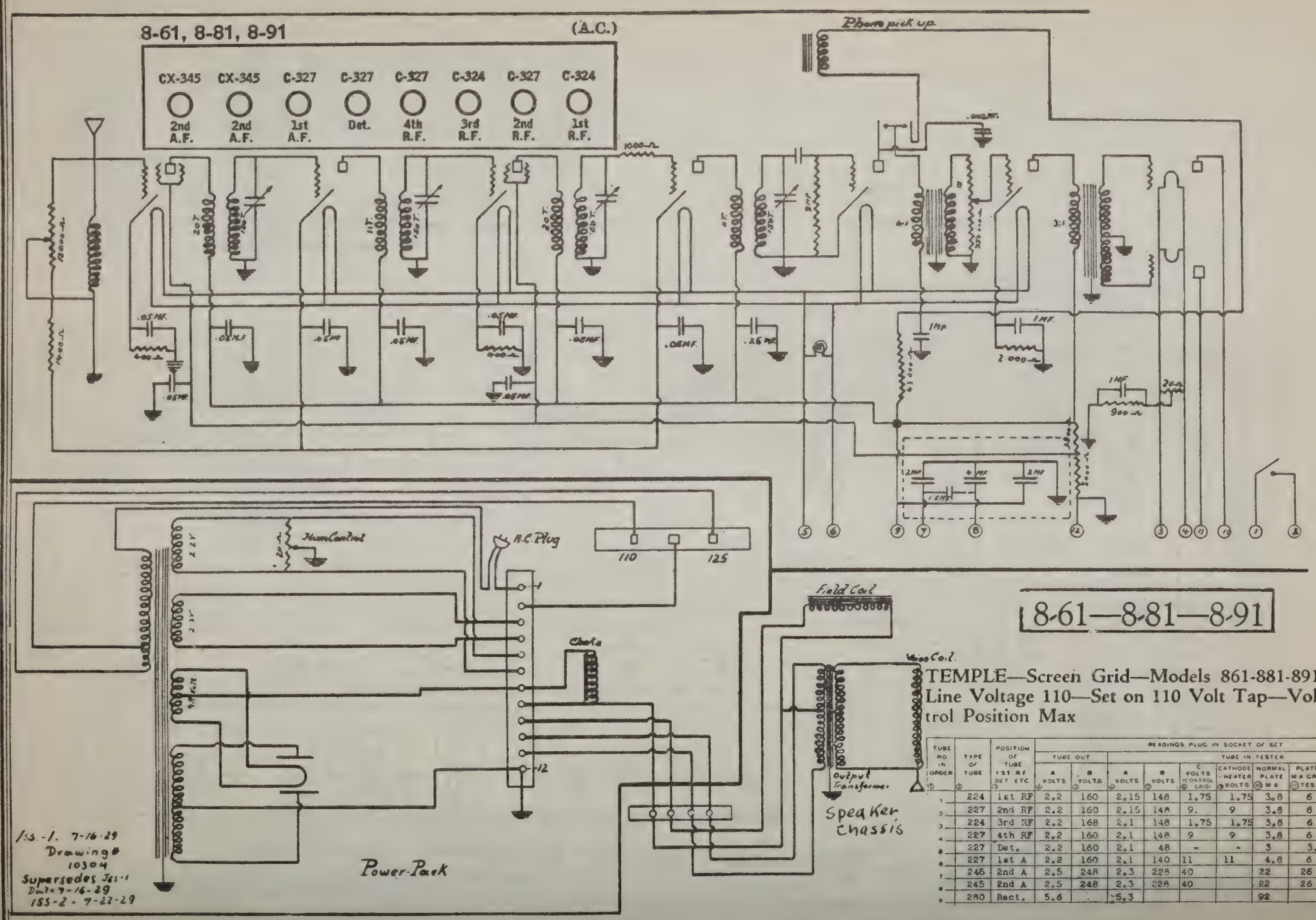
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE-HEATER ⑨ VOLTS	NORMAL PLATE ⑩ MA	PLATE MA GRID ⑪ TEST	PLATE CHANGE ⑫ MA	SCREEN GRID ⑬ VOLTS
1	227	1st RF	2.10	136	2.05	124	7		4.8	6.9	2.7	
2	227	2nd RF	2.10	136	2.00	122	6		4.6	6.8	2.2	
3	227	3rd RF	2.15	138	2.00	122	7		4.7	6.8	2.1	
4	227	4th RF	2.15	136	2.05	121	7		5.	7.2	2.2	
5	227	Det.	2.15	140	2.10	48	0		2.5	3.0	.5	
6	227	1st A	2.15	164	2.10	140	8		4.2	5.8	1.6	
7	245	2nd A	2.45	260	2.25	240	43		26.	32.	6.	
8	245	2nd A	2.40	256	2.25	240	44		22.	28.	6	
9	280	Rect.	5.4	AC	4.8	AC	0		100	0	0	
10												

Models 8-60, 8-80, 8-90


2 AF
1 AF
DET
4 RF
3 RF
2 RF
1 RF
'27
'27
'27
'27
'27
'27
'45
'45
RECT
'80
FRONT

MODEL 8-61,8-81,8-91

TEMPLE CORPORATION


8-61, 8-81, 8-91
(A.C.)
CX-345
2nd A.F.
CX-345
2nd A.F.
C-327
1st A.F.
C-327
Det.
C-327
4th R.F.
C-324
3rd R.F.
C-327
2nd R.F.
C-324
1st R.F.
Phono pick up
1000-Ω
.05 MF.
1 MF
2,000-Ω
900-Ω
20-Ω
.26 MF
2 MF
4 MF
1.5 MF
Hum Control
A.C. Plug
110
125
1
12
Field Coil
Choke
Voice Coil
Output Transformer
Speaker Chassis
Power-Pack

Iss.-1. 7-16-29
Drawing# 10304
Supersedes Iss-1
Date 7-16-29
ISS-2 - 7-22-29

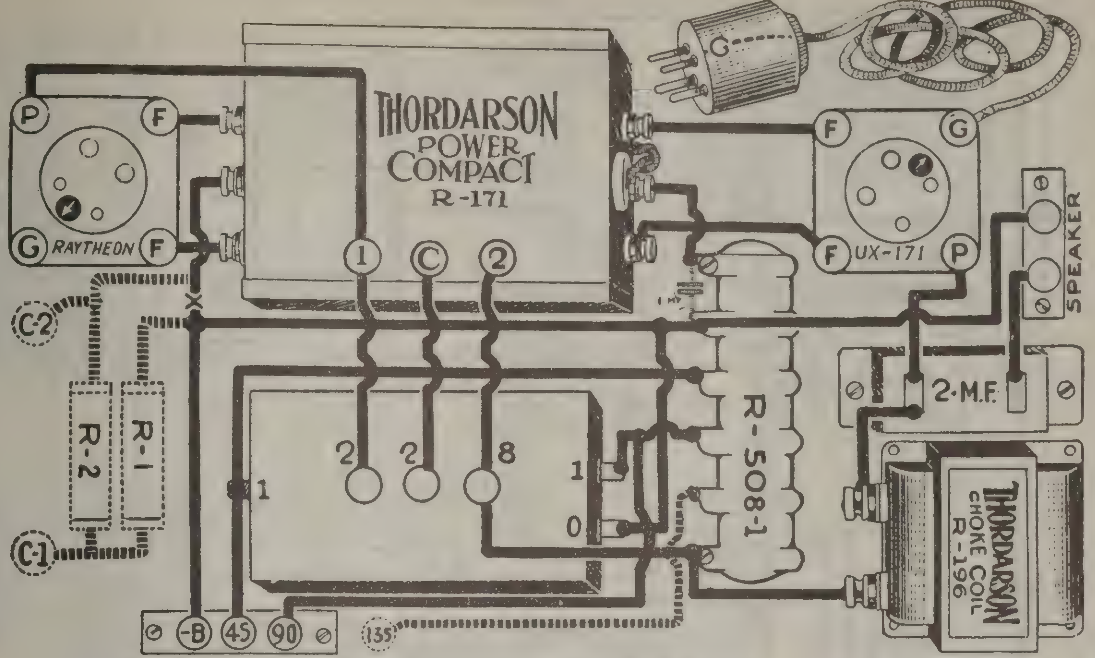
8-61—8-81—8-91

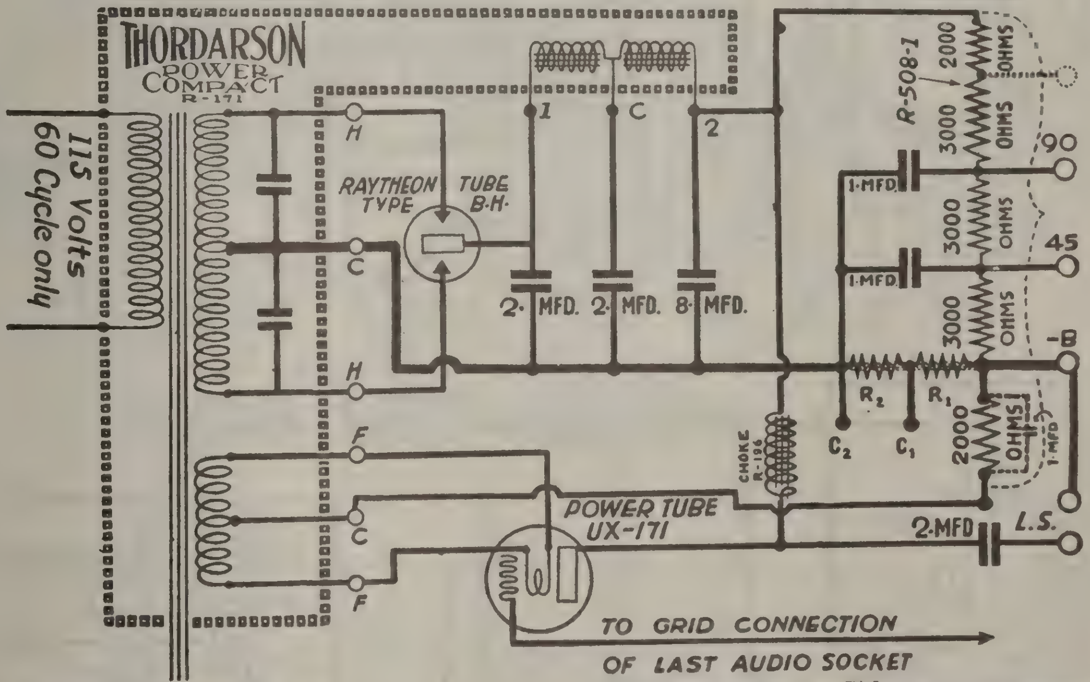
TEMPLE—Screen Grid—Models 861-881-891
Line Voltage 110—Set on 110 Volt Tap—Volume Control Position Max

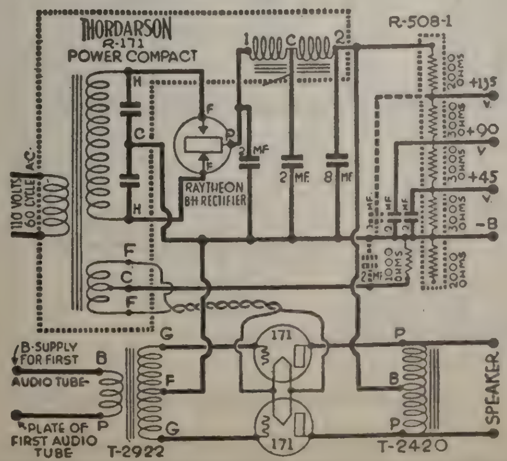
TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS CONTROL GRID ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	2.2	160	2.15	148	1.75	1.75	3.8	6	2.2	72
2	227	2nd RF	2.2	160	2.15	148	9.	9	3.8	6	2.2	
3	224	3rd RF	2.2	168	2.1	148	1.75	1.75	3.8	6	2.2	72
4	227	4th RF	2.2	160	2.1	148	9	9	3.8	6	2.2	
5	227	Det.	2.2	160	2.1	48	-	-	3	3.4	.4	
6	227	1st A	2.2	160	2.1	140	11	11	4.8	6	1.2	
7	245	2nd A	2.5	248	2.3	228	40		22	26	4	
8	245	2nd A	2.5	248	2.3	228	40		22	26	4	
9	280	Rect.	5.6		~5.3				92			

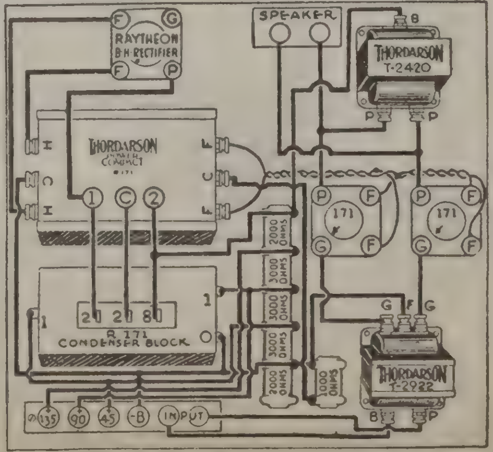
THORDARSON ELECTRIC MFG. CO.

MODEL R-171
MODEL PP-171


THORDARSON POWER COMPACT R-171
P
F
G
RAYTHEON
F
UX-171
SPEAKER
G
1
C
2
C-2
C-1
R-2
R-1
X
2
2
8
1
0
1
R-508-1
2-M.F.
THORDARSON CHOKE COIL R-196
-B
45
90
135

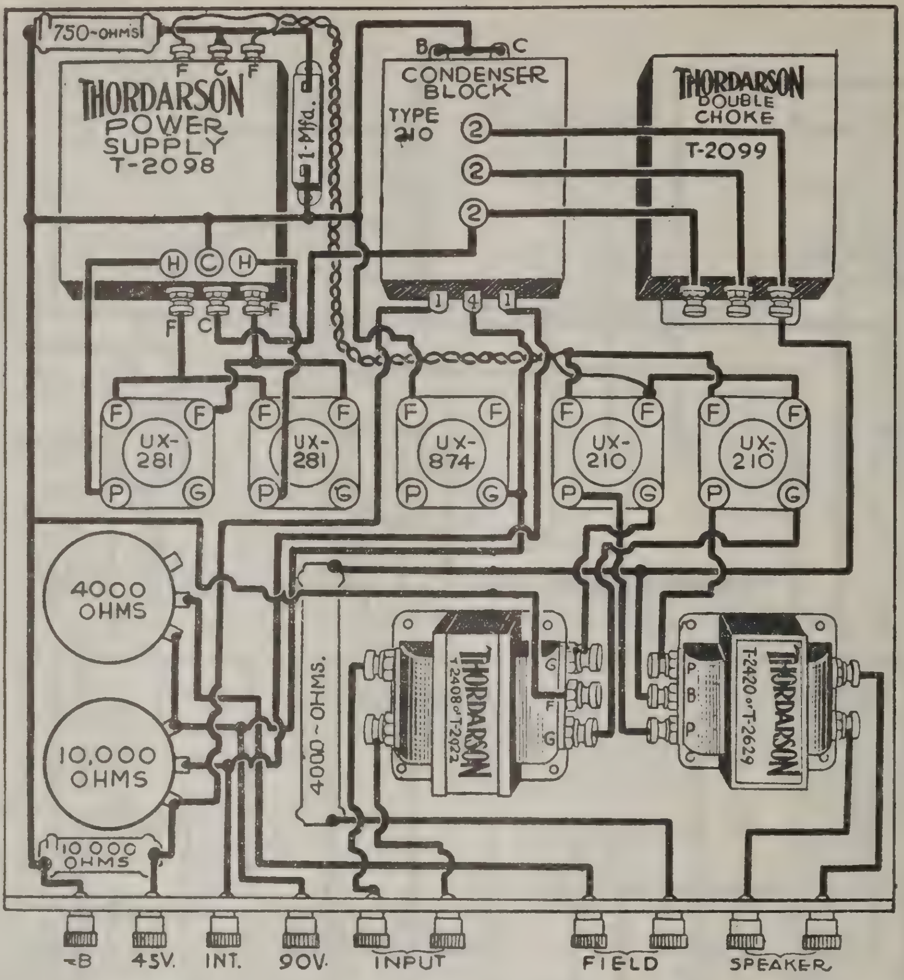

THORDARSON POWER COMPACT R-171
115 Volts 60 Cycle only
H
C
H
RAYTHEON TYPE
TUBE B-H-
1
C
2
2- MFD.
2- MFD.
8- MFD.
R-508-1
2000 OHMS
3000 OHMS
3000 OHMS
3000 OHMS
1-MFD
1-MFD
90
45
-B
R2
R1
C2
C1
2000 OHMS
1-MFD
CHOKE R-196
F
C
F
POWER TUBE UX-171
2-MFD
L.S.
TO GRID CONNECTION
OF LAST AUDIO SOCKET

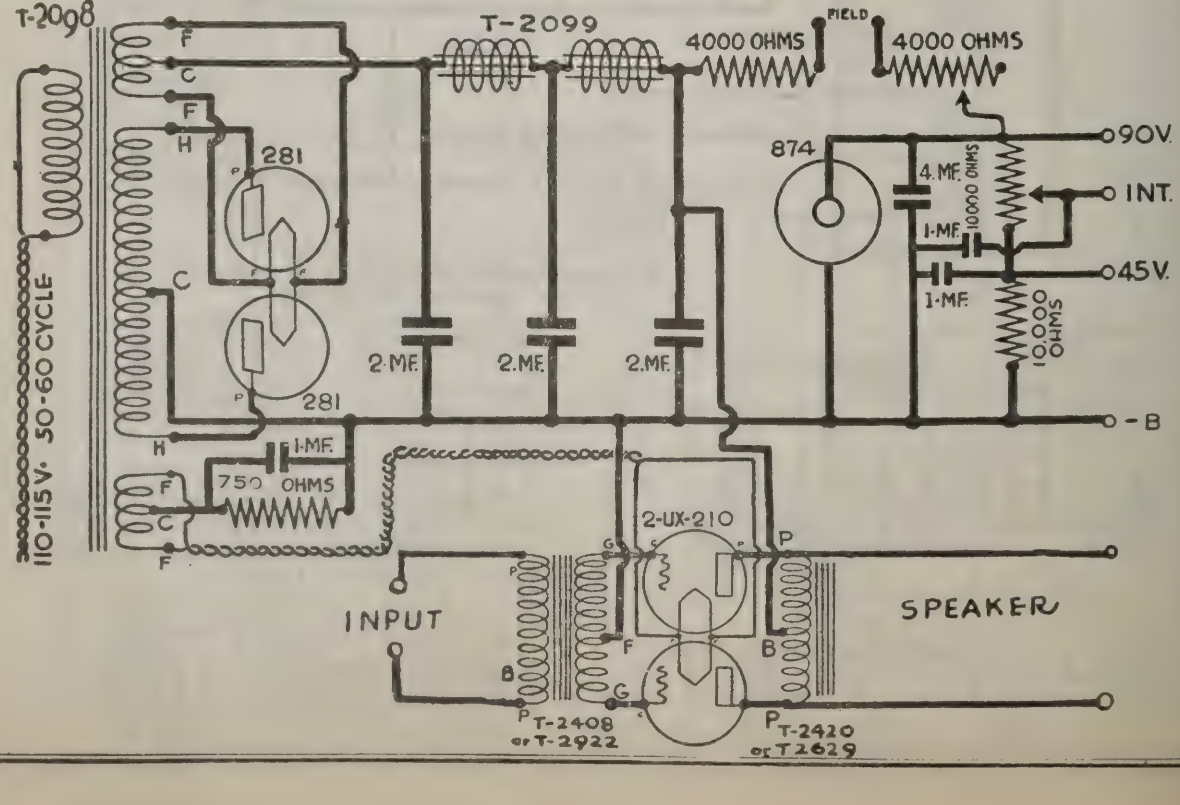

THORDARSON R-171 POWER COMPACT
R-508-1
1
C
2
H
C
H
F
P
F
RAYTHEON BH RECTIFIER
2 MF
2 MF.
8 MF
110 VOLTS 60 CYCLE A.C.
2000 OHMS
+135 V.
3000 OHMS
+90 V
3000 OHMS
+45 V.
3000 OHMS
-B
2 MF
2 MF
2 MF
1000 OHMS
2000 OHMS
F
C
F
G
171
171
P
B-SUPPLY FOR FIRST AUDIO TUBE
B
F
B
PLATE OF FIRST AUDIO TUBE
P
G
P
T-2922
T-2420
SPEAKER


F
G
RAYTHEON B-H-RECTIFIER
F
P
SPEAKER
B
THORDARSON T-2420
P
P
H
C
H
THORDARSON POWER COMPACT R-171
F
C
F
1
C
2
P
F
171
G
F
P
F
171
G
F
2000 OHMS
3000 OHMS
3000 OHMS
3000 OHMS
2000 OHMS
1000 OHMS
1
1
2
2
8
R 171 CONDENSER BLOCK
O
G
F
G
THORDARSON T-2922
B
P
135
90
45
-B
INPUT

MODEL 210
Power Amplifier

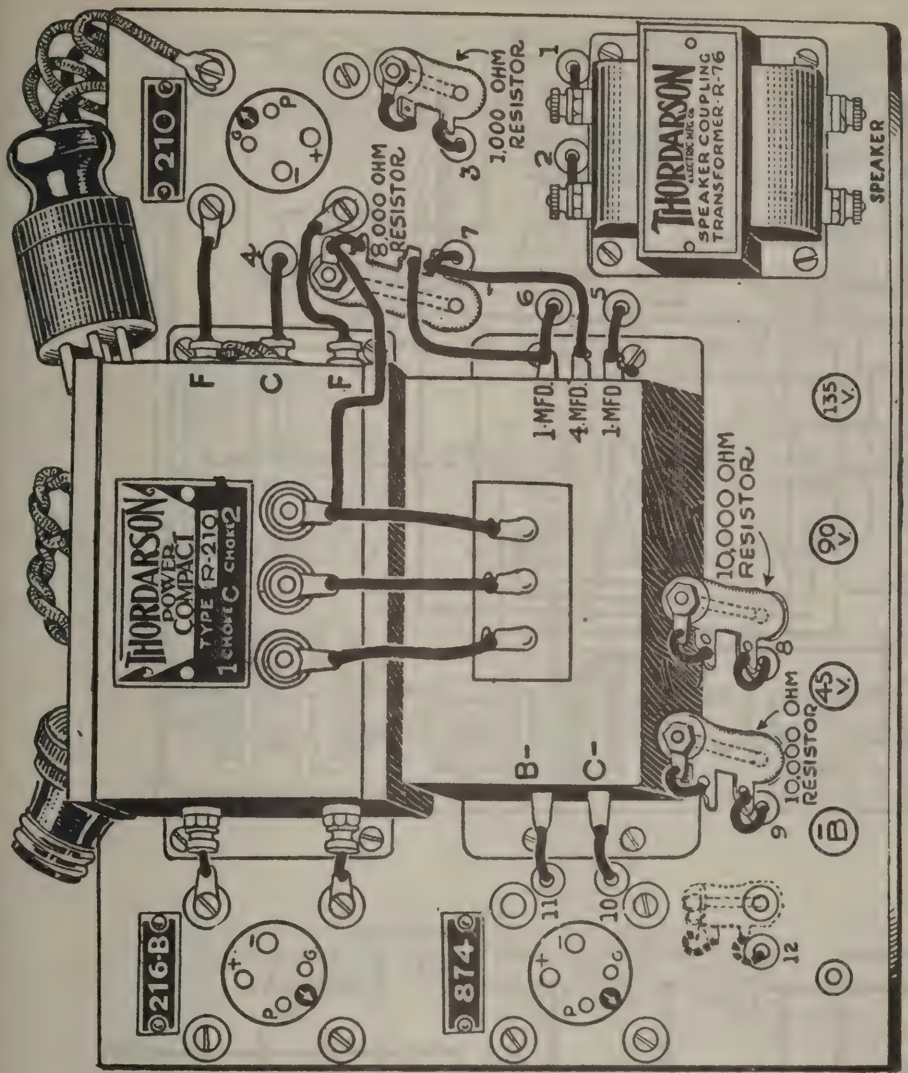
THORDARSON ELECTRIC MFG. CO.

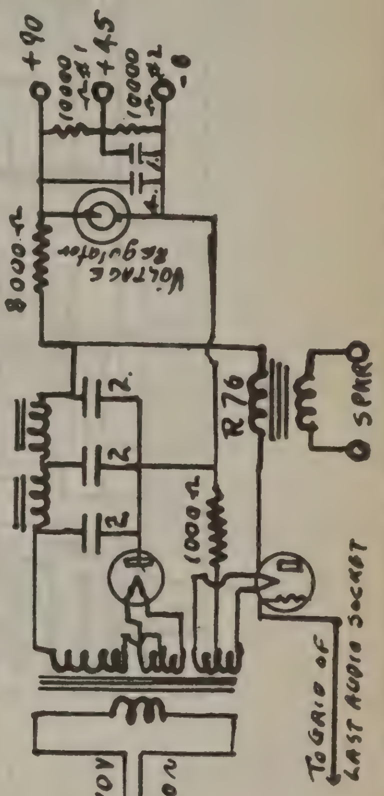

750-OHMS
F C F
THORDARSON POWER SUPPLY T-2098
1-Mfd.
H C H
F C F
B C
CONDENSER BLOCK TYPE 210
2
2
2
1 4 1
THORDARSON DOUBLE CHOKE T-2099
F F UX-281 P G
F F UX-281 P G
F F UX-874 P G
F F UX-210 P G
F F UX-210 P G
4000 OHMS
10,000 OHMS
4000~OHMS
THORDARSON T-2408 or T-2922
G F G
THORDARSON T-2420 or T-2629
P B P
10 000 OHMS
-B
45V.
INT.
90V.
INPUT
FIELD
SPEAKER

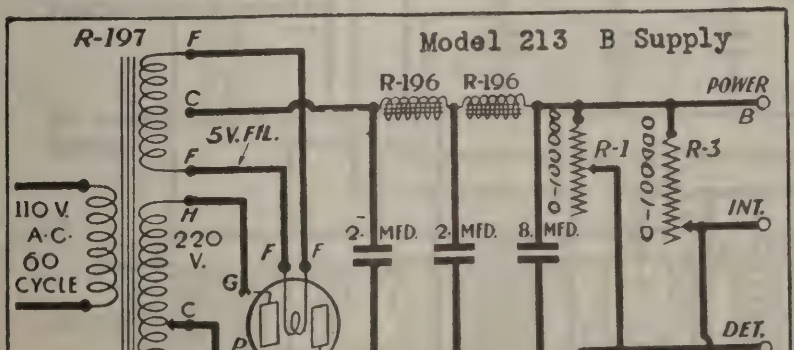

T-2098
F
C
F
H
281
C
281
H
F
C
F
1-MF.
750 OHMS
110-115V. 50-60 CYCLE
T-2099
2.MF.
2.MF.
2.MF.
4000 OHMS
FIELD
4000 OHMS
874
4.MF.
10000 OHMS
1-MF.
1-MF.
10,000 OHMS
90V.
INT.
45V.
-B
2-UX-210
G
F
G
P
B
P
INPUT
P
B
P T-2408 or T-2922
P T-2420 or T2629
SPEAKER

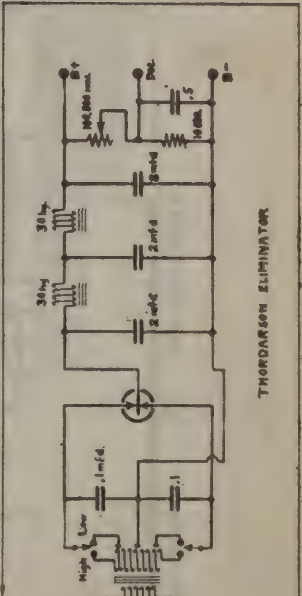
THORDARSON ELECTRIC MFG. CO.

MODEL R-210
MODEL 213
MODEL Eliminator


210
1,000 OHM RESISTOR
8,000 OHM RESISTOR
THORDARSON ELECTRIC MFG. CO. SPEAKER COUPLING TRANSFORMER R-76
SPEAKER
1
2
3
4
5
6
7
8
9
10
11
12
F
C
F
1 MFD.
4 MFD.
1 MFD.
135 V.
90 V.
45 V.
B
10,000 OHM RESISTOR
10,000 OHM RESISTOR
THORDARSON POWER COMPACT TYPE R-210
1 CHOKE C CHOKE 2
B-
C-
216-B
874

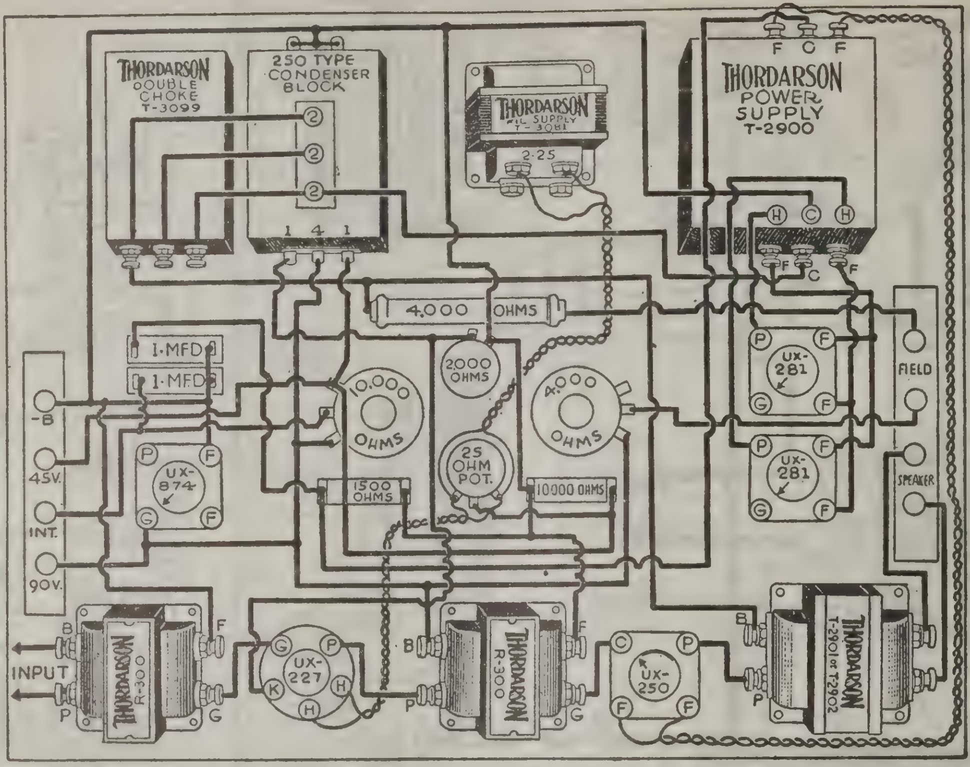

+90
10000
#1
+45
10000
#2
-B
8000 Ω
Voltage Regulator
2
2
2
R76
SPKR
1000 Ω
110 V
60 ~
To Grid of Last Audio Socket

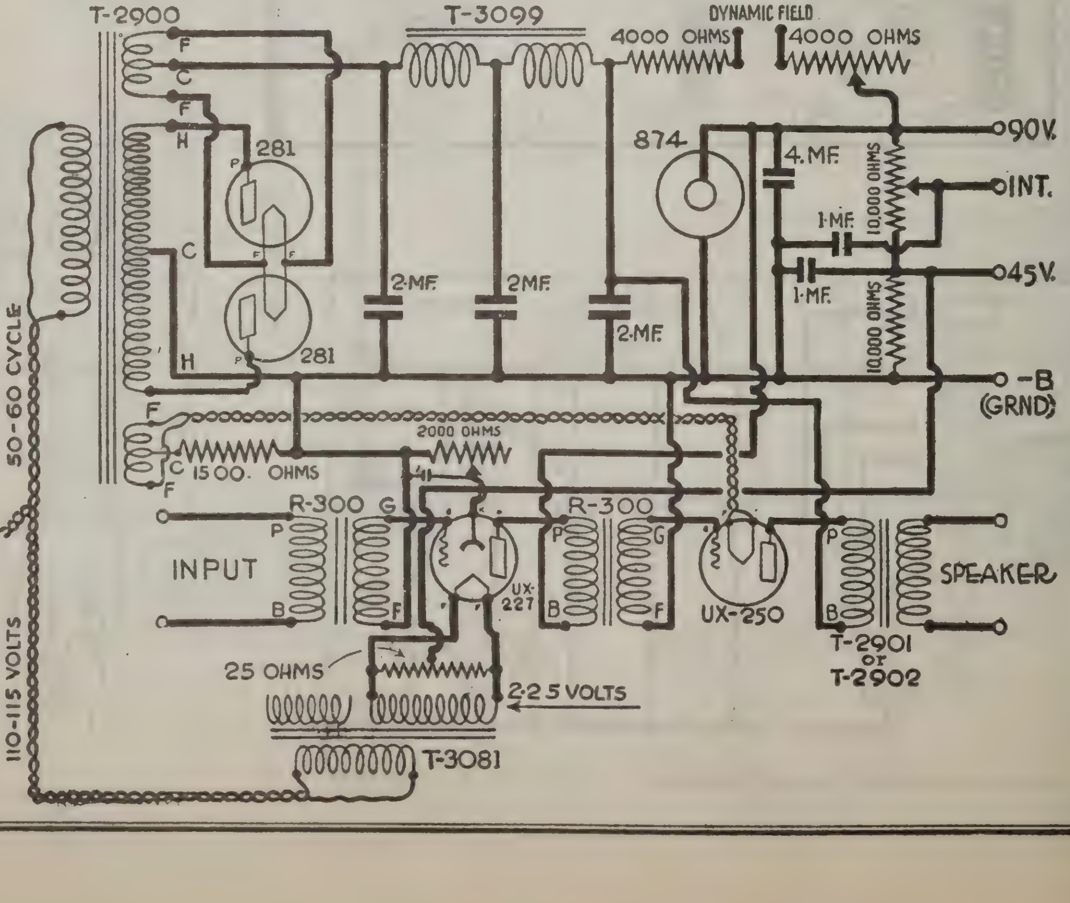

Model 213 B Supply
R-197
F
C
5V. FIL.
F
H
220 V.
C
220 V.
H
110 V. A.C. 60 CYCLE
G
F
F
P
UX-213
R-196
R-196
2. MFD.
2. MFD.
8. MFD.
0-10000
R-1
0-100000
R-3
POWER B
INT.
DET.
R-2
10000
1. MF.
1. MF.
-B


THORDARSON ELIMINATOR
B+
Det.
B-
.5
8 mfd
30 hy
2 mfd
30 hy
2 mfd
.1 mfd.
.1
Low
High

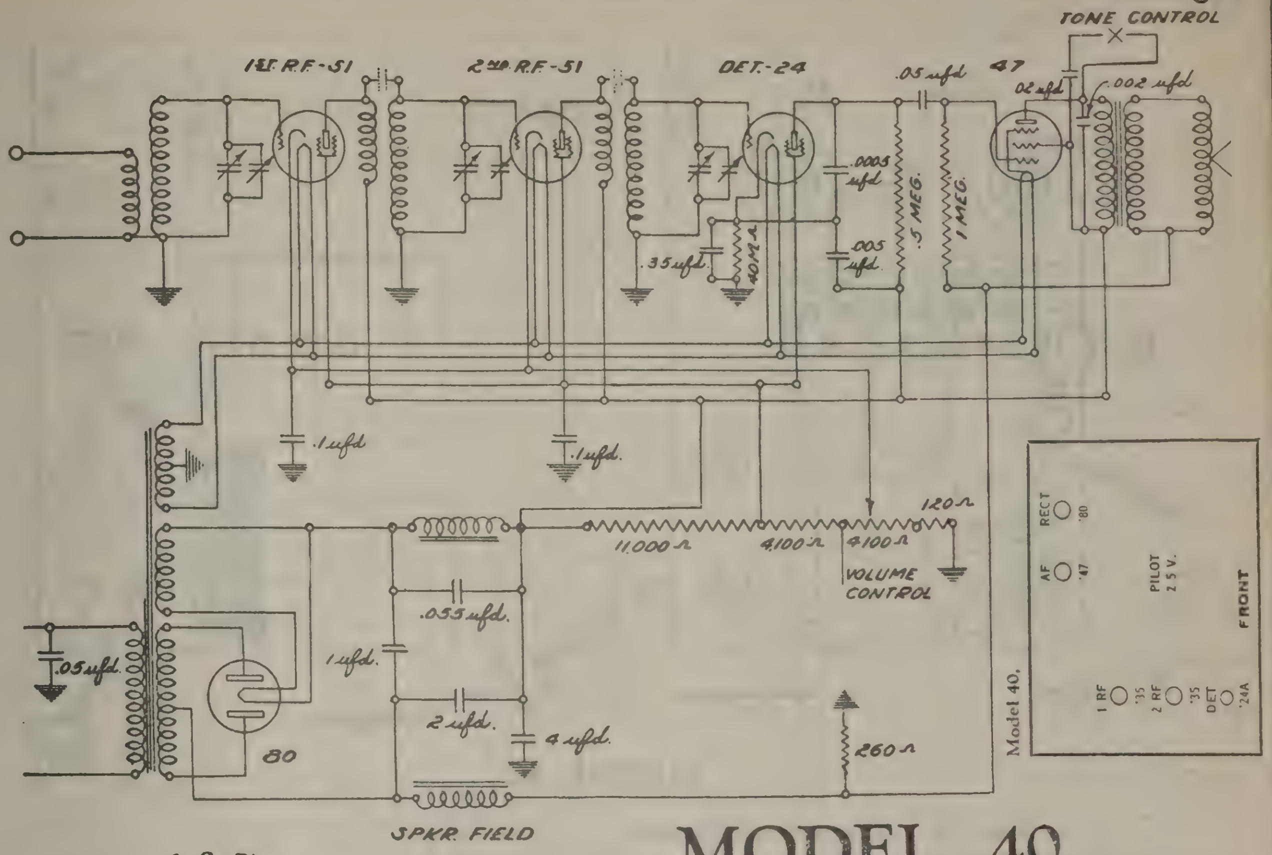
MODEL 250
Power Amplifier

THORDARSON ELECTRIC MFG. CO.


THORDARSON DOUBLE CHOKE T-3099
250 TYPE CONDENSER BLOCK
2
2
2
1 4 1
THORDARSON FIL. SUPPLY T-3081
2·25
F C F
THORDARSON POWER SUPPLY T-2900
H C H
F C F
4,000 OHMS
1·MFD
1·MFD
2,000 OHMS
10,000 OHMS
4000 OHMS
-B
45V.
INT.
90V.
UX-874
P F G F
25 OHM POT.
1500 OHMS
10000 OHMS
UX-281
UX-281
P F G F
FIELD
SPEAKER
INPUT
B P F G
THORDARSON R-300
UX-227
G P K H H
THORDARSON R-300
UX-250
THORDARSON T-2901 or T-2902

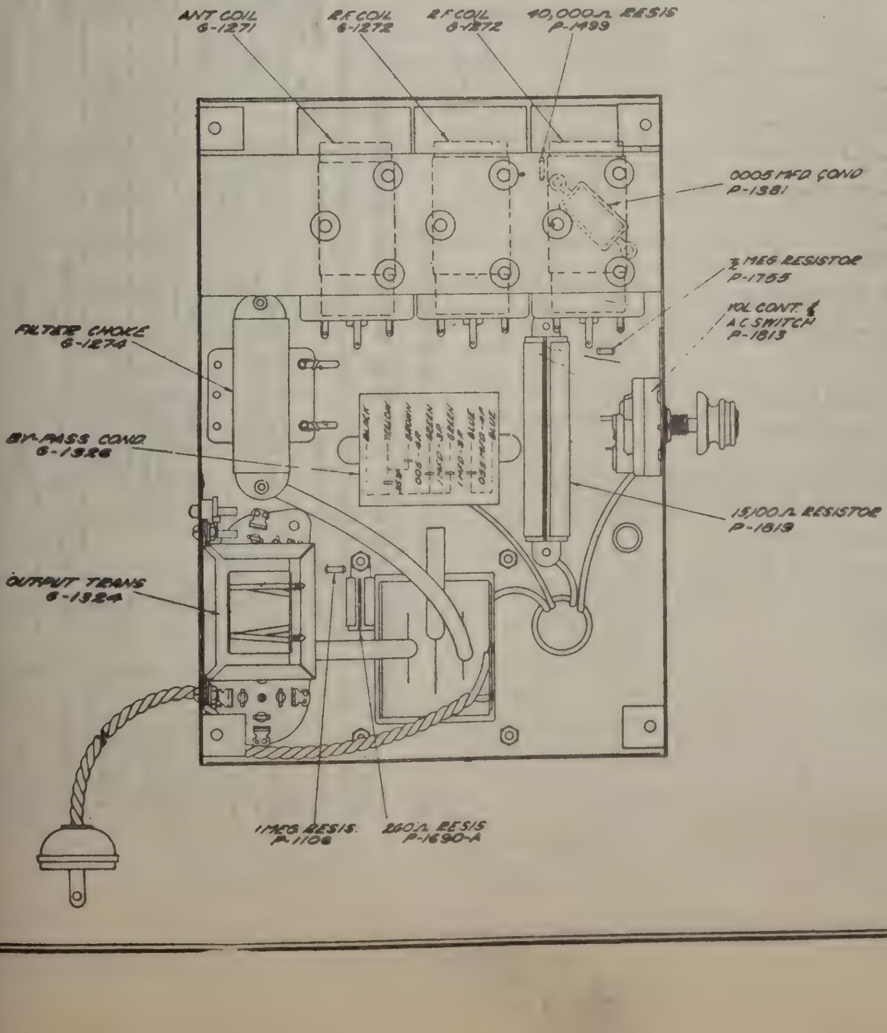

T-2900
F
C
F
H
281
C
281
H
F
C
F
T-3099
2·MF.
2·MF.
2·MF.
DYNAMIC FIELD
4000 OHMS
4000 OHMS
874
4.MF.
1·MF.
1·MF.
10,000 OHMS
10,000 OHMS
90V.
INT.
45V.
-B (GRND)
50-60 CYCLE
110-115 VOLTS
1500. OHMS
2000 OHMS
R-300
R-300
G
P
B
F
INPUT
UX-227
UX-250
SPEAKER
T-2901 or T-2902
25 OHMS
2·25 VOLTS
T-3081

TRANSFORMER CORP. OF AMERICA


TONE CONTROL
1ST R.F.-51
2ND R.F.-51
DET.-24
.05 ufd
47
.02 ufd
.002 ufd
.0005 ufd
.005 ufd
.5 MEG.
1 MEG.
.35 ufd
40M Ω
.1 ufd
.1 ufd
120 Ω
11,000 Ω
4100 Ω
4100 Ω
VOLUME CONTROL
.055 ufd.
1 ufd.
2 ufd.
4 ufd.
.05 ufd.
80
260 Ω
SPKR. FIELD
RECT '80
AF '47
PILOT 2.5 V.
FRONT
1 RF '35
2 RF '35
DET '24A
Model 40.

6-2-31

MODEL 40


ANT COIL G-1271
R.F. COIL G-1272
R.F. COIL G-1272
40,000 Ω RESIS P-1499
.0005 MFD COND P-1381
½ MEG RESISTOR P-1755
VOL CONT. & A.C. SWITCH P-1813
FILTER CHOKE G-1274
BY-PASS COND. G-1326
15,100 Ω RESISTOR P-1819
OUTPUT TRANS G-1324
1 MEG RESIS. P-1106
260 Ω RESIS P-1690-A

VOLTAGE ANALYSIS

READINGS TAKEN WITH WESTON MODEL 565 ANALYZER MODEL 40

No.	Stage	Type Tube	Fil. Volts	Plate Volts	Cont. Grid Volts	Cath. Volts	S. G. Volts	Ip. Normal
1	1st R. F.	C. L. 51	2.1	225	2.1	2	75	5
2	2nd R. F.	C. L. 51	2.1	230	2.2	2	75	4.5
3	Det.	C. L. 24	2.1	160	7	7.5	75	.02
4	Output	C. L. 47	2.1	215	5*	0	225	26.5
5	Rect.	C. L. 80	4.8	280				†30

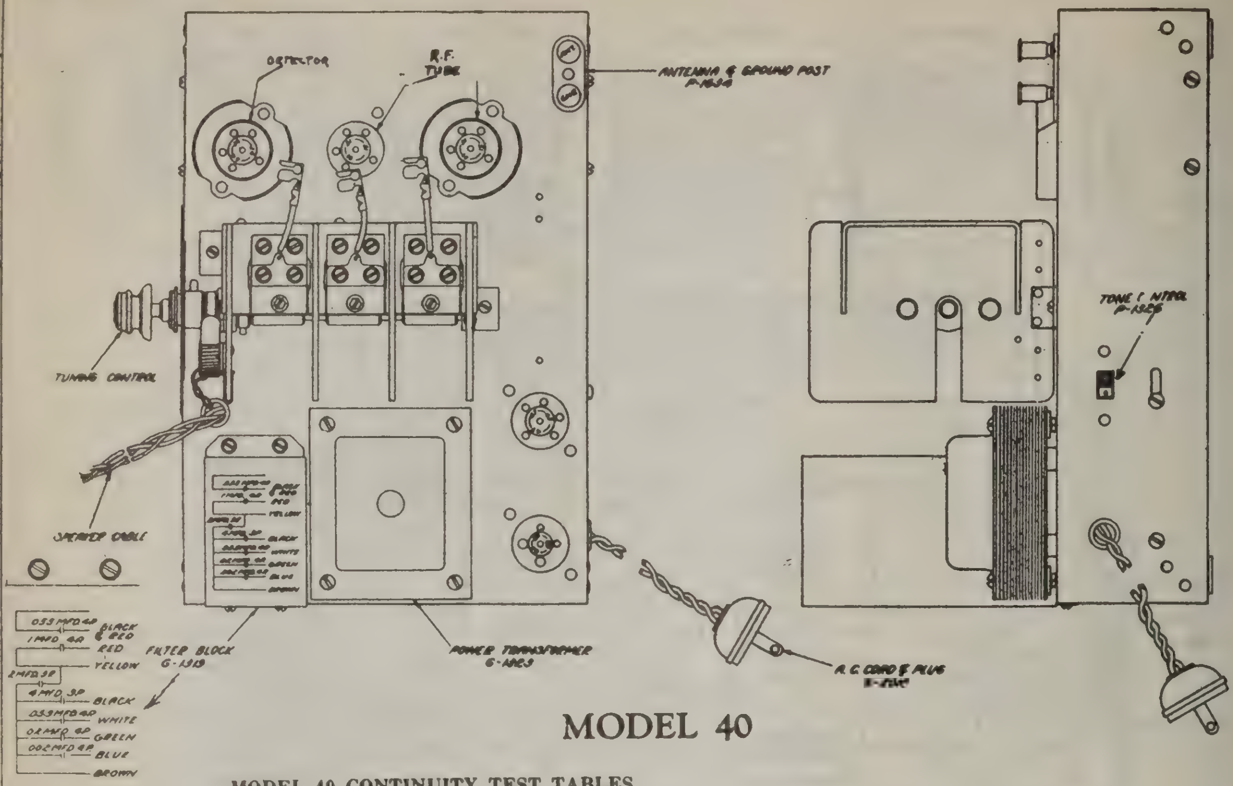
*Reading dependent upon resistance of meter.

†Reading taken for one anode only: 60 milliamperes would be about correct.

Volume control position full. Line voltage 115—60 cycle.

MODEL 40
Chassis
Data

TRANSFORMER CORP. OF AMERICA


DETECTOR
R.F. TUBE
ANTENNA & GROUND POST P-1634
TUNING CONTROL
SPEAKER CABLE
.053 MFD 4P BLACK & RED
1 MFD 4P RED
YELLOW
2 MFD 3P
4 MFD 3P BLACK
.053 MFD 4P WHITE
.02 MFD 6P GREEN
.002 MFD 4P BLUE
BROWN
FILTER BLOCK G-1313
POWER TRANSFORMER G-1103
A.C. CORD & PLUG
TONE CONTROL P-1326

MODEL 40

MODEL 40 CONTINUITY TEST TABLES

(Using 10-volt scale 1,000 ohms per volt: meter with 6-volt battery)

Circuit Tested	From	To	Reading	Your Reading
Ant. coil pri.	Ant. post	Ground	6.	
Ant. coil sec.	Grid 1st tube	Ground	6.	
1st R. F. Plate ckt.	Plate of tube	Brown lead of filter pack	6.	
1st R. F. Screen ckt.	Screen prong	Center lead Voltage divider	6.	
1st R. F. Cathode ckt.	Cath. prong	Center tap Volume Control "ON"	6.	
2nd R. F. Grid ckt.	Grid Clip	Ground	6.	
2nd R. F. Plate ckt.	Plate prong	Brown lead of filter pack	6.	
2nd R. F. Screen ckt.	Screen prong	Center tap Voltage divider	6.	
2nd R. F. Cathode ckt.	Cathode prong	Center tap Volume Control "ON"	6.	
Det. Grid ckt.	Gird Clip	Ground	6.	
Det. Plate ckt.	Plate prong	Brown lead of filter pack	6.	
Det. Screen ckt	Screen prong	Center Voltage divider	6.	
Det. Cathode ckt	Cathode prong	Ground	1.4	
P. Z. cont. grid	Grid prong	Sec output trans. black lead	(slight deflection)	
P. Z. space chg. grid ckt.	S. C. Grid Prong	Brown lead of filter pack	6.	
P. Z. Plate ckt.	Plate prong	Brown lead of filter pack	5.7	
Output Sec.	One side	Other side	5.9	
Pri Power Trans.	Across A. C. Plug	Switch on	5.9	
Hi volts Sec.	Across 280 plate prongs		5.6	
Speaker field	Red wire	Green Wire	5.4	
Speaker voice coil	Green wire	Black	6.	
Filter Choke	Across red leads		5.6	
Voltage divider	Ground	Brown lead of filter pack	2.2	

RESISTANCE TABLE MODEL 40

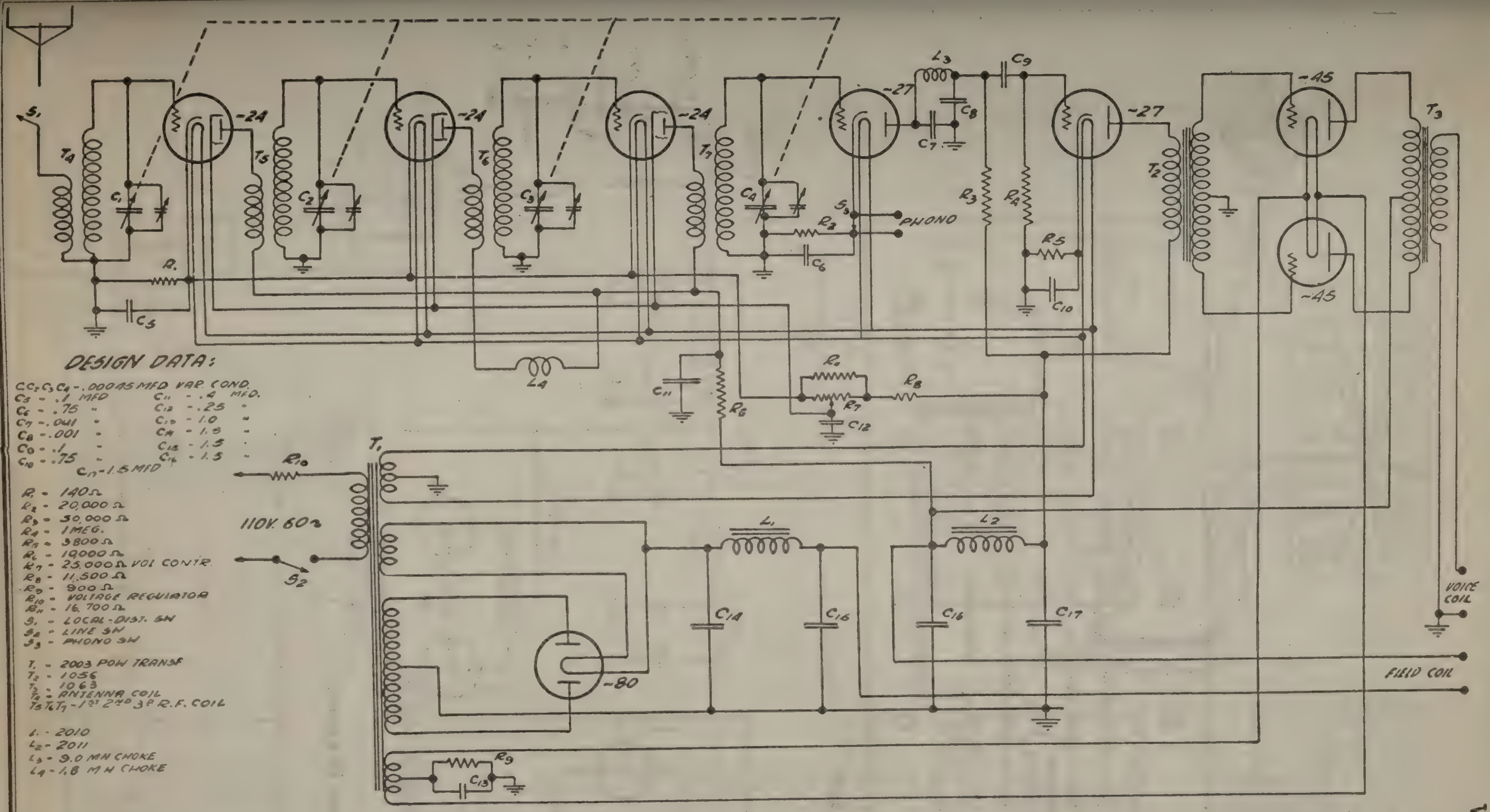
(Using 10-volt range meter 1,000 ohms per volt and 6-volt battery)

Item	Color Code*	From	To	Reading	Your Reading	Resistance in Ohms
Det. Cath. Resistor	Yel., Blk., Or.	Det. Cath.	Gnd.	1.3		40,000
Pent. Grid Resistor	Br. Blk. Green	Pent Grid	Spkr. Field	Slight Deflection		1,000,000
Wire Wound	Black	VoiceCoil,Black	Gnd.	5.9		260
Voltage Divider, Short End	Black	Volume Cont. Green Lead	S. G. Ckt.	4.2		4,100
Voltage Divider, Long End	Black	Plate	S. G. Ckt.	3.		11,000
Det. Plate Resistor	Gr., Blk., Yellow	Det. Plate	Pent. Space Chg. Grid.	.1		500,000
Vol. Control "on"		Gnd.	R. F. Cathode	4.2		4,100

*Color code: read body color first, tip second and dot last.

TRANSFORMER CORP. OF AMERICA

MODEL AC 51,53,55
Schematic
Voltage


S1
T4
C1
R1
C5
-24
T5
C2
-24
T6
C3
L4
-24
T7
C4
S3
R2
C6
PHONO
-27
L3
C7
C8
C9
R3
R4
R5
C10
-27
T2
-45
-45
T3
VOICE COIL
FIELD COIL
C11
R6
R7
R11
R8
C12
T1
R10
110V. 60~
S2
-80
L1
C14
C16
L2
C16
C17
R9
C13

DESIGN DATA:

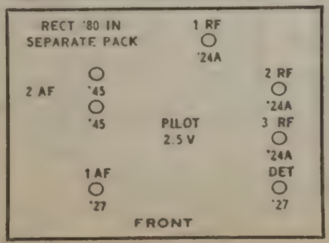
C1 C2 C3 C4 - .00045 MFD VAR. COND.
C5 - .1 MFD
C6 - .75 "
C7 - .041 "
C8 - .001 "
C9 - .1 "
C10 - .75 "
C11 - .4 MFD.
C12 - .25 "
C13 - 1.0 "
C14 - 1.5 "
C15 - 1.5 "
C16 - 1.5 "
C17 - 1.5 MFD

R1 - 140 Ω
R2 - 20,000 Ω
R3 - 50,000 Ω
R4 - 1 MEG.
R5 - 3800 Ω
R6 - 19,000 Ω
R7 - 25,000 Ω VOL CONTR.
R8 - 11,500 Ω
R9 - 900 Ω
R10 - VOLTAGE REGULATOR
R11 - 16,700 Ω
S1 - LOCAL-DIST. SW
S2 - LINE SW
S3 - PHONO SW

T1 - 2003 POW TRANSF
T2 - 1056
T3 - 1063
T4 - ANTENNA COIL
T5 T6 T7 - 1ST 2ND 3RD R.F. COIL

L1 - 2010
L2 - 2011
L3 - 9.0 MH CHOKE
L4 - 1.8 MH CHOKE

Models 25-51, 25-53, 25-55 (1930)


RECT '80 IN SEPARATE PACK
1 RF
'24A
2 AF
'45
'45
PILOT
2.5 V
2 RF
'24A
3 RF
'24A
1 AF
'27
DET
'27
FRONT

CLARION—Models 51, 53, 55.
Line Voltage 125—Volume Control Full On

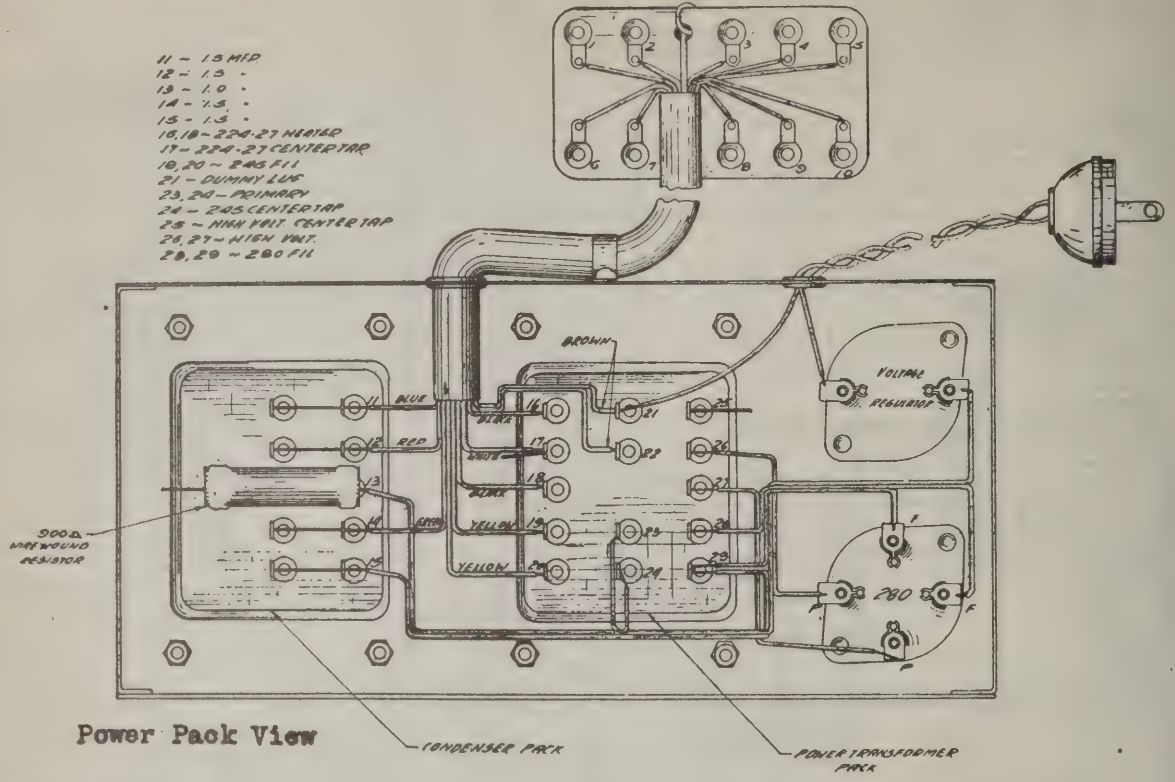
TUBE NO. IN ORDER TESTED (1)	TYPE OF TUBE (2)	POSITION OF TUBE IN SET (3)	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR HEATER (4)	PLATE OR ANODE (5)	CONTROL GRID—SPACE (6) GD+	NORMAL GRID—SCREEN (7) GD+	CATHODE TO HEATER (8)	SCREEN GD L H 80 PLATE (9)	PLATE R H 80 PLATE (10)	TUBE TEST (11)	PLATE CURRENT (12) CHANGE
1	224	1 R.F.	2.47	158	3	84	3	-	3.1	6.5	3.4
2	224	2 R.F.	2.47	158	3	84	3	-	3.8	7.8	4.0
3	224	3 R.F.	2.47	156	3	84	3	-	3.5	7.9	4.4
4	227	Det.	2.47	157	-	12.6	13.5	-	.8	.95	.05
5	227	1 A.F.	2.48	198	-	1.0	16	-	4.2	4.9	.7
6	245	PP-AF	2.55	227	-	42	-	-	22	26	4
7	245	PP-AF	2.55	225	-	42	-	-	27	32	5
8	280	Rect.	5.3	-	-	-	-	41	41	-	-

Line Voltage 105

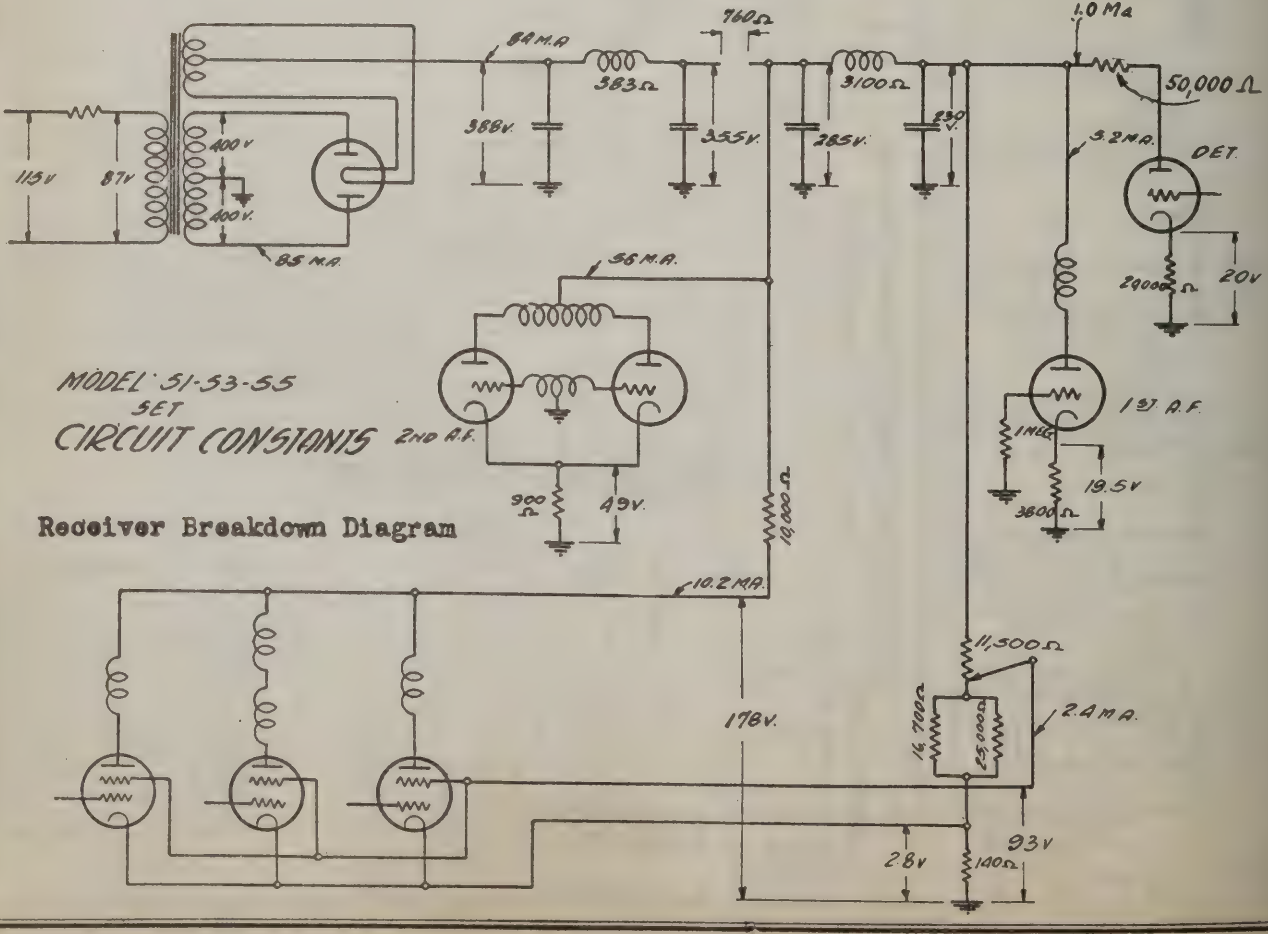
TUBE NO. IN ORDER TESTED (1)	TYPE OF TUBE (2)	POSITION OF TUBE IN SET (3)	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			FILAMENT OR HEATER (4)	PLATE OR ANODE (5)	CONTROL GRID—SPACE (6) GD+	NORMAL GRID—SCREEN (7) GD+	CATHODE TO HEATER (8)	SCREEN GD L H 80 PLATE (9)	PLATE R H 80 PLATE (10)	TUBE TEST (11)	PLATE CURRENT (12) CHANGE
1	224	1 R.F.	2.09	146	2.43	87.5	2.43	-	2.72	5.55	2.83
2	224	2 R.F.	2.09	151	2.43	85.5	2.43	-	2.55	5.65	3.10
3	224	3 R.F.	2.09	151	2.43	87.5	2.43	-	2.75	5.8	2.92
4	227	Det.	2.09	134	-	12.2	13.15	-	.58	.78	.20
5	227	1 A.F.	2.14	170	-	1.22	13.6	-	3.31	4.08	.77
6	245	PP-AF	2.14	195	-	37.5	-	-	20.4	24.3	3.9
7	245	PP-AF	2.14	195	-	37.5	-	-	23.4	27.2	3.8
8	280	Rect.	4.51	-	-	-	-	35	35	-	-

MODEL AC 51,53,55
Power Pack View
Receiver Breakdown

TRANSFORMER CORP. OF AMERICA


11 ~ 1.5 MFD.
12 ~ 1.5 ·
13 ~ 1.0 ·
14 ~ 1.5 ·
15 ~ 1.5 ·
16,18 ~ 224-27 HEATER
17 ~ 224-27 CENTER TAP
18,20 ~ 245 FIL
21 ~ DUMMY LUG
23,24 ~ PRIMARY
24 ~ 245 CENTER TAP
25 ~ HIGH VOLT. CENTER TAP
26,27 ~ HIGH VOLT.
28,29 ~ 280 FIL
1
2
3
4
5
6
7
8
9
10
BROWN
BLUE
RED
GREEN
BLACK
WHITE
BLACK
YELLOW
YELLOW
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
VOLTAGE REGULATOR
280
F
F
P
P
900Ω WIREWOUND RESISTOR
CONDENSER PACK
POWER TRANSFORMER PACK

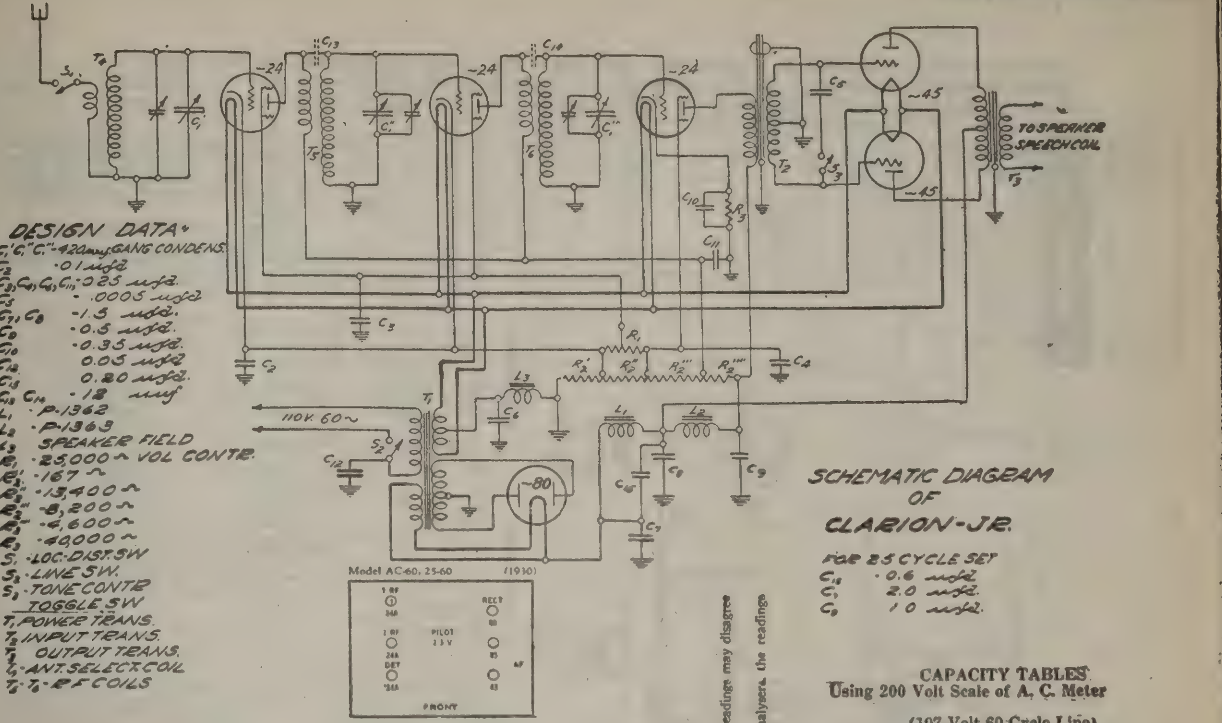
Power Pack View


84 M.A.
383Ω
760Ω
3100Ω
1.0 Ma
50,000 Ω
115V
87V
400V
400V.
85 M.A.
388V.
355V.
285V.
230 V.
3.2 M.A.
DET.
29000Ω
20V
56 M.A.
2ND A.F.
900 Ω
49V.
10,000 Ω
1ST A.F.
1 MEG.
3800 Ω
19.5V
MODEL 51-53-55 SET CIRCUIT CONSTANTS
10.2 M.A.
178V.
11,500Ω
16,700Ω
25,000Ω
2.4 M.A.
93V
28V
140Ω

Receiver Breakdown Diagram

TRANSFORMER CORP. OF AMERICA

MODEL AC-60, 25-60
Schematic
Voltage Data


-24
-24
-24
C13
C14
T4
S1
C1'
C1''
C1'''
T5
T6
C5
-45
-45
TO SPEAKER SPEECH COIL
T2
S3
T3
C10
R3
C11
C3
C2
R1
R2'
R2''
R2'''
R2''''
C4
L3
C6
110V. 60~
T1
S2
C12
-80
L1
L2
C8
C9
C15
C7
Model AC-60, 25-60 (1930)
1 RF 24A
RECT 80
2 RF 24A
PILOT 2.5 V
DET 24A
45
45
AF
FRONT

DESIGN DATA
C1' C1'' C1''' - 420 mmf. GANG CONDENS.
C2 ·01 mfd.
C3, C4, C6, C11 - 0.25 mfd.
C5 - .0005 mfd.
C7, C8 - 1.5 mfd.
C9 - 0.5 mfd.
C10 - 0.35 mfd.
C12 0.05 mfd.
C15 0.20 mfd.
C13 C14 - 12 mmf
L1 - P-1362
L2 - P-1363
L3 SPEAKER FIELD
R1 - 25,000 ~ VOL CONTR.
R2' - 167 ~
R2'' - 13,400 ~
R2''' - 8,200 ~
R2'''' - 4,600 ~
R3 - 40,000 ~
S1 - LOC-DIST. SW
S2 - LINE SW.
S3 - TONE CONTR TOGGLE SW
T1 POWER TRANS.
T2 INPUT TRANS.
T3 OUTPUT TRANS.
T4 - ANT. SELECT. COIL
T5 - T6 - R F COILS

SCHEMATIC DIAGRAM OF CLARION-JR.

FOR 25 CYCLE SET
C15 · 0.6 mfd.
C7 2.0 mfd.
C9 1 0 mfd.

Line Volts—105 Volts

No	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip' Norm.	Ip'' G.D.	Ip''-Ip (Diff)	SG Volts
1	1st r f	'24	2 05	165	2 6	44	2 1	3 6	1 5	76
2	2nd r f	'24	2 05	165	2 6	44	2 3	3 8	1 5	76
3	Det	'24	2 06	196	*7 0	*26	*0 2	*1 3	*1 1	*70
4	AF	45	2 15	230	45 0		28	32	4 0	
5	AF	45	2 15	230	45 0		25	29	4 0	
6	Rect	80	4 6							

Line Volts—125 Volts

No	Stage	Type Tube	A Volts	B Volts	Cont Grid Volts	Cath. Volts	Ip Norm	Ip'' G.D	Ip''-Ip (Diff)	SG Volts
1	1st r f	'24	2 55	197	3 1	50	2 7	4 7	2 0	97
2	2nd r f	'24	2 55	197	3 1	50	3 0	5 0	2 0	97
3	Det	'24	2 55	250	*8	*32	*0 2	*1 6	*1 4	*86
4	AF	45	2 65	276	52		35	40	5 0	
5	AF	45	2 65	276	52		31	35	5 0	
6	Rect	80	5 4							

Since resistance tolerances in the set are plus or minus 10% and tubes may vary 10 to 20% your readings may disagree with the above by as much as 20% in rare cases.

*Because of high resistance in the cathode circuit of this tube, together with the circuit used in most analysers, the readings marked with an asterisk may vary over 100% when using different meter scales.

CAPACITY TABLES
Using 200 Volt Scale of A. C. Meter

(107 Volt 60 Cycle Line)

No.	Capacity	Reading	Your Reading	Part No.
C-2	0 10	45 0		G-1136
C-3	0 25	70 0		G-1136
C-11	0 35	87 0		G-1136
C-10	0 35	86 0		G-1108
C-4	0 25	78 0		G-1108
C-12	0 05	20 0		G-1108
C-15	0 20	67 0		G-1106
C-7	1 5	105 0		G-1106
C-8	1 5	105 0		G-1106
C-9	0 5	95 0		G-1106
C-6	0 25	75 0		G-1106

25 Cycle Filter Pack Readings on 107 Volt 30 Cycle

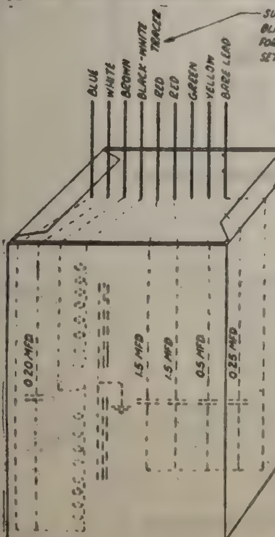
C-15	0 6	85 0		G-1132
C-7	2 0	103 0		G-1132
C-8	1 5	102 0		G-1132
C-9	1 0	97 0		G-1132
C-6	0 25	44 0		G-1132

Note Above capacity values are for latest specifications. Previous production to Nov. 1st, 1930, will give higher values.

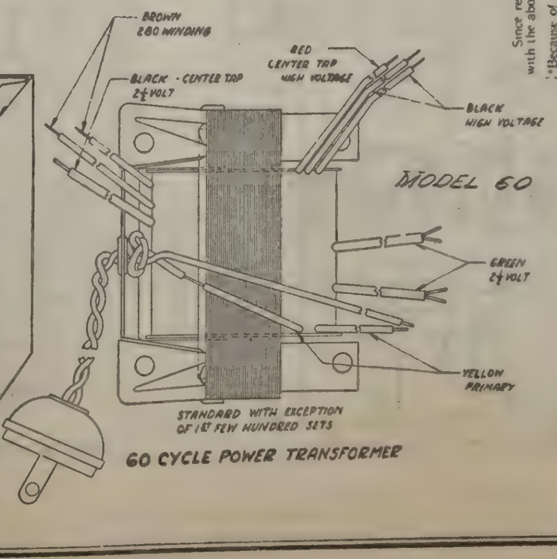
RESISTANCE TABLES
Using 6 Volt Battery with 0-10 Voltmeter
(1000 Ohms Per Volt)

Item tested	From	To	Reads	Your Reading	Resistance (ohms)
Voltage Divider with volume control connected across taps 1-2	Ground	Tap 1	6.0		167
	Ground	Tap 2	3 3		8900
	Ground	Tap 3	2 2		17000
	Ground	Tap 4	1 9		21600
Det. Bias resist.	Ground	Det. cath. prong	1 2		40000
Volume control	Across volume control (disconnected)		1 8		25000
L. 1. filter choke	Center Tap Output Trans.	280 fil. prong	5 9		226
L. 2 filter choke	Center Tap Output Trans.	Plt. prong det.	5 0		2000

L. 1. and L. 2. for 25 cycle same as above


BLUE
WHITE
BROWN
BLACK-WHITE TRACER
RED
RED
GREEN
YELLOW
BARE LEAD
SUBSTITUTED WITH BLACK-RED TRACER FOR 1ST FEW HUNDRED SETS
.020 MFD
1.5 MFD
1.5 MFD
0.5 MFD
0.25 MFD

60 CYCLE FILTER BLOCK

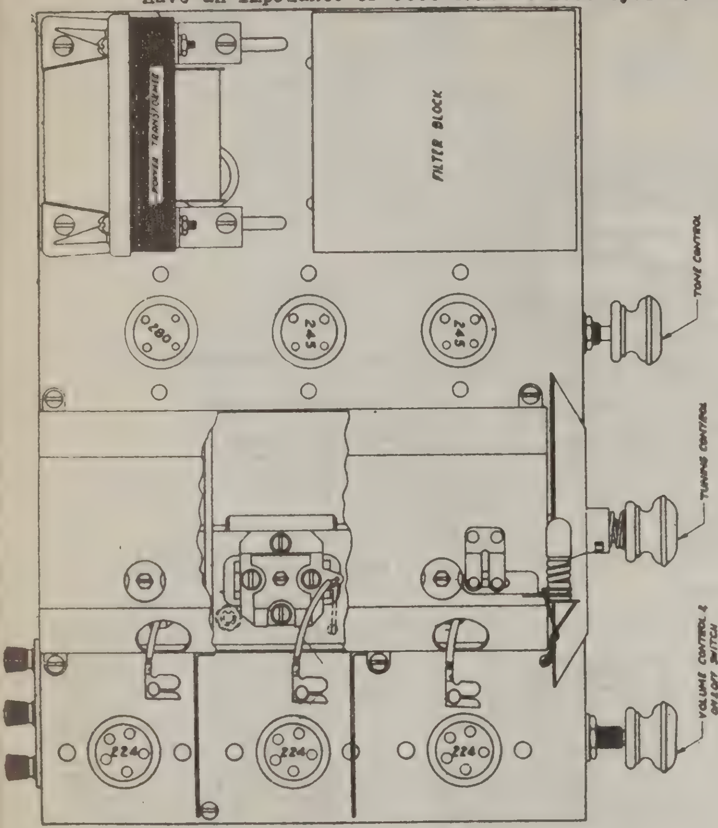

BROWN 280 WINDING
BLACK - CENTER TAP 2½ VOLT
RED CENTER TAP HIGH VOLTAGE
BLACK HIGH VOLTAGE
MODEL 60
GREEN 2½ VOLT
YELLOW PRIMARY
STANDARD WITH EXCEPTION OF 1ST FEW HUNDRED SETS

60 CYCLE POWER TRANSFORMER

MODEL AC-60,25-60
Chassis View
Continuity Test

TRANSFORMER CORP. OF AMERICA

In some A.C. 60 models a phonograph jack was provided through which phonograph records may be reproduced. The phonograph pickup to be used with the set should have an impedance of 5000 ohms at 1000 cycles. We recommend Audak, Webster, Toman.

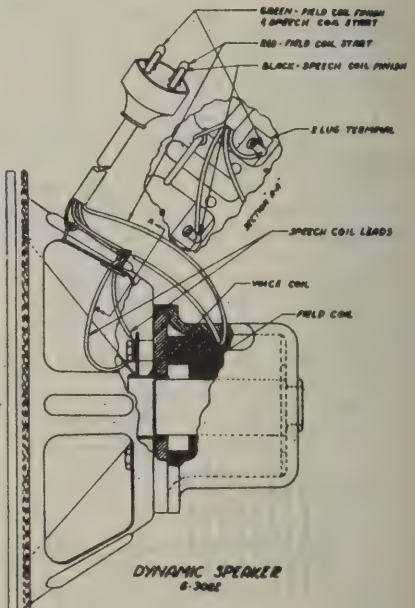

POWER TRANSFORMER
FILTER BLOCK
280
245
245
TONE CONTROL
TUNING CONTROL
224
224
224
VOLUME CONTROL & ON-OFF SWITCH

Model A. C. 60 receivers are designed for operation on 105 to 125 volt 50 to 60 cycle alternating current. The models 25-60 are to be operated on 105 to 125 volts 25 to 40 cycle alternating current only.

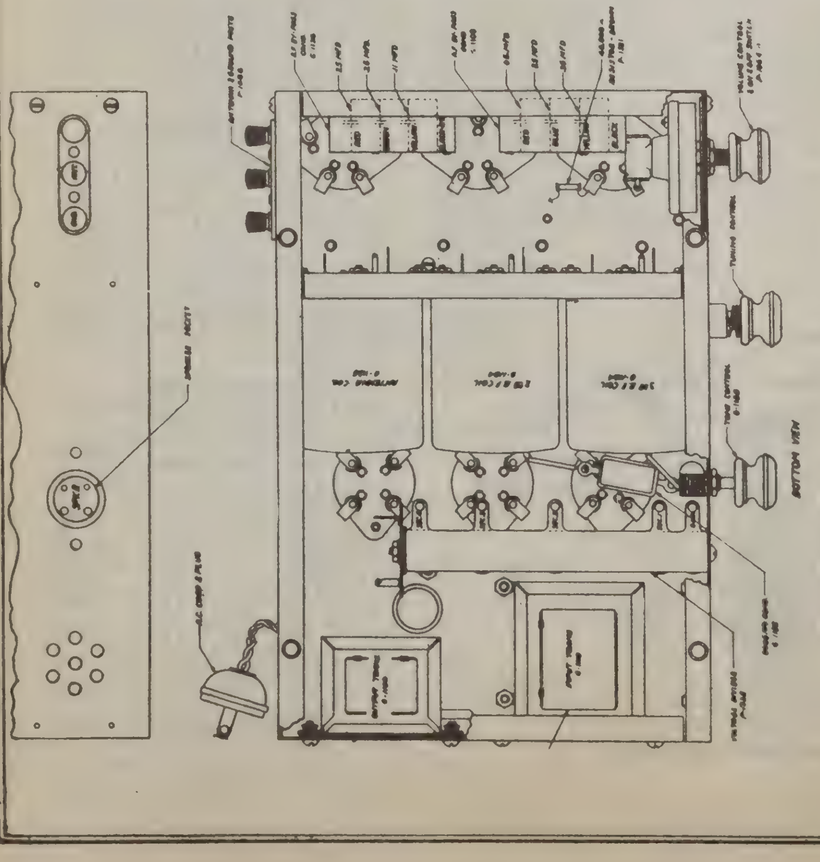
CONTINUITY TEST TABLES

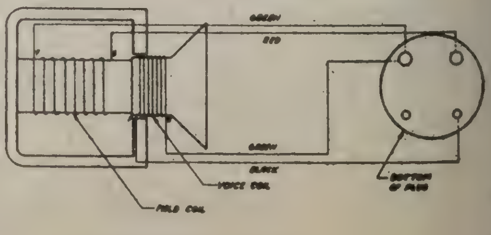
Using 6 Volt Battery with 0-10 Voltmeter (1000 Ohms Per Volt)

Circuit Tested	From	To	Reads
Antenna coil	Blank binding post	Ground	6.0
1st r. f. grid ckt.	Grid cap 1st r. f.	Ground	6.0
1st r. f. plate ckt.	Plate prong at socket	3rd tap divider	6.0
2nd r. f. grid ckt	Grid cap 2nd r. f.	Ground	6.0
2nd r. f. plate ckt.	Plt. prong at socket	3rd tap divider	6.0
Det. plt. ckt.	Plt. prong det. socket	4th tap divider	3.4
Det. grid ckt.	Grid cap det.	Ground	6.0
245 grid ckt.	Alternate grids	Ground	4.3-4.5
245 plt. ckt.	Alternate plates	Center tap output trans.	5.9
Output trans. sec.	Green lead spkr. socket	Ground	6.0
Speaker field	Spkr. socket	Ground	5.6
Pri. power trans.	Across AC line plug (switch on)		6.0
280 fil. sec.	Across 280 socket filament prongs		6.0
245-224 fil. sec.	Across 245 socket filament prongs		6.0
High voltage sec.	Across 280 plate prongs		5.8
L. 1. filter choke	Center tap output trans.	280 fil. prong	5.9
L. 2. filter choke	Center tap output trans.	Det. socket plate prong	5.0


GREEN - FIELD COIL FINISH & SPEECH COIL START
RED - FIELD COIL START
BLACK - SPEECH COIL FINISH
2 LUG TERMINAL
SPEECH COIL LEADS
VOICE COIL
FIELD COIL

DYNAMIC SPEAKER
G-3062

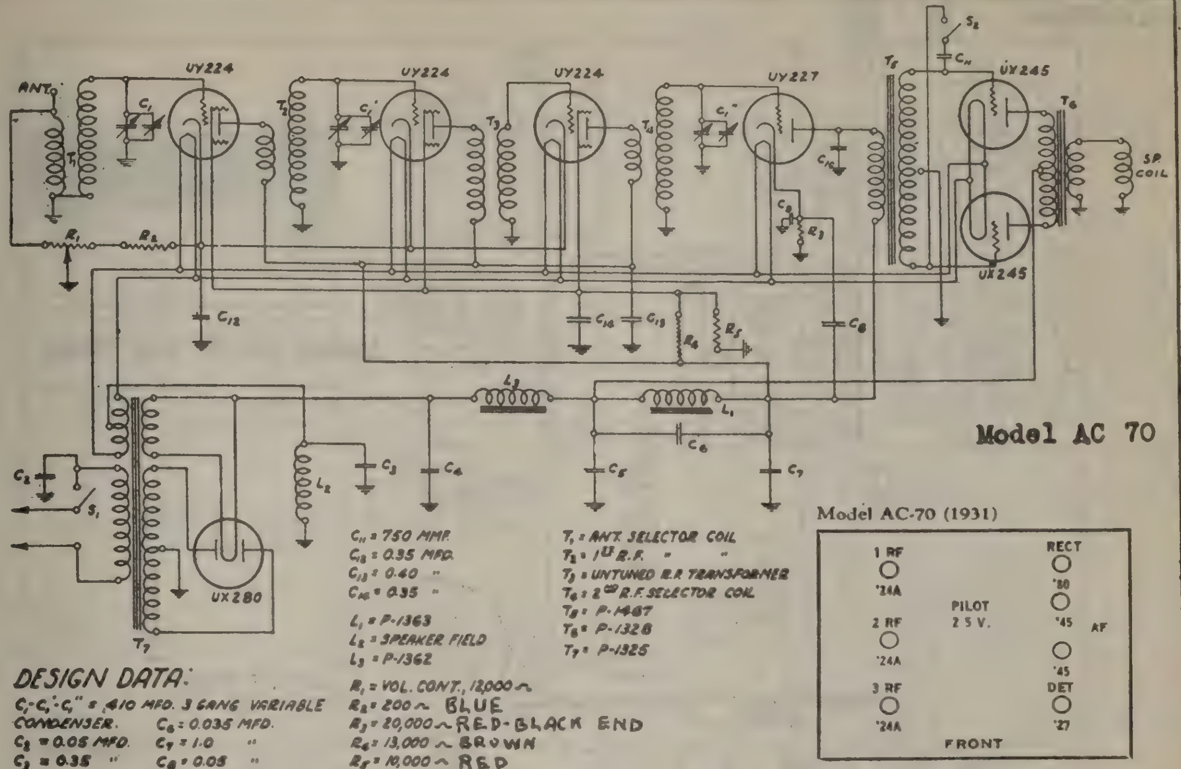

TUNING CONTROL
TONE CONTROL
BOTTOM VIEW
A.C. CORD & PLUG


GREEN
RED
GREEN
BLACK
VOICE COIL
FIELD COIL
BOTTOM OF PLUG

CIRCUIT OF DYNAMIC REPRODUCER

MODEL 61 AC
MODEL 70 AC

TRANSFORMER CORP. OF AMERICA


ANT.
UY224
UY224
UY224
UY227
UX245
UX245
UX280
SP. COIL
T_1
T_2
T_3
T_4
T_5
T_6
T_7
R_1
R_2
R_3
R_4
R_5
L_1
L_2
L_3
S_1
S_2
1 RF
'24A
2 RF
'24A
3 RF
'24A
RECT
'80
PILOT
2.5 V.
'45
AF
'45
DET
'27
FRONT

Model AC 70

Model AC-70 (1931)

DESIGN DATA:

C_1-C_1'-C_1'' = .410 MFD. 3 GANG VARIABLE CONDENSER.
C_2 = 0.05 MFD.
C_3 = 0.35 "
C_4 = 1.50 "
C_5 = 1.50 "
C_6 = 0.035 MFD.
C_7 = 1.0 "
C_8 = 0.05 "
C_{10} 0.35 "
C_{11} = 750 MMF.

C_{11} = 750 MMF.
C_{12} = 0.35 MFD.
C_{13} = 0.40 "
C_{14} = 0.35 "

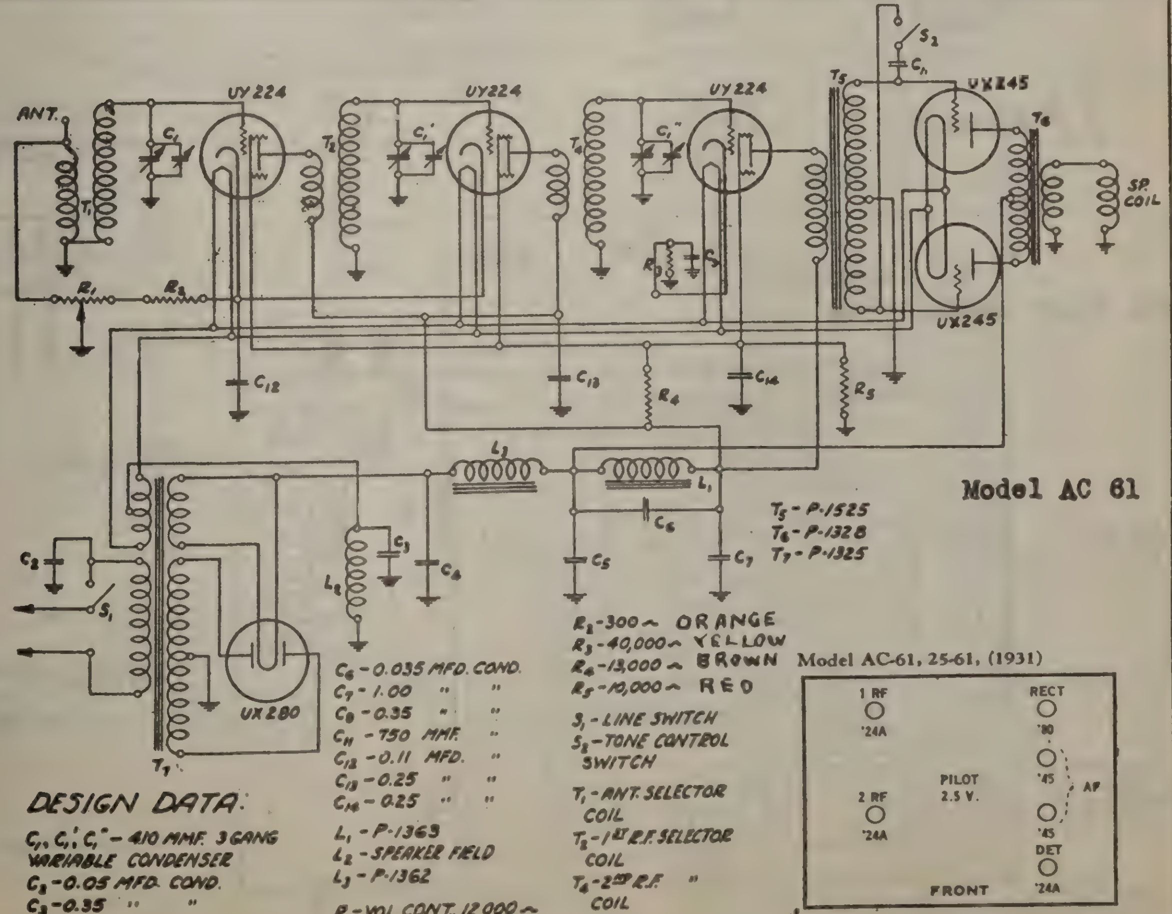
L_1 = P-1363
L_2 = SPEAKER FIELD
L_3 = P-1362

R_1 = VOL. CONT., 12,000 ~
R_2 = 200 ~ BLUE
R_3 = 20,000 ~ RED-BLACK END
R_4 = 13,000 ~ BROWN
R_5 = 10,000 ~ RED

S_1 = LINE SWITCH
S_2 = TONE CONT. SWITCH

T_1 = ANT. SELECTOR COIL
T_2 = 1ST R.F. " "
T_3 = UNTUNED R.F. TRANSFORMER
T_4 = 2ND R.F. SELECTOR COIL
T_5 = P-1467
T_6 = P-1328
T_7 = P-1325

DRAWN BY: IP CHECKED: — APPROVED: HBC DATE: 1-13-31


ANT.
UY224
UY224
UY224
UX245
UX245
UX280
SP. COIL
T_1
T_2
T_4
T_5
T_6
T_7
R_1
R_2
R_3
R_4
R_5
L_1
L_2
L_3
S_1
S_2
1 RF
'24A
2 RF
'24A
RECT
'80
PILOT
2.5 V.
'45
AF
'45
DET
'24A
FRONT

Model AC 61

T_5 - P-1525
T_6 - P-1328
T_7 - P-1325

Model AC-61, 25-61, (1931)

DESIGN DATA:

C_1, C_1', C_1'' – 410 MMF. 3 GANG VARIABLE CONDENSER
C_2 - 0.05 MFD. COND.
C_3 - 0.35 " "
C_4 - 1.50 " "
C_5 - 1.50 " "

C_6 - 0.035 MFD. COND.
C_7 - 1.00 " "
C_8 - 0.35 " "
C_{11} - 750 MMF. "
C_{12} - 0.11 MFD. "
C_{13} - 0.25 " "
C_{14} - 0.25 " "

L_1 - P-1363
L_2 - SPEAKER FIELD
L_3 - P-1362

R_1 - VOL. CONT., 12,000 ~

R_2 - 300 ~ ORANGE
R_3 - 40,000 ~ YELLOW
R_4 - 13,000 ~ BROWN
R_5 - 10,000 ~ RED

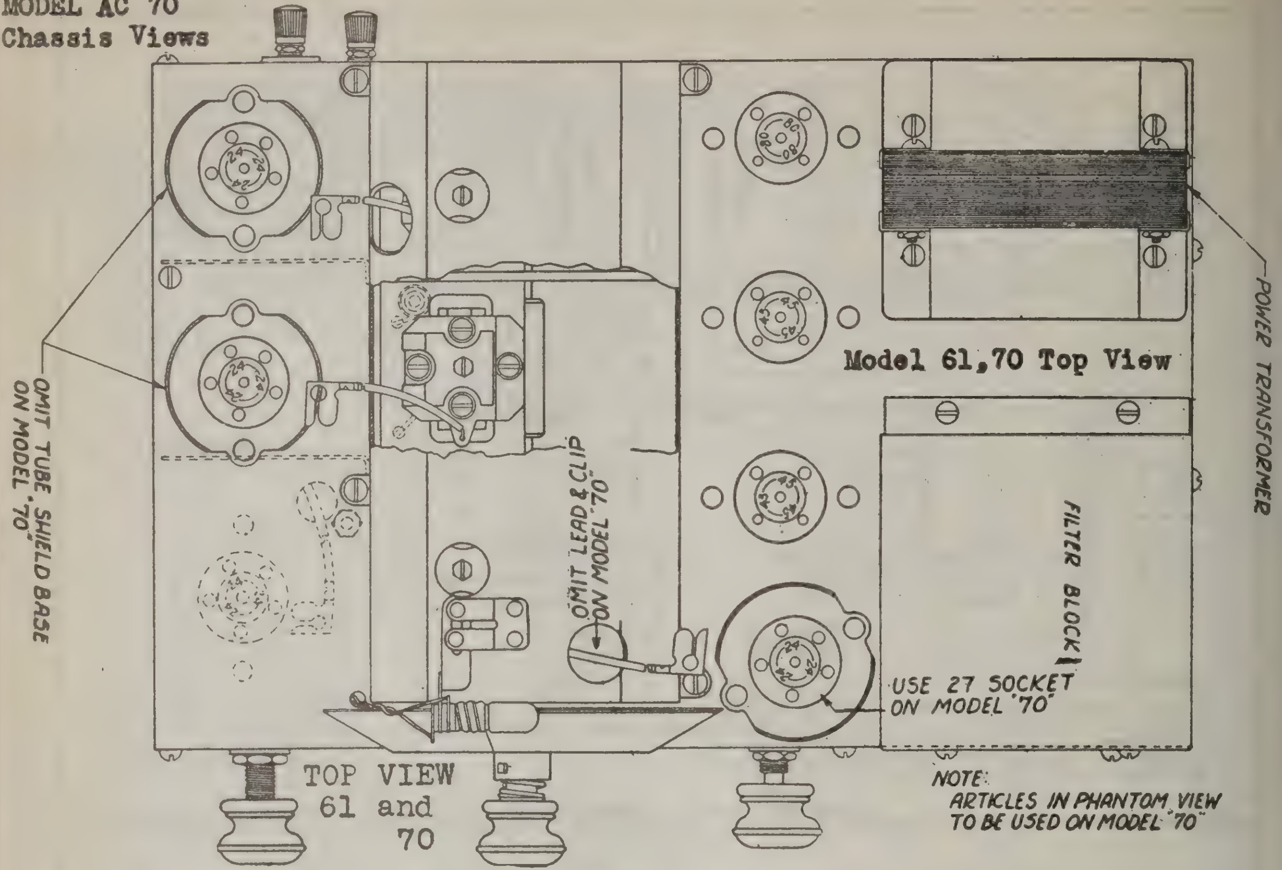
S_1 - LINE SWITCH
S_2 - TONE CONTROL SWITCH

T_1 - ANT. SELECTOR COIL
T_2 - 1ST R.F. SELECTOR COIL
T_4 - 2ND R.F. " COIL

DRAWN BY: IP CHECKED: APPROVED: HBC DATE: 1-14-31

MODEL AC 61
Chassis Views
MODEL AC 70
Chassis Views

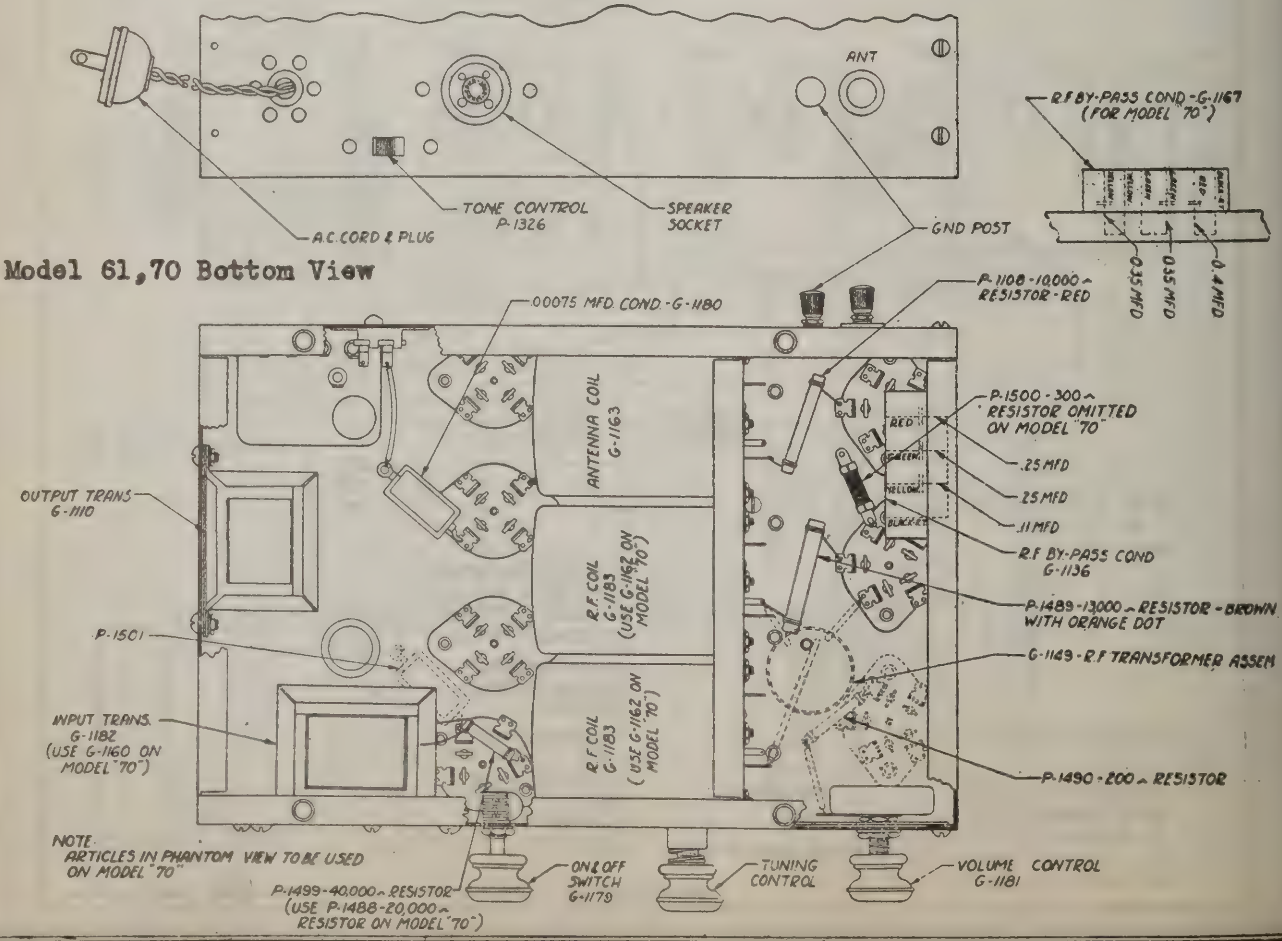
TRANSFORMER CORP. OF AMERICA


OMIT TUBE, SHIELD BASE ON MODEL "70"
24
24
24
80
45
45
27
OMIT LEAD & CLIP ON MODEL "70"
POWER TRANSFORMER
FILTER BLOCK
USE 27 SOCKET ON MODEL "70"
TOP VIEW 61 and 70

Model 61,70 Top View

NOTE: ARTICLES IN PHANTOM VIEW TO BE USED ON MODEL "70"

Model 61,70 Bottom View


ANT
A.C. CORD & PLUG
TONE CONTROL P-1326
SPEAKER SOCKET
GND POST
R.F. BY-PASS COND - G-1167 (FOR MODEL "70")
0.35 MFD
0.35 MFD
0.4 MFD
.0075 MFD COND - G-1180
P-1108 - 10,000Ω RESISTOR - RED
P-1500 - 300Ω RESISTOR OMITTED ON MODEL "70"
RED
GREEN
YELLOW
BLACK
.25 MFD
.25 MFD
.11 MFD
R.F. BY-PASS COND G-1136
P-1489 - 13000Ω RESISTOR - BROWN WITH ORANGE DOT
G-1149 - R.F. TRANSFORMER ASSEM
P-1490 - 200Ω RESISTOR
OUTPUT TRANS G-1110
ANTENNA COIL G-1163
R.F. COIL G-1183 (USE G-1162 ON MODEL "70")
P-1501
INPUT TRANS. G-1182 (USE G-1160 ON MODEL "70")
R.F. COIL G-1183 (USE G-1162 ON MODEL "70")
P-1499 - 40,000Ω RESISTOR (USE P-1488 - 20,000Ω RESISTOR ON MODEL "70")
ON & OFF SWITCH G-1179
TUNING CONTROL
VOLUME CONTROL G-1181

NOTE: ARTICLES IN PHANTOM VIEW TO BE USED ON MODEL "70"

TRANSFORMER CORP. OF AMERICA

MODEL AC 61
Voltage - Data
MODEL AC 70
Voltage - Data

NOTE.. Continuity test is made with 6 volt battery, 10 volt meter rated at 1000 ohms per volt.

READINGS TAKEN WITH WESTON MODEL 565 ANALYSER

Model 61 Line 115 Volts

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip' Norm.	SG Volts
1	1st r. f.	224	2.40	260	3.2	50 0	4.3	100.0
2	2nd r. f.	224	2 35	260	3.2	50 0	4.3	100 0
3	Det.	224	2.40	260	8 0	42.0	0.200	100 0
	AF	245	2.42	290	53.0		34.0	
5	AF	245	2.43	290	53 0		34.0	
6	Rect.	280	5.00					

115 Volts {
280 Fil. to Gnd.—320 Volts D.C.
L1 & L2 Center tap to Gnd. 300 Volts D.C.
End of Choke L2 to Gnd. 260 Volts D.C.

Model 70 Line 115 Volts

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip' Norm.	SG Volts
1	1st r. f.	224	2 37	250	3.0	50.0	4.0	90
2	2nd r. f.	224	2 30	250	3 0	50.0	4 0	90
3	3rd r. f.	224	2.30	250	3.0	50 0	4 0	90
4	Det.	227	2.38	250	20.0	33 0	1 00	
5	AF	245	2 42	290	53 0		34 0	
6	AF	245	2 43	290	53.0		34 0	
7	Rect.	280	5.00					

115 Volts {
280 Fil. to Gnd.—320 Volts D.C.
L1 & L2 Center tap to Gnd.—300 Volts D.C.
End of Choke L2 to Gnd. 250 Volts D.C.

Note: Since Resistance tolerances in the set are plus or minus 10%, and tubes may vary over 20%, your readings may disagree with the above by plus or minus 30%.

CAPACITY TABLES

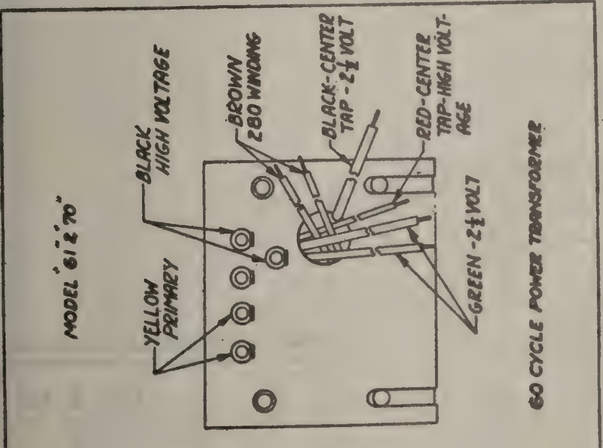
Using 200 Volt Scale of A. C. Meter Included in Weston No. 565 Analyser

MODEL 61
(115 Volt 60 Cycle Line)

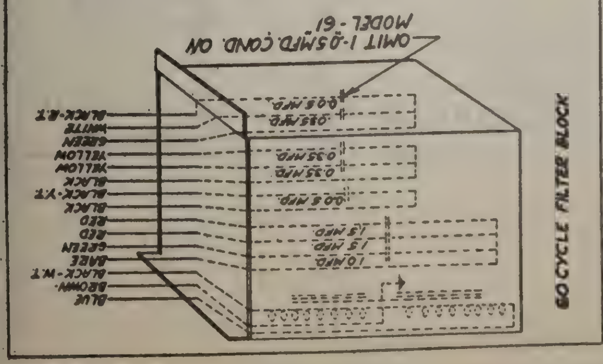
No.	Capacity	Reading	Your Reading
C-2	0 05	20 0	
C-3	0 35	95 0	
C-4	1 50	115 0	
C-5	1 50	115 0	
C-6	035	30 0	
C-7	1 0	110 0	
C-9	35	92 0	
C-12	11	45 0	
C-13	25	85 0	
C-14	25	80 0	

MODEL 70
(115 Volt 60 Cycles)

C-2	0.05	28 0
C-3	.35	95 0
C-4	1 50	115 0
C-5	1 50	115 0
C-6	035	25.0
C-7	1.0	112 0
C-8	05	30 0
C-9	35	92 0
C-12	35	92.0
C-13	.40	97 0
C-14	.35	92.0



60 CYCLE POWER TRANSFORMER



60 CYCLE FILTER BLOCK

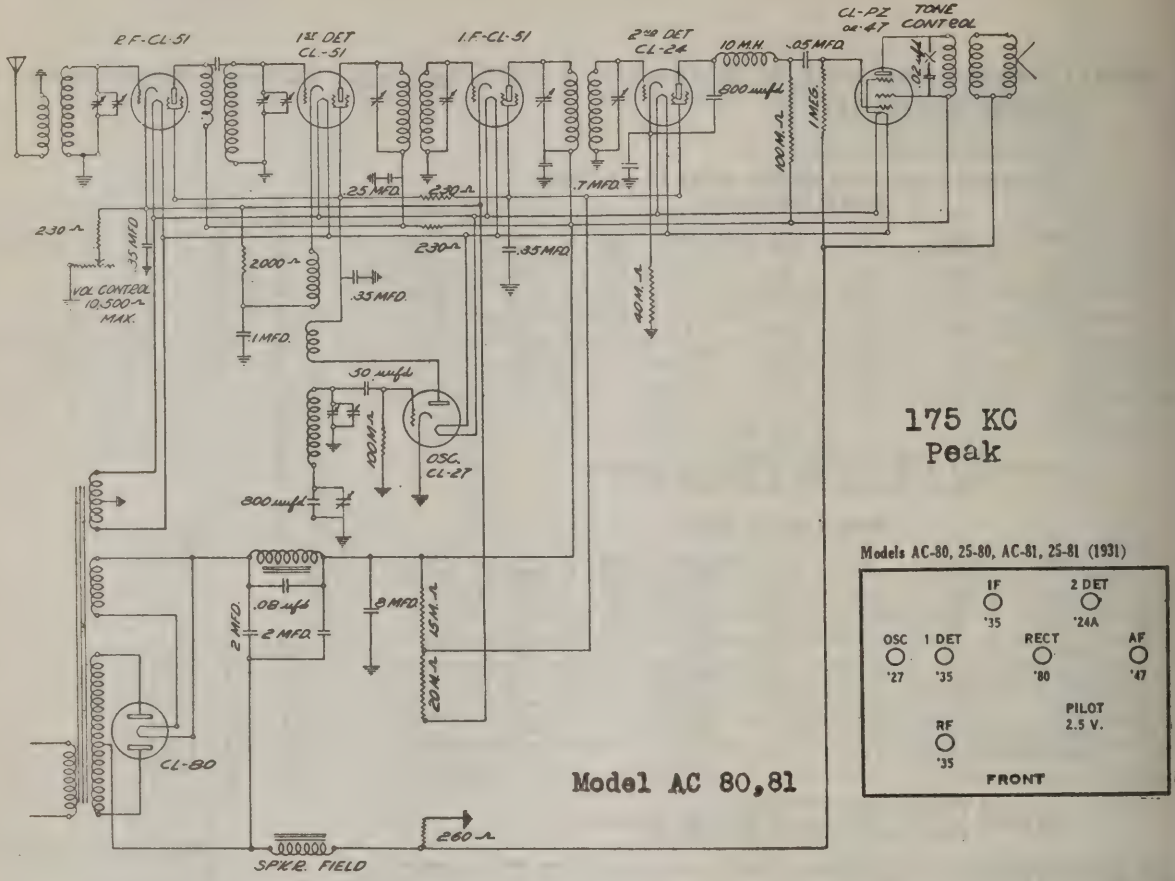
CONTINUITY TEST TABLES

Models 61 and 70

Circuit Tested	From	To	Reads	
			61	70
Antenna coil	Antenna post	Ground	6 0	6 0
1st r. f. grid ckt.	Grid cap 1st r. f.	Ground	6 0	6 0
1st r. f. plate ckt.	Plate prong at skt.	Upper term. input trans.	6 0	6,0
1st r. f. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.	2 6	2 6
2nd r. f. grid ckt.	Grid cap 2nd r. f.	Ground	6 0	6 0
2nd r. f. plate ckt.	Plate prong at skt.	Upper term. input trans.	6.0	6 0
2nd r. f. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.	2 6	2 6
3rd r. f. grid ckt.	Grid cap 3rd r. f.	Ground		6 0
3rd r. f. plate ckt.	Plate prong at skt.	Upper term. input trans		6 0
3rd r. f. screen ckt.	Screen prong at skt.	B+ on r. f trans. pri.		2 6
Det. grid ckt.	Grid cap or prong	Ground	6 0	6 0
Det. plate ckt.	Plate prong at skt.	Opposite term. input trans.	4 0	5 1
Det. screen ckt.	Screen prong at skt.	B+ on r. f. trans. pri.	2 6	
Any screen grid	Screen prong skt.	Ground	3 0	3 0
245 grid ckt.	Alternate grids	Ground	4 7-4 9	4 3-4 2
245 plate ckt	Alternate plates	Center tap output trans.	5 8	5 8
Output trans. sec.	Green lead spkr. skt.	Ground	6 0	6 0
Speaker field	Across green and red leads spkr. plug		5.6	5 6
Spkr. voice coil	Across green and black leads speaker		6 0	6 0
280 fil. sec.	Across fil. terms. 280 socket		6.0	6 0
245 and 224 fil. sec.	Across fil. terms. 245 socket		6.0	6 0
Pri. power trans.	Across AC line plug (switch on)		6 0	6 0
High voltage sec.	Across 280 plate terms.		5 8	5 8
L1 filter choke	Center tap output trans	Upper term. input trans.	5 9	5 9
L3 filter choke	Center tap output trans.	280 fil. terms.	5 1	5 1

MODEL AC 80,81,90,
90-A, 91.
Schematic

TRANSFORMER CORP. OF AMERICA

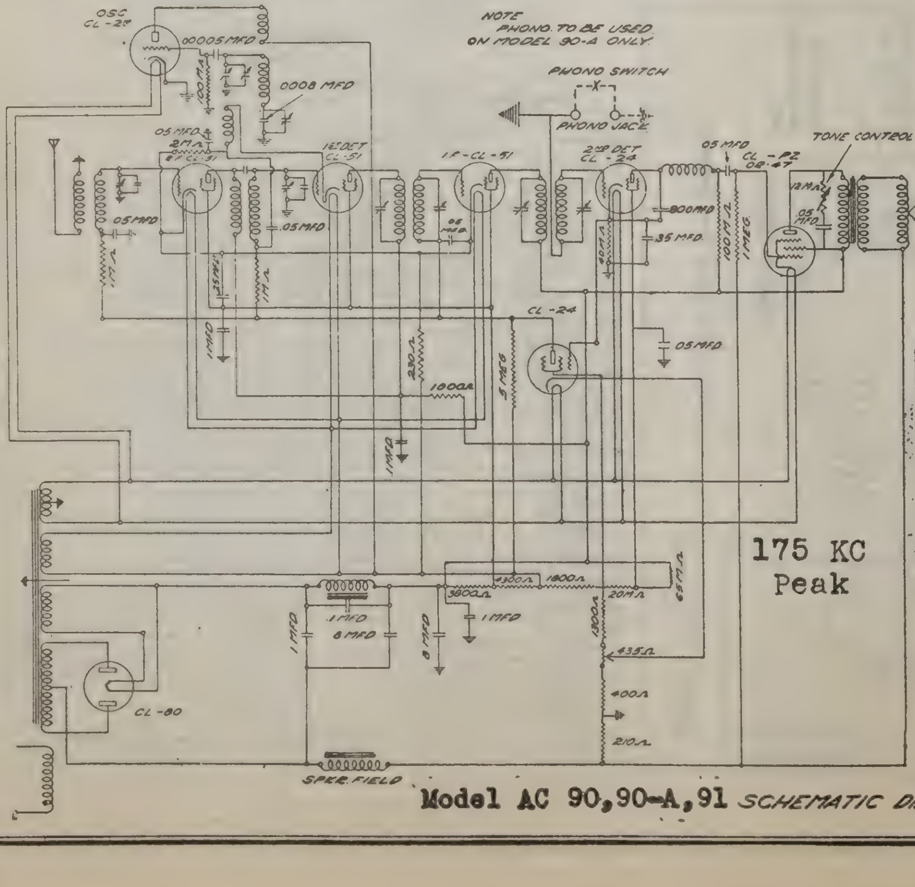

R.F.-CL-51
1ST DET
CL-51
I.F.-CL-51
2ND DET
CL-24
10 M.H.
.05 MFD.
CL-PZ
OR 47
TONE
CONTROL
.02 MFD
800 mmfd
100 M.Ω
1 MEG.
.25 MFD.
230 Ω
.7 MFD.
230 Ω
.35 MFD
VOL CONTROL
10,500 Ω
MAX.
2000 Ω
.35 MFD.
1 MFD.
230 Ω
.35 MFD.
40 M.Ω
50 mmfd
100 M.Ω
OSC.
CL-27
800 mmfd
.08 mfd
2 MFD.
2 MFD.
8 MFD.
15 M.Ω
20 M.Ω
CL-80
260 Ω
SPKR. FIELD

175 KC
Peak

Model AC 80,81

Models AC-80, 25-80, AC-81, 25-81 (1931)

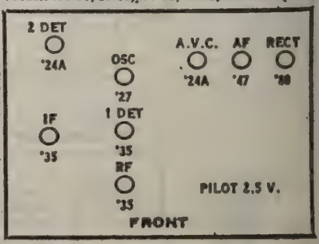
IF
'35
2 DET
'24A
OSC
'27
1 DET
'35
RECT
'80
AF
'47
PILOT
2.5 V.
RF
'35
FRONT


OSC
CL-27
.00005 MFD
100 M.Ω
.0008 MFD
NOTE
PHONO. TO BE USED
ON MODEL 90-A ONLY.
PHONO SWITCH
PHONO JACK
.05 MFD
2 M.Ω
R.F. CL-51
1ST DET
CL-51
I.F.-CL-51
2ND DET
CL-24
.05 MFD
CL-PZ
OR 47
TONE CONTROL
12 M.Ω
.05 MFD
.05 MFD
.05 MFD
.25 MFD
1 M.Ω
1 M.Ω
.05 MFD
800 MFD
.35 MFD.
40 M.Ω
100 M.Ω
1 MEG.
CL-24
.05 MFD
1 MFD
230 Ω
1000 Ω
5 MEG
1 MFD
.1 MFD
8 MFD
1 MFD
8 MFD
3800 Ω
4300 Ω
1800 Ω
20 M.Ω
65 M.Ω
1 MFD
1300 Ω
435 Ω
400 Ω
210 Ω
CL-80
SPKR. FIELD

175 KC
Peak

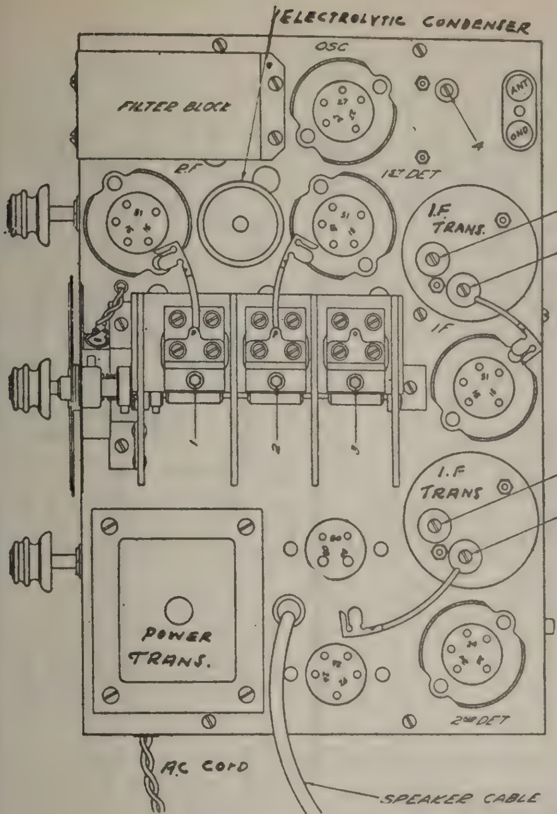
Model AC 90,90-A,91 SCHEMATIC DIAGRAM

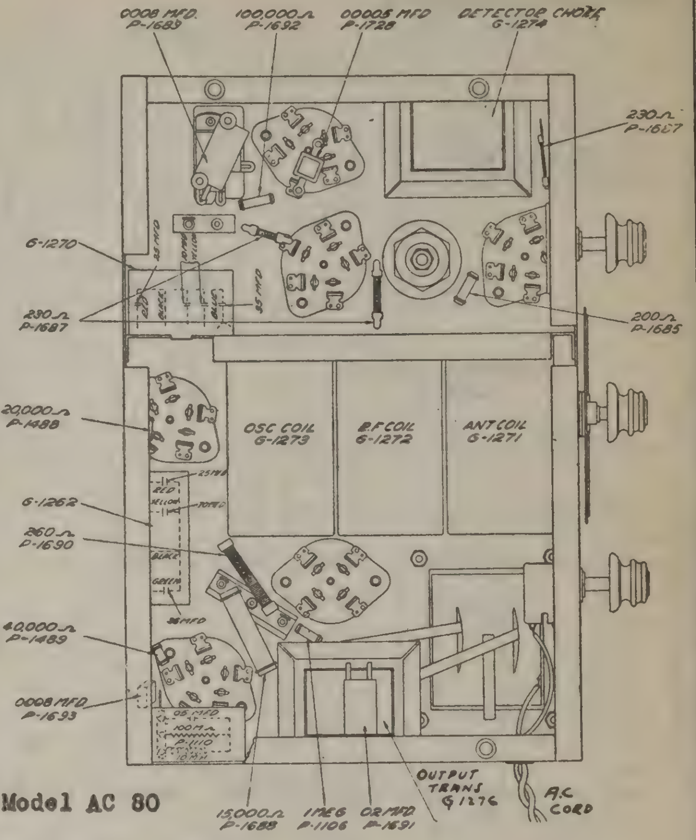
Models AC-90, 25-90, AC-91, 25-91, AC-90A (1931)


2 DET
'24A
OSC
'27
A.V.C.
'24A
AF
'47
RECT
'80
IF
'35
1 DET
'35
RF
'35
PILOT 2.5 V.
FRONT

TRANSFORMER CORP. OF AMERICA

**MODEL AC 80,81,90,
90-A,91
Chassis Views**

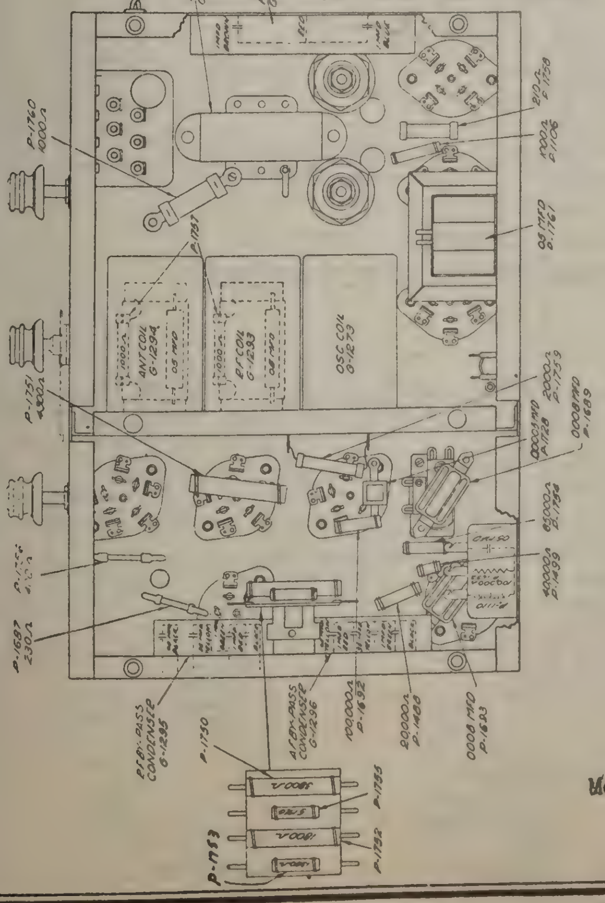

ELECTROLYTIC CONDENSER
FILTER BLOCK
OSC
R.F
1st DET
ANT
GND
4
I.F. TRANS.
6
5
I.F
1
2
3
I.F TRANS
8
7
POWER TRANS.
2nd DET
A.C CORD
SPEAKER CABLE

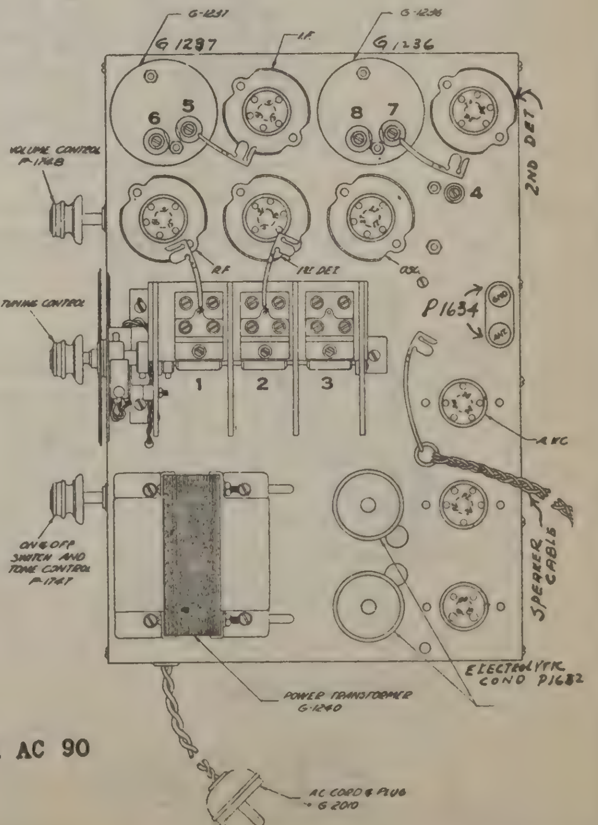

.0008 MFD. P-1689
100,000 Ω P-1692
.00005 MFD P-1728
DETECTOR CHOKE G-1274
230 Ω P-1687
G-1270
230 Ω P-1687
.25 MFD
.35 MFD
200 Ω P-1685
20,000 Ω P-1488
OSC COIL G-1273
R.F COIL G-1272
ANT COIL G-1271
G-1262
.25 MFD
RED
YELLOW
.70 MFD
260 Ω P-1690
BLACK
GREEN
.35 MFD
40,000 Ω P-1489
.0008 MFD P-1693
.05 MFD
100 M Ω
P-1110
10 M Ω
15,000 Ω P-1688
1 MEG P-1106
.02 MFD P-1691
OUTPUT TRANS G 1276
A.C CORD

Model AC 80

1 ANTENNA TRIMMER
2 1st DET TRIMMER
3 OSC TUNING TRIMMER
4 OSC. PADDING TRIMMER
5 2nd DET GRID TRIMMER
6 2nd DET PLATE TRIMMER
7 INT. FREQ GRID TRIMMER
8 INT. FREQ PLATE TRIMMER

NOTE
FOR MODEL 90A USE G-1237 IN PLACE OF G-1236, WHICH INCLUDES PHONO SWITCH ALSO USE P-1749 IN PLACE OF P-1748)

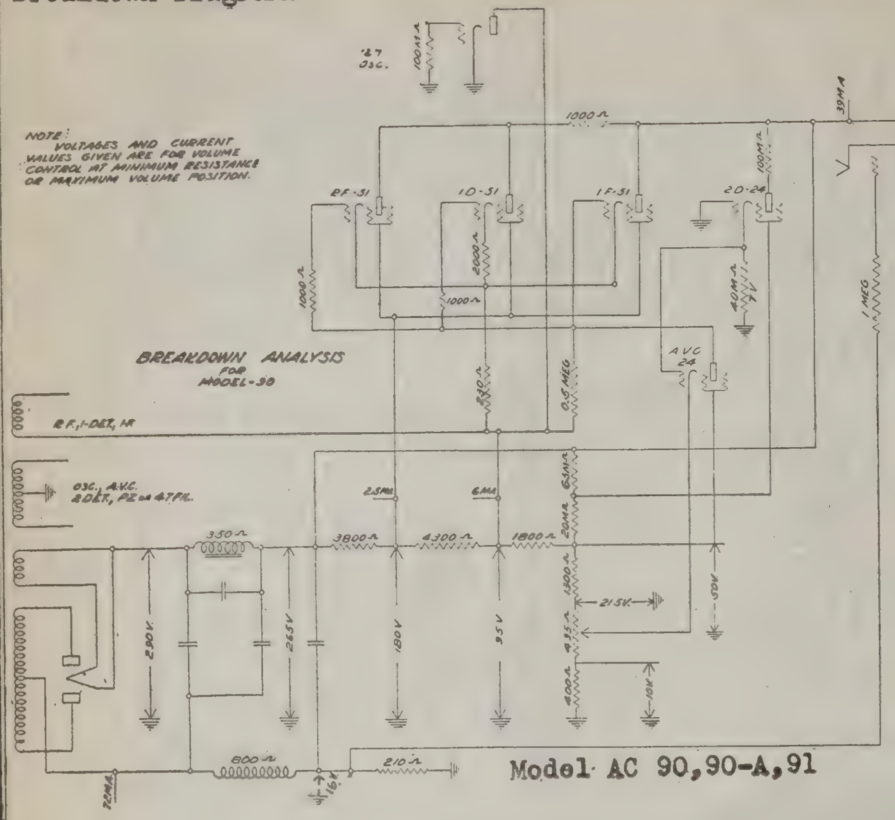

FILTER CHOKE G-1297
FILTER BLOCK G-1298
1 MFD BROWN
RED
1 MFD BLUE
P-1760 1000 Ω
210 Ω P 1758
1000 Ω P 1106
.05 MFD P.1761
P.1757
1000 Ω
ANT COIL G-1294
.05 MFD
1000 Ω
R.F COIL G-1293
.05 MFD
OSC COIL G-1273
P-1751 2000 Ω
2000 Ω P-1759
.00005 MFD P.1728
.0008 MFD P.1689
65000 Ω P.1754
40000 Ω P.1499
P-1756
P-1687 230 Ω
R.F BY-PASS CONDENSER G-1295
A.F BY-PASS CONDENSER G-1296
100,000 Ω P.1692
20000 Ω P.1488
.0008 MFD P.1693
P-1750
P-1755
P-1752
P-1753
3800 Ω
1800 Ω


G-1237
G 1237
I.F.
G-1236
G 1236
6
5
8
7
VOLUME CONTROL P-1748
2ND DET
4
R.F.
1st DET
OSC
P1634
GND
ANT
TUNING CONTROL
1
2
3
AVC
ON & OFF SWITCH AND TONE CONTROL P-1747
SPEAKER CABLE
ELECTROLYTIC COND P1682
POWER TRANSFORMER G-1240
AC CORD & PLUG G 2010

Model AC 90

MODEL AC 80,81,80,
90-A,91
Voltage
Breakdown Diagrams

TRANSFORMER CORP. OF AMERICA


'27 OSC.
100MΛ
1000Λ
39MA
RF-51
1D-51
1F-51
2D-24
100MΛ
1000Λ
2000Λ
1000Λ
40MΛ 7V
1 MEG
AVC 24
330Λ
0.5 MEG
R.F., 1-DET., I.F.
OSC., A.V.C. 2DET., PZ or 47FIL.
25MA
6MA
65MΛ
20MΛ
350Λ
3800Λ
4300Λ
1800Λ
1200Λ
435Λ
400Λ
215V.
50V
290V.
265V.
180V
95V
10V
800Λ
210Λ
16V
72MA

NOTE:
VOLTAGES AND CURRENT VALUES GIVEN ARE FOR VOLUME CONTROL AT MINIMUM RESISTANCE OR MAXIMUM VOLUME POSITION.

BREAKDOWN ANALYSIS
FOR
MODEL-90

Model AC 90,90-A,91

READINGS TAKEN WITH WESTON MODEL 565 ANALYSER
MODEL 90

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip' Norm.	SG Volts
1	r f	CL-51	2 2	160	9	2 0	2 8	77
2	1st det	CL-51	2 2	168	7 6	4 9	2 0	77
3	Osc	CL-27	2 2	125	None	None	9 5	
4	I F	CL-51	2 2	163	0 6	2 0	2 0	77
5	2nd det.	CL-24	2 2	178	6 8	9 0	25	90
6	A V.C	CL-24	2 2	25	4 6	4 5	None	40
7	A F	CL-PZ	2 2	260	16 5		36	260
8	Rect	CL-80	4 6	350			72	

Volume control position **Full** Line Voltage 115-60 cycle.

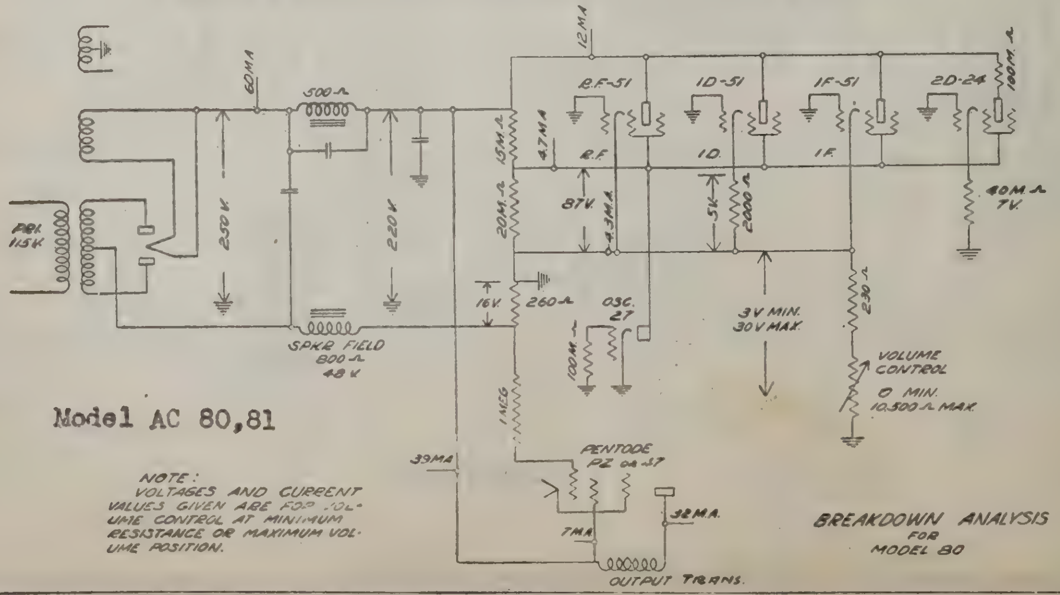
NOTE Filaments and cathodes of R F., I.F., and first detector are 95 volts positive with respect to ground on the model 90

READINGS TAKEN WITH WESTON MODEL 565 ANALYSER
MODEL 80

No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip' Norm.	SG Volts
1	r. f.	CL-51	2 2	233	3	3.	5	66
2	1st Det.	CL-51	2 2	233	7	7	2.3	73
3	Osc.	CL-27	2 2	80	0	0	4	0
4	I.F.	CL-51	2 2	233	3	3	5	77
5	2nd det.	CL-24	2 2	162	6 2	7.2	5	73
6	Output	CL-PZ	2 2	228	15	0	27	233
7	Rect	CL-80	4 8	300	0	0	50	0

Volume control position Full Line Voltage 115

Note: Since resistance tolerances in the sets are plus or minus 10%, and tubes may vary over 20%, your readings may disagree with the above by plus or minus 30%. CL-PZ is also known as CL-47, the latter being the final type number.


12MA
60MA
500Λ
RF-51
1D-51
1F-51
2D-24
100MΛ
15MΛ
4.7MA
RF
1D
1F
87V
4.3MA
5V
2000Λ
40MΛ 7V
PRI 115V
250V
220V
20MΛ
16V
260Λ
OSC. 27
100MΛ
3V MIN. 30V MAX.
230Λ
VOLUME CONTROL
0 MIN. 10,500Λ MAX.
SPKR FIELD 800Λ 48V
1 MEG
39MA
PENTODE PZ OR 47
32MA
7MA
OUTPUT TRANS.

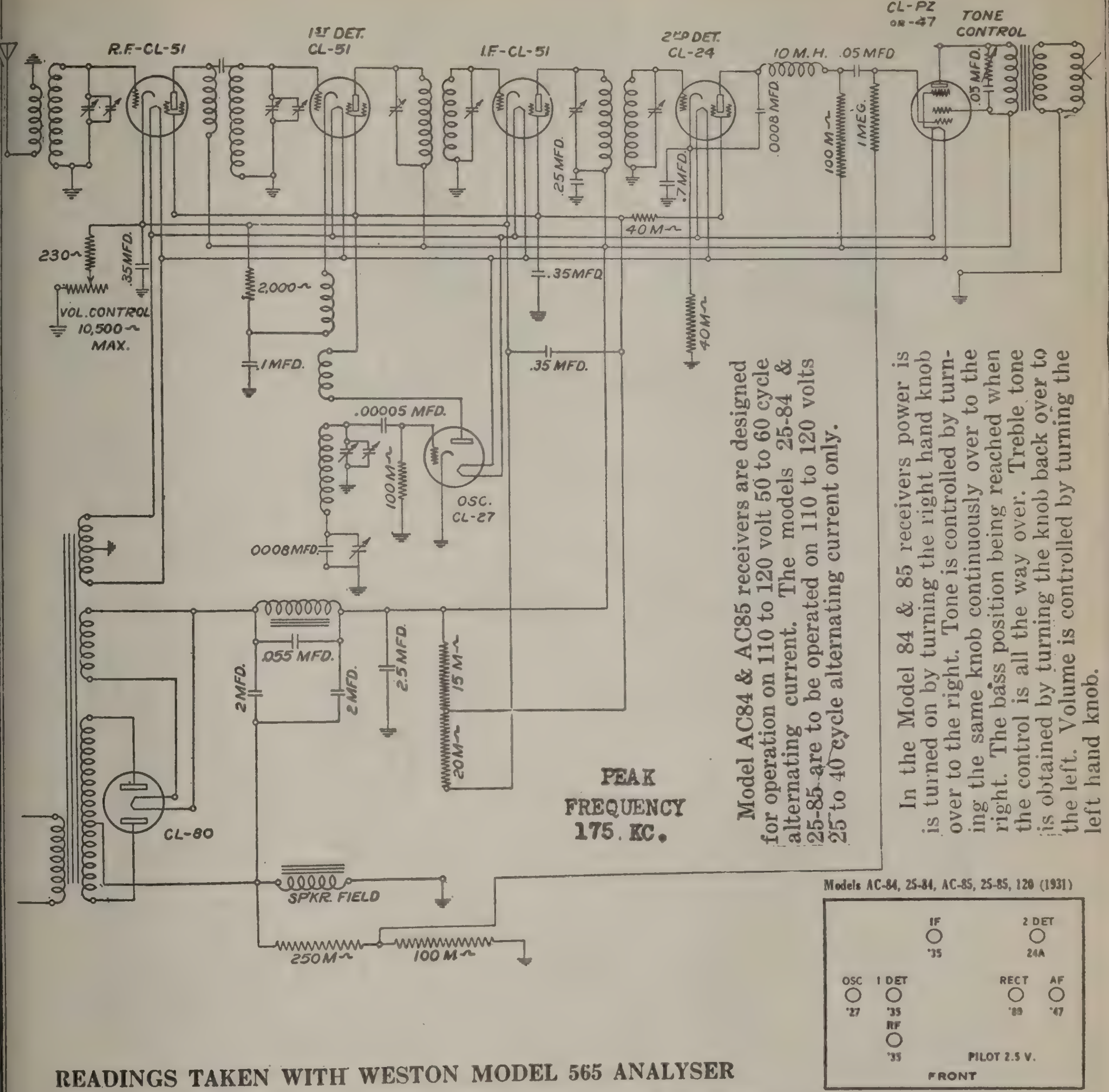
Model AC 80,81

NOTE:
VOLTAGES AND CURRENT VALUES GIVEN ARE FOR VOLUME CONTROL AT MINIMUM RESISTANCE OR MAXIMUM VOLUME POSITION.

BREAKDOWN ANALYSIS
FOR
MODEL 80

TRANSFORMER CORP. OF AMERICA

MODEL AC84,85
Schematic
Voltage


R.F.-CL-51
1ST DET. CL-51
I.F.-CL-51
2ND DET. CL-24
10 M.H.
.05 MFD
CL-PZ OR -47
TONE CONTROL
.05 MFD.
.0008 MFD.
100 M~
1 MEG.
.25 MFD.
.7 MFD.
40 M~
230~
.35 MFD.
VOL. CONTROL 10,500~ MAX.
2,000~
.35 MFD.
40 M~
1 MFD.
.35 MFD.
.00005 MFD.
100 M~
OSC. CL-27
.0008 MFD.
.055 MFD.
2 MFD.
2 MFD.
2.5 MFD.
15 M~
20 M~
CL-80
SPKR. FIELD
250 M~
100 M~
Models AC-84, 25-84, AC-85, 25-85, 120 (1931)
IF '35
2 DET 24A
OSC '27
1 DET '35
RF '35
RECT '80
AF '47
PILOT 2.5 V.
FRONT

PEAK FREQUENCY 175. KC.

Model AC84 & AC85 receivers are designed for operation on 110 to 120 volt 50 to 60 cycle alternating current. The models 25-84 & 25-85 are to be operated on 110 to 120 volts 25 to 40 cycle alternating current only.

In the Model 84 & 85 receivers power is turned on by turning the right hand knob over to the right. Tone is controlled by turning the same knob continuously over to the right. The bass position being reached when the control is all the way over. Treble tone is obtained by turning the knob back over to the left. Volume is controlled by turning the left hand knob.

READINGS TAKEN WITH WESTON MODEL 565 ANALYSER

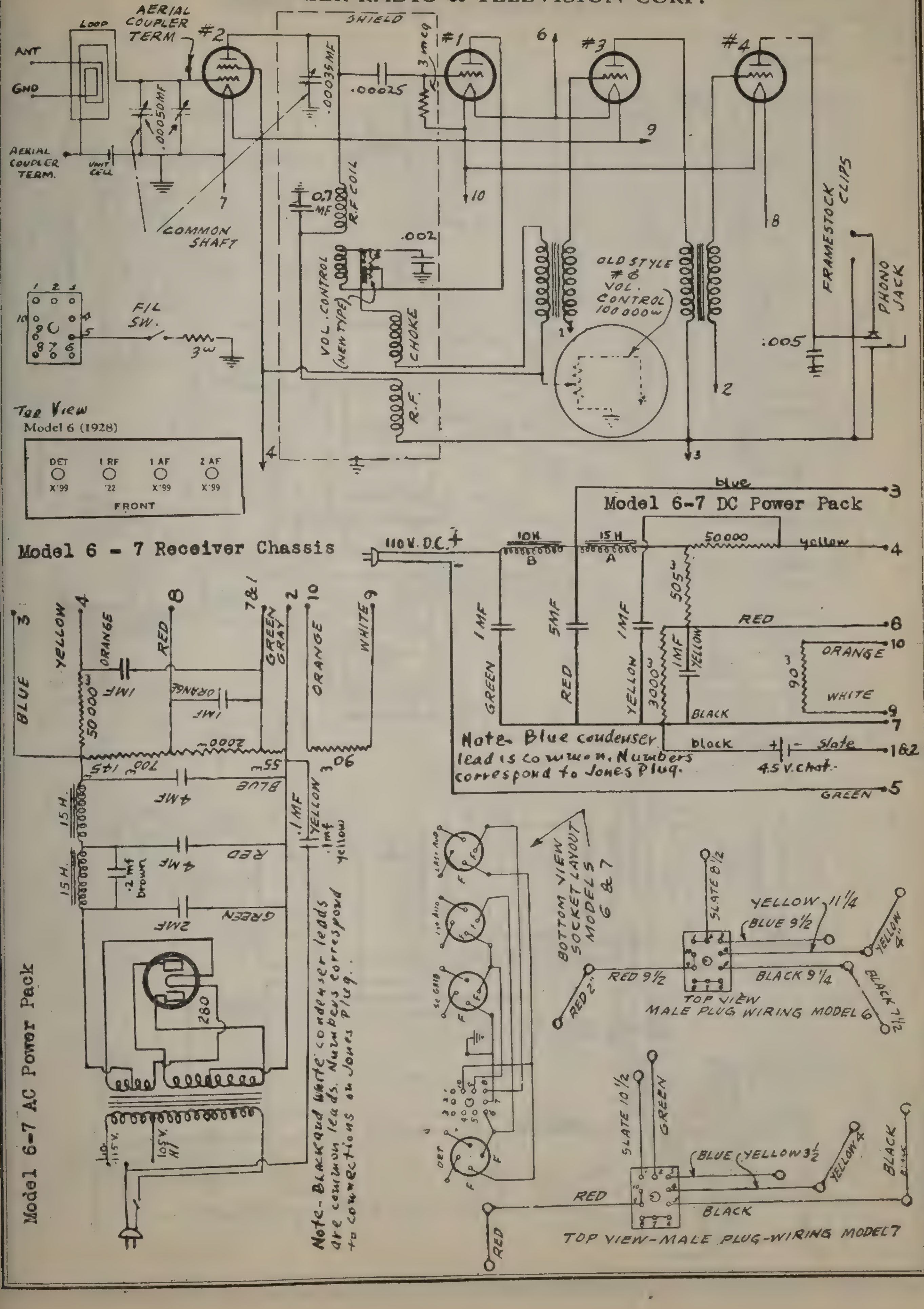
No.	Stage	Type Tube	A Volts	B Volts	Cont. Grid Volts	Cath. Volts	Ip Norm.	SG Volts
1	r. f.	51	2.1	255	3.5	3.5	3.5	.78
2	1st Det.	51	2.1	240	10.	10.	2	108
3	Osc.	27	2.1	135	0	0	6.	0
4	I. F.	51	2.1	250	3.5	3.5	3.5	77
5	2nd det.	24	2.2	190	6.0	6.0	0.2	68
6	Output	47	2.2	228	14.	0	25	255
7	Rect.	80	4.4		0	.0		0

Volume control position **Full** Line Voltage **115**

Note: Since resistance tolerances in the sets are plus or minus 10%, and tubes may vary over 20%, your readings may disagree with the above by plus or minus 30%.

MODEL 6,7

TRAV-LER RADIO & TELEVISION CORP.



Model 6 - 7 Receiver Chassis

Model 6-7 DC Power Pack

Model 6-7 AC Power Pack

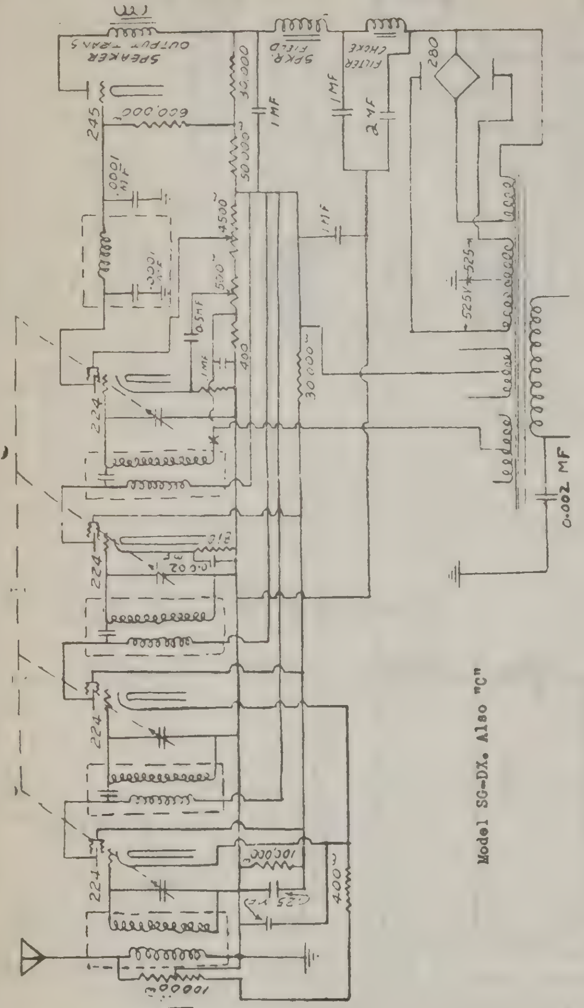
Note- Blue condenser lead is common. Numbers correspond to Jones Plug.

Note- Black and white condenser leads are common leads. Numbers correspond to connections on Jones Plug.

SHIELD
ANT
GND
LOOP
AERIAL COUPLER TERM
#2
#1
#3
#4
.00050MF
.00035MF
.00025
3 meg
6
9
10
7
8
AERIAL COUPLER TERM.
UNIT CELL
COMMON SHAFT
0.7 MF
R.F COIL
.002
VOL. CONTROL (NEW TYPE)
CHOKE
R.F.
OLD STYLE #6 VOL. CONTROL 100 000w
1
2
3
4
FRAMESTOCK CLIPS
PHONO JACK
.005
1 2 3
10
4
5
F/L SW.
3w
Top View
Model 6 (1928)
DET
X'99
1 RF
'22
1 AF
X'99
2 AF
X'99
FRONT
110V. D.C.
+
-
10H.
B
15H
A
50.000
yellow
blue
1MF
5MF
1MF
GREEN
RED
YELLOW
505w
3000w
1MF
YELLOW
RED
ORANGE
90w
WHITE
BLACK
black
slate
4.5 V. chat.
GREEN
1&2
BLUE
YELLOW
ORANGE
RED
GREEN
GRAY
7&1
ORANGE
WHITE
1MF
50000w
ORANGE
1MF
2000
700w
145
55w
90w
BLUE
4MF
15 H.
15 H.
RED
4MF
.2 mf
brown
GREEN
2MF
.1 MF
YELLOW
.1mf
yellow
280
115V.
105V.
BOTTOM VIEW SOCKET LAYOUT MODELS 6 & 7
LAST AUD
1st AUD
Sc GRID
DET
F
SLATE 8½
YELLOW 11¼
BLUE 9½
YELLOW 4"
RED 9½
RED 2"
BLACK 9¼
BLACK 7½
TOP VIEW
MALE PLUG WIRING MODEL 6
SLATE 10½
GREEN
BLUE
YELLOW 3½
YELLOW 4
BLACK
RED
BLACK
RED
TOP VIEW-MALE PLUG-WIRING MODEL 7

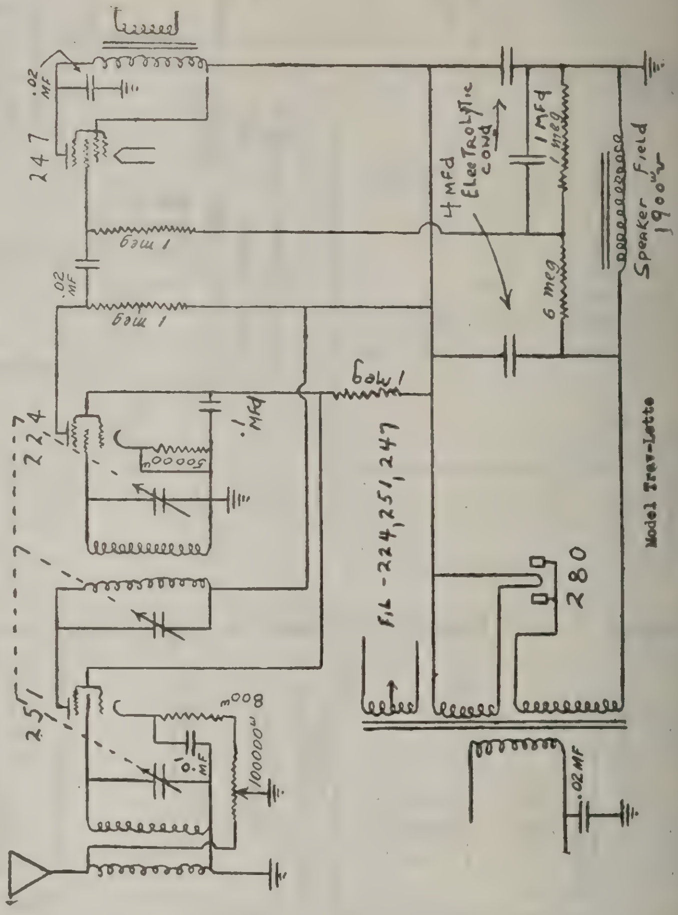
MODEL SG-DX
MODEL "C"
MODEL "K"
MODEL Trav-Lette

TRAV-LER RADIO & TELEVISION CORP.



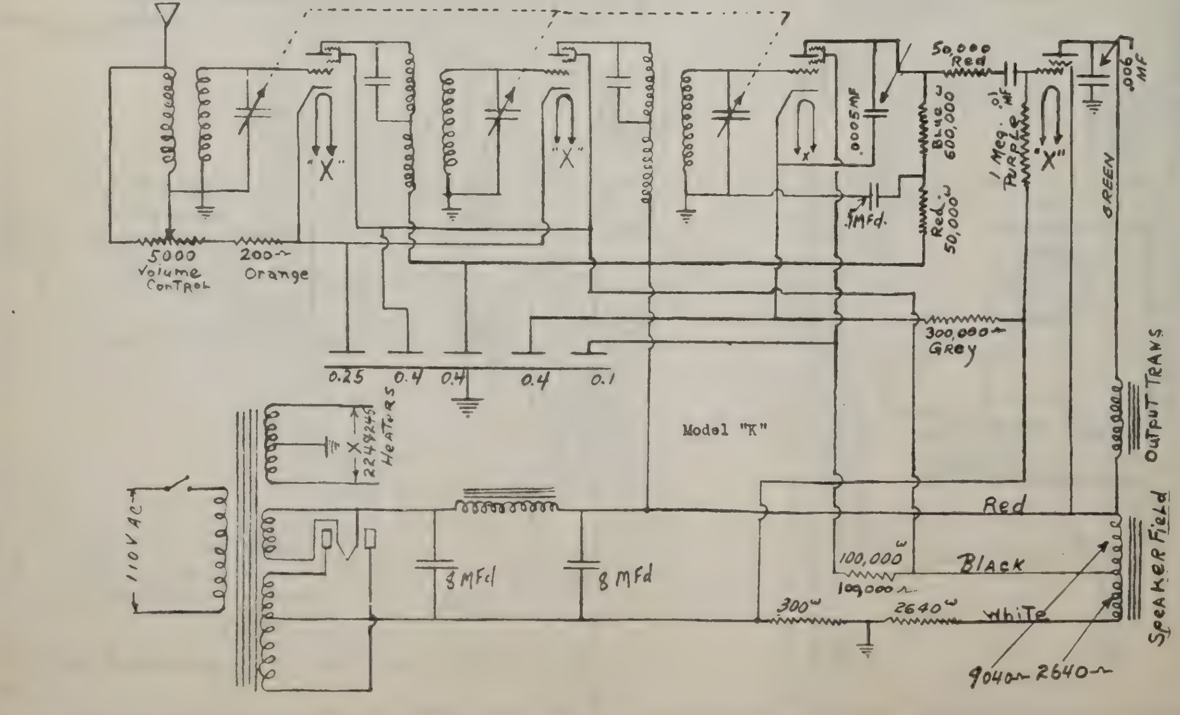
Model SG-DX. Also "C"

SPEAKER OUTPUT TRANS
SPKR. FIELD
FILTER CHOKE
280
245
600,000
.0001 MF
30,000
50,000
1 MF
1 MF
2 MF
.1 MF
4500
5100
.05 MF
400
30,000
525
525
0.002 MF
224
224
224
224
10,000
400
.25
100,000



Model Trav-Lette

.02 MF
247
1 meg
.02 MF
1 meg
1 meg
224
.1 MFd
50000
4 MFd Electrolytic cond
1 MFd
1 meg
6 meg
Speaker Field 1900
Fil - 224, 251, 247
280
251
800
.01 MF
100000
.02 MF



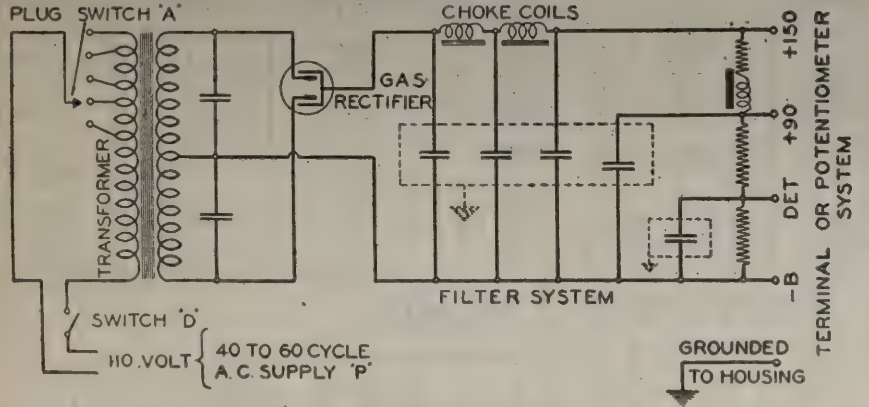
Model "K"

"X"
"X"
"X"
50,000 Red
.0005 MF
Blue 600,000
1 Meg. Purple
.01 MF
.006 MF
.5 MFd.
Red 50,000
GREEN
5000 Volume Control
200 Orange
300,000 Grey
0.25
0.4
0.4
0.4
0.1
X 224 245 Heaters
OUTPUT TRANS
110 V AC
8 MFd
8 MFd
Red
100,000
100,000
Black
300
2640
White
Speaker Field
9040 2640

UNITED AMERICAN BOSCH CORP.

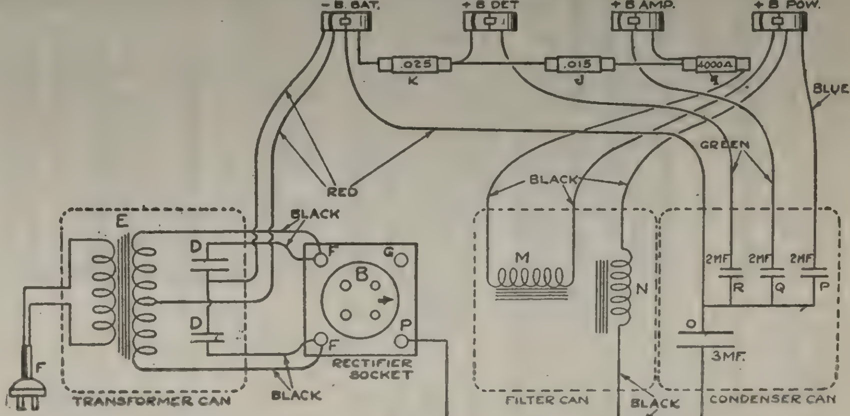
MODEL BAN
"B" Power Units

"B" POWER UNITS

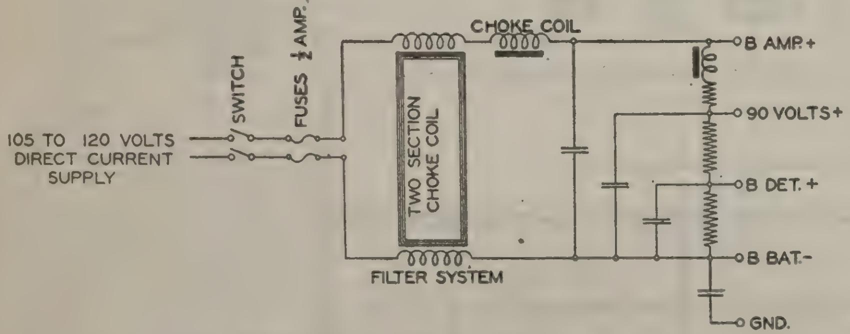

PLUG
SWITCH 'A'
TRANSFORMER
GAS RECTIFIER
CHOKE COILS
FILTER SYSTEM
+150
+90
DET
-B
TERMINAL OR POTENTIOMETER SYSTEM
SWITCH 'D'
110 VOLT
40 TO 60 CYCLE A.C. SUPPLY 'P'
GROUNDED TO HOUSING

Type BAN Edition 2 Nobattry

"B" POWER UNITS

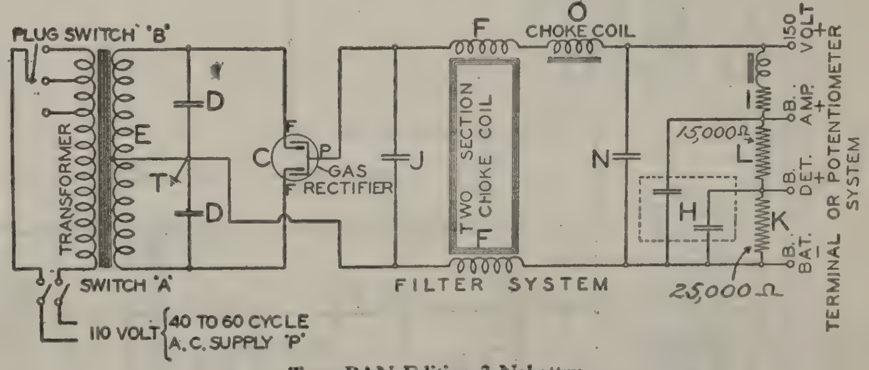

-B BAT.
+B DET
+B AMP.
+B POW.
.025 K
.015 J
4000Ω
BLUE
RED
GREEN
BLACK
E
D
D
F
G
B
P
RECTIFIER SOCKET
TRANSFORMER CAN
M
N
FILTER CAN
2MF R
2MF Q
2MF P
O 3MF.
CONDENSER CAN

Type BAN Edition 6 Nobattry—Models 504 and 506

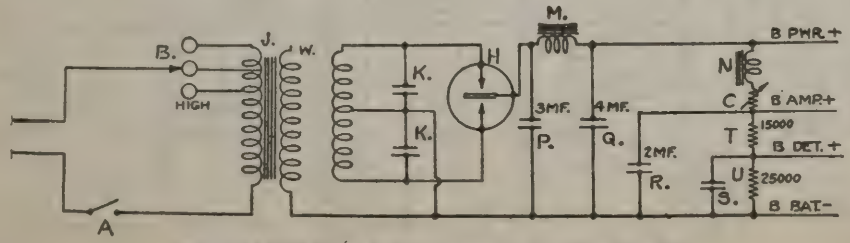

105 TO 120 VOLTS DIRECT CURRENT SUPPLY
SWITCH
FUSES ½ AMP.
TWO SECTION CHOKE COIL
CHOKE COIL
FILTER SYSTEM
B AMP.+
90 VOLTS+
B DET.+
B BAT.-
GND.

Type BDN Edition 1 Nobattry (for direct current)
Type BDN Edition 2 Nobattry (for 220 volts DC).

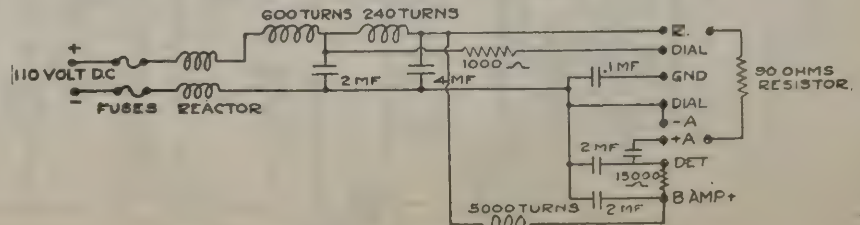
NOTE: A series resistance is connected between the switch and the fuse in the 220-volt unit. The Nobattrys are otherwise identical.


PLUG SWITCH 'B'
TRANSFORMER
E
T
D
D
C
F
P
GAS RECTIFIER
J
F
TWO SECTION CHOKE COIL
O
CHOKE COIL
N
15,000Ω
L
H
K
25,000Ω
FILTER SYSTEM
150 VOLT +
B. AMP. +
B. DET. +
B. BAT. -
TERMINAL OR POTENTIOMETER SYSTEM
SWITCH 'A'
110 VOLT
40 TO 60 CYCLE A.C. SUPPLY 'P'

Type BAN Edition 3 Nobattry
Type BAN Edition 4 Nobattry (for 25 cycles)
Type BAN Edition 4 Model 505 Nobattry


B.
HIGH
J.
W.
K.
K.
H
M.
3MF. P.
4MF. Q.
2MF. R.
N
C
T
U
S.
15000
25000
B PWR.+
B AMP.+
B DET.+
B BAT.-
A

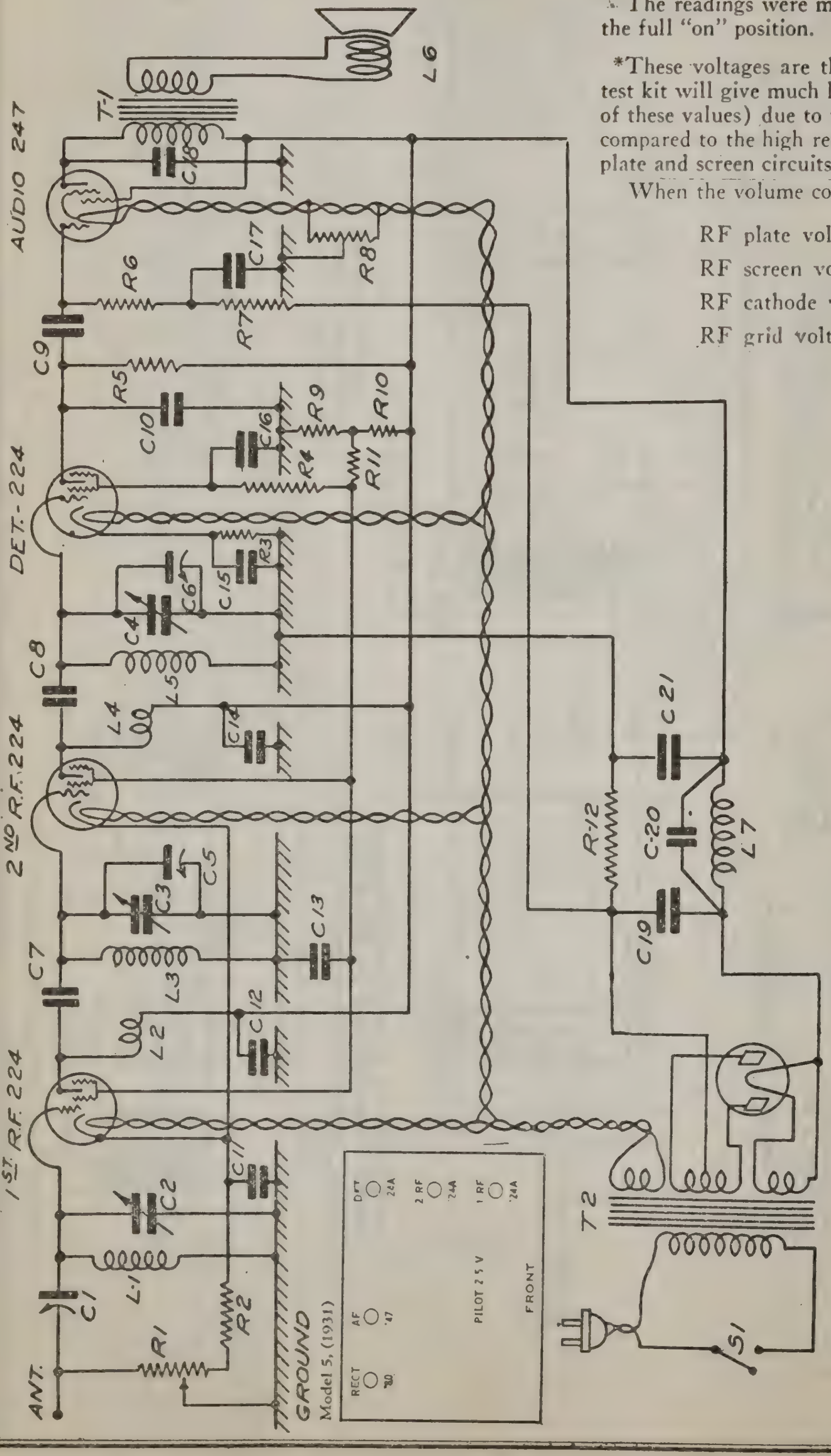
Type BAN Edition 5 Nobattry—Models 501, 502, 503


110 VOLT D.C.
+
-
FUSES
REACTOR
600 TURNS
240 TURNS
2 MF
4 MF
1000 Ω
.1 MF
2 MF
1500 Ω
2 MF
5000 TURNS
Z.
DIAL
GND
DIAL
-A
+A
DET
B AMP+
90 OHMS RESISTOR

Type BDN Edition 3 Nobattry (for direct current)

MODEL 5 AC
Schematic
Voltage

UNITED AMERICAN BOSCH CORP.


ANT.
GROUND
1ST R.F. 224
2ND R.F. 224
DET.-224
AUDIO 247
T-1
L6
T2
S1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
L1
L2
L3
L4
L5
L7
Model 5, (1931)
RECT '80
AF '47
DET '24A
2 RF '24A
1 RF '24A
PILOT 2.5 V
FRONT

The readings were made with the volume control in the full "on" position.

*These voltages are the correct values. The average test kit will give much lower readings, (as low as 1/10 of these values) due to the low resistance of the meters compared to the high resistance included in the detector plate and screen circuits and the audio grid circuit.

When the volume control is reduced the

RF plate voltage remains constant
RF screen voltage increases
RF cathode voltage increases
RF grid voltage increases

SOCKET VOLTAGES

Stage	Tube	Fil.	Plate	Screen	Cathode	Grid	Plate MA
1st RF	224	2.3	250	90	2.5	2.5	4.5
2nd RF	224	2.3	250	90	2.5	2.5	4.5
Det.	224	2.3	*150	*20	3.0	1.5	.5
Audio	247	2.3	250	250	......	*16	32
Rect.	280	4.8	Plate current of each plate—20				

MODEL 5 AC
Electrical
Values

UNITED AMERICAN BOSCH CORP.

NOMENCLATURE

C 1—Antenna Trimmer Condenser
C 2—Tuning Condenser
C 3—Tuning Condenser
C 4—Tuning Condenser
C 5—Alignment Condenser
C 6—Alignment Condenser
C 7—Coupling Capacity
C 8—Coupling Capacity
C 9—Audio Coupling Condenser .006 mfd.
C 10—Det. plate By-pass .0001 mfd.
C 11—RF Cathode By-pass .05 mfd.
C 12—RF Plate By-pass .05 mfd.
C 13—RF Screen By-pass .25 mfd.
C 14—RF Plate By-pass .05 mfd.
C 15—Det. Cathode By-pass 1.00 mfd.
C 16—Det. Screen By-pass .25 mfd.
C 17—Audio Grid By-pass .01 mfd.
C 18—Audio Plate By-pass .01 mfd.
C 19—Filter Condenser 4. mfd.
C 20—Field Condenser .08 mfd.
C 21—Filter Condenser 4. mfd.
R 1—Volume Control 10,000 ohms
R 2—RF Cathode Resistor 300 ohms
R 3—Det. Cathode Resistor 50,000 ohms
R 4—Det. Screen Resistor 2 megohms
R 5—Det. Plate Resistor 1 megohm
R 6—Audio Grid Resistor ½ megohm
R 7—Audio Grid Resistor 100,000 ohms
R 8—Mid Tap Resistor
R 9—Divider Resistor 50,000 ohms
R 10—Screen Resistor 50,000 ohms
R 11—Screen Resistor 10,000 ohms
R 12—Audio Bias Resistor 400 ohms
L 1—Antenna Coil
L 2—Primary
L 3—Secondary } of RF Coil
L 4—Primary
L 5—Secondary } of RF Coil
L 6—Speaker Moving Coil
L 7—Speaker Field Coil
T 1—Audio Output Transformer
T 2—Power Transformer

Filter Condenser

The three leads from the main filter condenser are connected as follows:

Black—to center tap of 280 plate winding
Green—to filament terminal of 280 socket
Red —to +B connection on terminal strip

By-pass Condenser Assembly

The condensers incorporated in this unit are identified as follows:

1.0 mfd.	Green Leads
.01 mfd.	Green and White Leads
.05 mfd.	Black Leads
.25 mfd.	Red Leads

Resistors

300 ohms—Orange, Black, Brown
400 ohms—Yellow, Black, Brown
10,000 ohms—Blue, Yellow
50,000 ohms—Green, White
100,000 ohms—Blue, White
½ megohm—Gray
1 megohm—Black
2 megohm—Black, White

Power Transformer

Six leads are brought out of the transformer winding on the side next to the terminal strip. Three are located on the opposite side. The transformer is connected as follows:

Primary Winding—Stranded wires, terminal strip side

224 and 247 filaments—Heavy wires, terminal strip side

280 filament—Small wires, terminal strip side

280 plates—Two leads nearest front of set, opposite side

280 center tap—Lead nearest back of set, opposite side

The trimmer condenser mounted on the loud speaker must be adjusted for maximum volume.

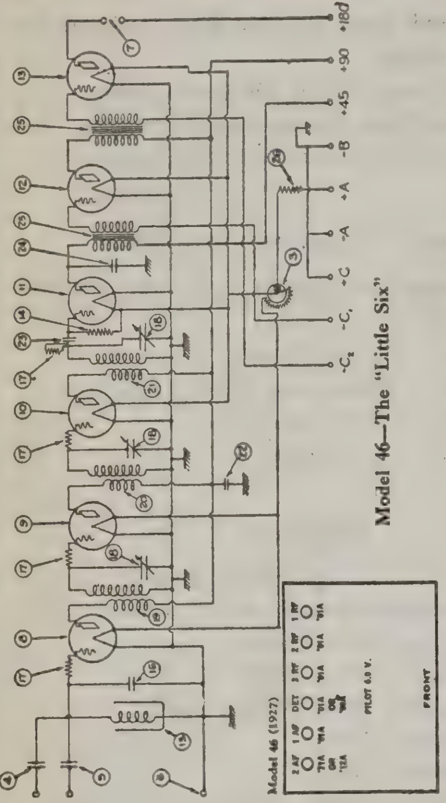
Some types of the 247 Pentode operate normally with a blue glow. This action does not, therefore, denote that the tube is defective due to gas.

It is very important that no tube is removed from its socket with the receiver "on" as to do this will damage the receiver or the Pentode tube.

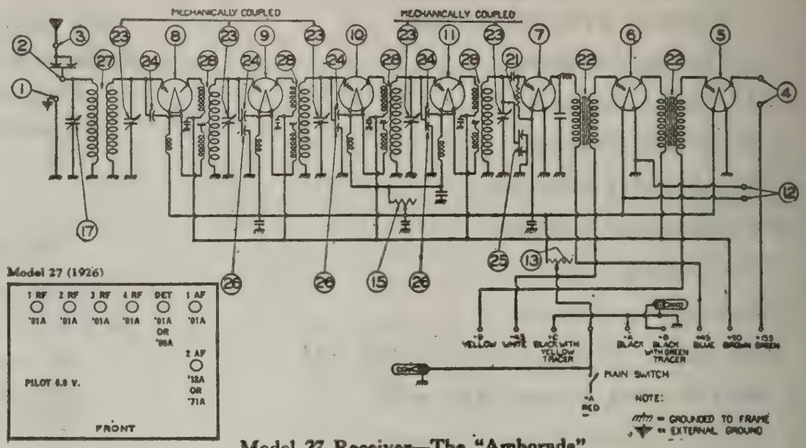
Make sure that the lead from the top of each 224 tube to the variable condenser follows closely along the metal partition between the tubes. Oscillation may occur if this lead lies too close to the tube itself.

MODEL 16
MODEL 27
MODEL 35
MODEL 46

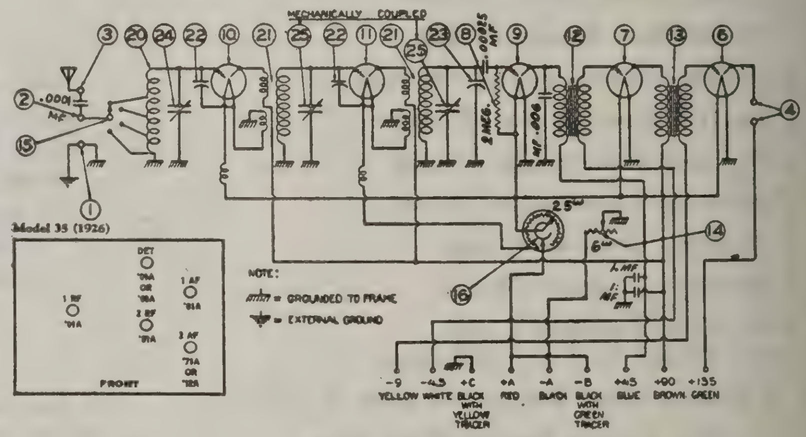
UNITED AMERICAN BOSCH CORP.


+180
+90
+45
-B
+A
-A
+C
-C1
-C2
Model 46 (1927)
1 RF
2 RF
3 RF
DET
1 AF
2 AF
PILOT 6.0 V.
FRONT

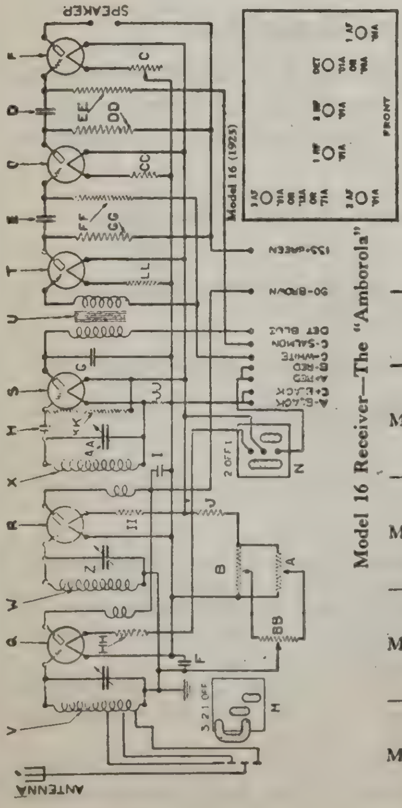
Model 46—The "Little Six"


MECHANICALLY COUPLED
MECHANICALLY COUPLED
Model 27 (1926)
1 RF '01A
2 RF '01A
3 RF '01A
4 RF '01A
DET '01A OR '00A
1 AF '01A
2 AF '12A OR '71A
PILOT 6.0 V.
FRONT
-9 YELLOW
-4.5 WHITE
+C BLACK WITH YELLOW TRACER
-A BLACK
-B BLACK WITH GREEN TRACER
+45 BLUE
+90 BROWN
+135 GREEN
MAIN SWITCH
+A RED
NOTE:
= GROUNDED TO FRAME
= EXTERNAL GROUND

Model 27 Receiver—The "Amborola"


MECHANICALLY COUPLED
.0001 MF
.00025 MF
2 MEG.
MF .006
25Ω
6Ω
1 MF
1 MF
Model 35 (1926)
1 RF '01A
DET '01A OR '00A
2 RF '01A
1 AF '01A
3 AF '71A OR '12A
FRONT
NOTE:
= GROUNDED TO FRAME
= EXTERNAL GROUND
-9 YELLOW
-4.5 WHITE
+C BLACK WITH YELLOW TRACER
+A RED
-A BLACK
-B BLACK WITH GREEN TRACER
+45 BLUE
+90 BROWN
+135 GREEN

Model 35—"Cruiser"
"Royal Cruiser"
"Imperial Cruiser"


SPEAKER
Model 16 (1925)
1 AF
DET
2 RF
1 RF
2 AF
3 AF
FRONT
135-GREEN
90-BROWN
DET BLUE
C-SALMON
G-WHITE
B-RED
A-RED
C-BLACK
A-BLACK
2 OFF 1
3 2 1 OFF
ANTENNA

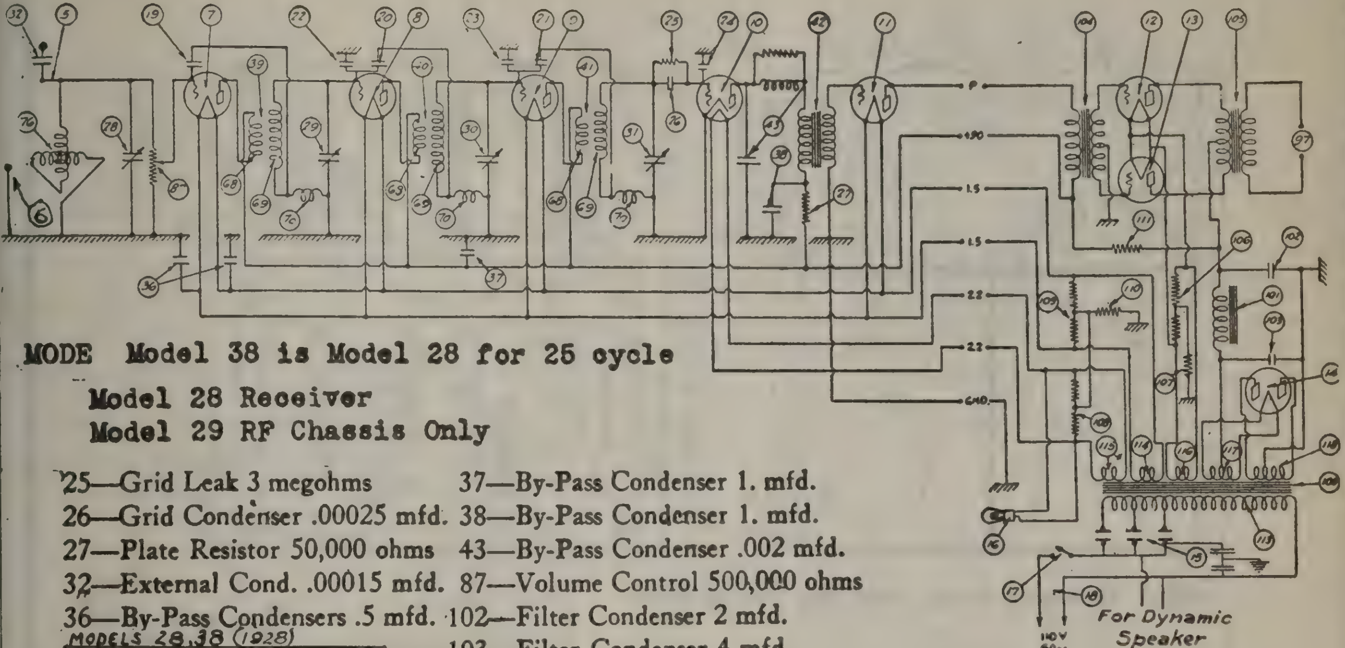
Model 16 Receiver—The "Amborola"

Table of Voltmeter Readings

Receiver	Circuit	Radio Frequency Stages				Detector	Audio Stages		
		1	2	3	4	Stage	1	2	3
Model 16	Filament Plate Grid	5 90 2-4	5 90 2-4	— — —	— — —	5 45 0	5 50 1	5 50 Slight Movement of Needle	5 100
Model 27	Filament Plate Grid	5 90 5	5 90 5	5 90 5	5 90 5	5 45 0	5 80 1	5 100 3	— — —
Model 35	Filament Plate Grid	5 90 5	5 90 5	— — —	— — —	5 45 0	5 80 1	5 100 3	— — —
Model 46	Filament Plate Grid	5 90 3	5 90 3	5 90 3	— — —	5 45 0	5 80 1	5 100 3	— — —

UNITED AMERICAN BOSCH CORP.

MODEL 28 AC
Two Types
MODEL 29 AC
RF Chasses

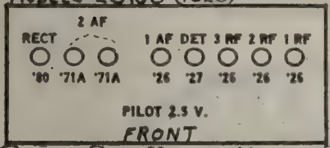


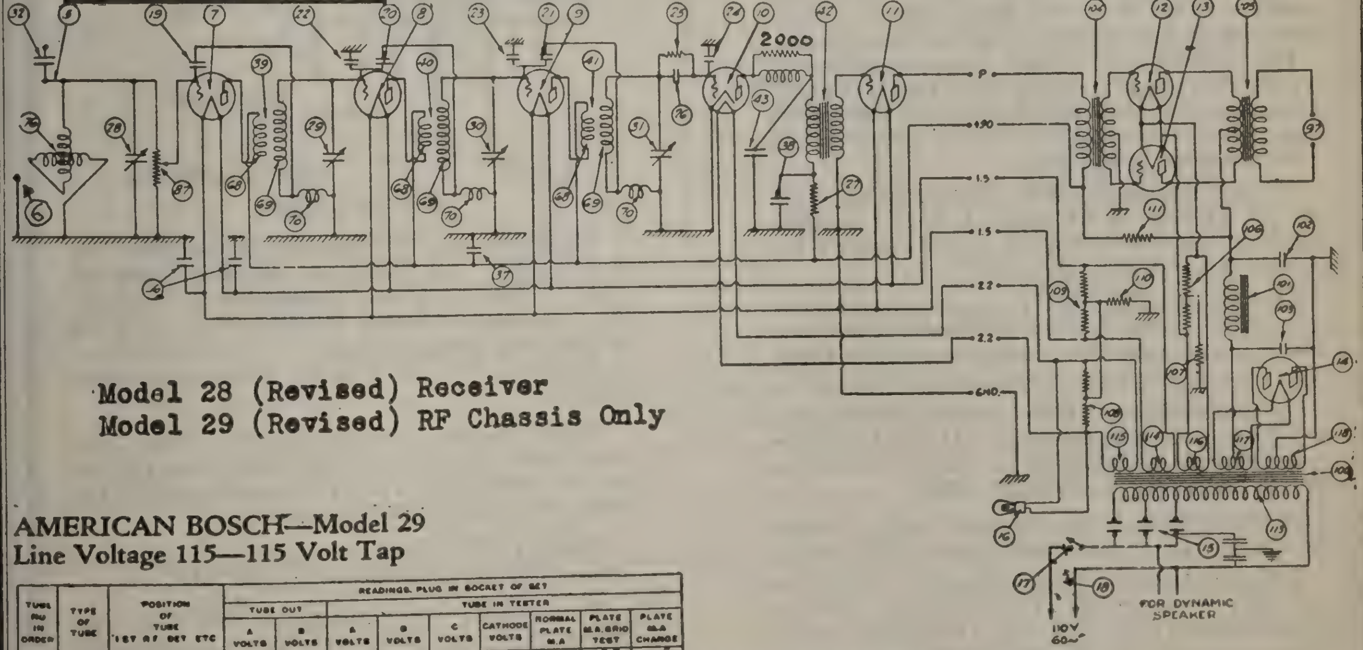
MODE Model 38 is Model 28 for 25 cycle

Model 28 Receiver
Model 29 RF Chassis Only

25—Grid Leak 3 megohms
26—Grid Condenser .00025 mfd.
27—Plate Resistor 50,000 ohms
32—External Cond. .00015 mfd.
36—By-Pass Condensers .5 mfd.
37—By-Pass Condenser 1. mfd.
38—By-Pass Condenser 1. mfd.
43—By-Pass Condenser .002 mfd.
87—Volume Control 500,000 ohms
102—Filter Condenser 2 mfd.
103—Filter Condenser 4 mfd.
107—Bias Resistor 1500 ohms
110—Bias Resistor 300 ohms
111—"B" Resistor 5000 ohms

MODELS 28,38 (1928)





Model 28 (Revised) Receiver
Model 29 (Revised) RF Chassis Only

AMERICAN BOSCH—Model 29
Line Voltage 115—115 Volt Tap

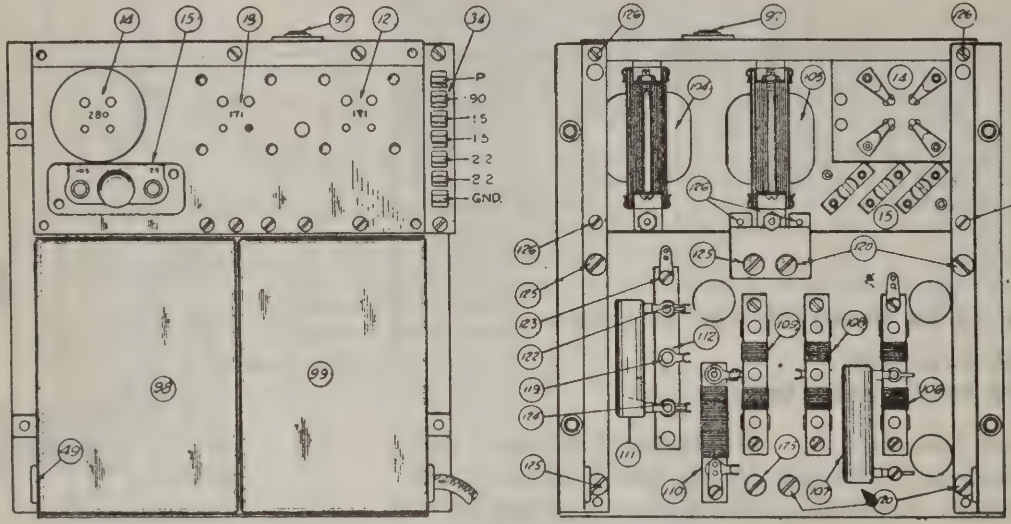
Tube No in Order	Type of Tube	Position of Tube 1st RF Det Etc	Readings. Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A	Plate M.A. Grid Test	Plate M.A Change
1	226	1st.R.F.			1.3	100	7	-	4	10	6
2	226	2nd.R.F.			1.3	100	7	-	4	10	6
3	226	3rd.R.F.			1.3	100	7	-	4	10	6
4	227	Detector			2.3	45	-	-	2	2	0.0
5	226	1st.A.F.			1.3	100	7	-	3	6.5	3.5
6	210	2nd.A.F.			7.3	400	30	-	20	23	3
7	281	Rectifier			7.3	-	-	-	28	-	-
8	281	Rectifier			7.3	-	-	-	28	-	-
9											
10											

AMERICAN BOSCH—Model 28
Line Voltage 115—115 Volt Tap

Tube No. in Order	Type of Tube	Position of Tube 1st. R.F. Det.. Etc.	Readings. Plug in Socket of Set								
			Tube Out		Tube in Tester						
			A Volts	B Volts	A Volts	B Volts	G Volts	Cathode Volts	Normal Plate M.A.	Plate M.A Grid Test	Plate M.A Change
1	226	1st.R.F.			1.3	100	7	-	4	10	6
2	226	2nd.R.F.			1.3	100	7	-	4	10	6
3	226	3rd.R.F.			1.3	100	7	-	4	10	6
4	227	Detector			2.3	45	-	-	2	2	0.0
5	226	1st.A.F.			1.3	100	7	-	3	6.5	3.5
6	171	2nd.A.F.			5.0	150	35	-	10	14	4
7	171	2nd.A.F.			5.0	150	35	-	10	14	4
8	280	Rectifier			5.0	-	-	-	18	-	-

MODEL 28
Power Pack
Chassis - Data

UNITED AMERICAN BOSCH CORP.



Model 28 Power Pack, Top and Bottom View

POWER TRANSFORMER

The power transformer "100" is enclosed in the transformer can "98." Since the transformer is completely sealed, it is necessary to replace the entire unit.

The transformer has a single primary winding and five secondary windings, two of which have center taps. The colors of these leads, together with their points of attachment to the resistors and other parts, are given in the following paragraphs.

1.5 Volt Winding "114": Supplies filament current for RF and 1st AF tubes (7, 8, 9, 11). The two leads from this winding are *red* and connect to the two end terminals of resistor "109."

2.2 Volt Winding "115": Supplies filament current for the detector tube and dial lamp (10 and 16). The two leads from this winding are *black* and connect to the two end terminals of resistor "108."

5 Volt Winding "116": Supplies filament current for the two push-pull stages (11 and 12). The two leads from this winding are *blue* and connect to the two end terminals of resistor "106."

Single Brown Lead (Primary Lead) **Cotton Covered:** To one of the main switch "17" leads.

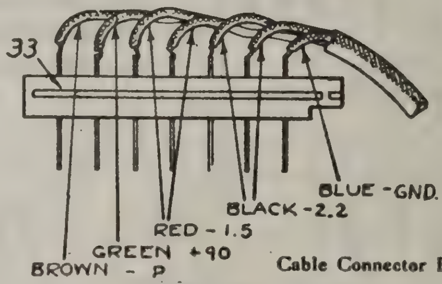
Twisted Leads (Primary Taps): Black with red tracer—to tap switch (15). "105" tap. Black—to tap switch (15), "115" tap. Black with yellow tracer—to tap switch (15), "125" tap.

Brown Twisted Leads (Plate Winding "118"): To plate contacts (small holes) of socket "14."

Brown Cable (Filament Winding "117"): To filament contacts (large holes) of socket "14."

Single Black Lead: To terminal "119" of strip "112." This lead is the center tap of rectifier filament winding "117."

Single Green Lead: To ground connection. This lead is the center tap of the rectifier plate winding "118."



Cable Connector Plug

FILTER CAN

The Filter Can "99" contains the two filter condensers "102" and "103," and the filter choke coil "101." These three units are sealed in the can, making it necessary to replace the entire filter can if any of these units become defective.

There are five leads from the filter can, connected as follows:

Black Fabric Covered Wires: These leads come from the choke coil "101" and connect to terminals "119" and "122" of terminal strip "112." These two leads are interchangeable.

Black Lead: This lead comes from filter condenser "103" and connects to terminal "119."

Blue Lead: This lead comes from filter condensers "102" and "103" and connects to ground terminal "123."

Red Lead: This lead comes from filter condenser "102" and connects to terminal "122."

Filter Can Replacement

1. Unsolder the five leads of the filter can at their point of connection to the terminal strips.
2. Remove the 4 holding screws "125."
3. Mount the new can in place.
4. Connect the wires as indicated in the preceding paragraph.

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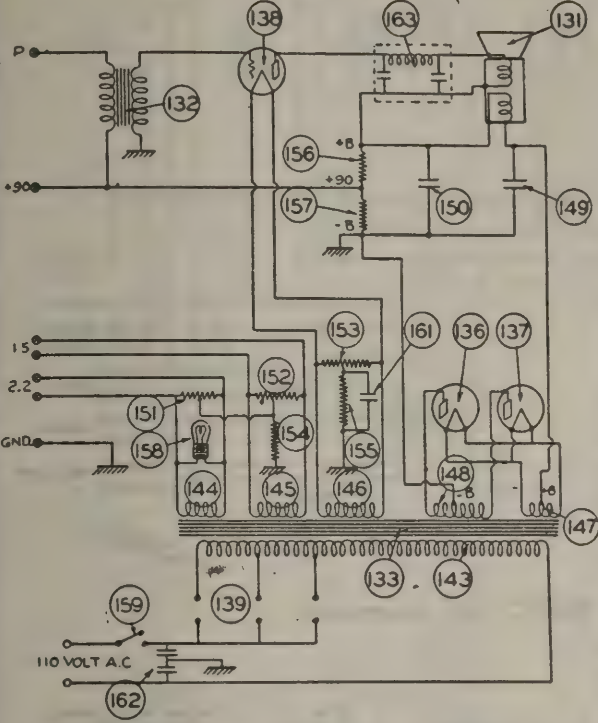
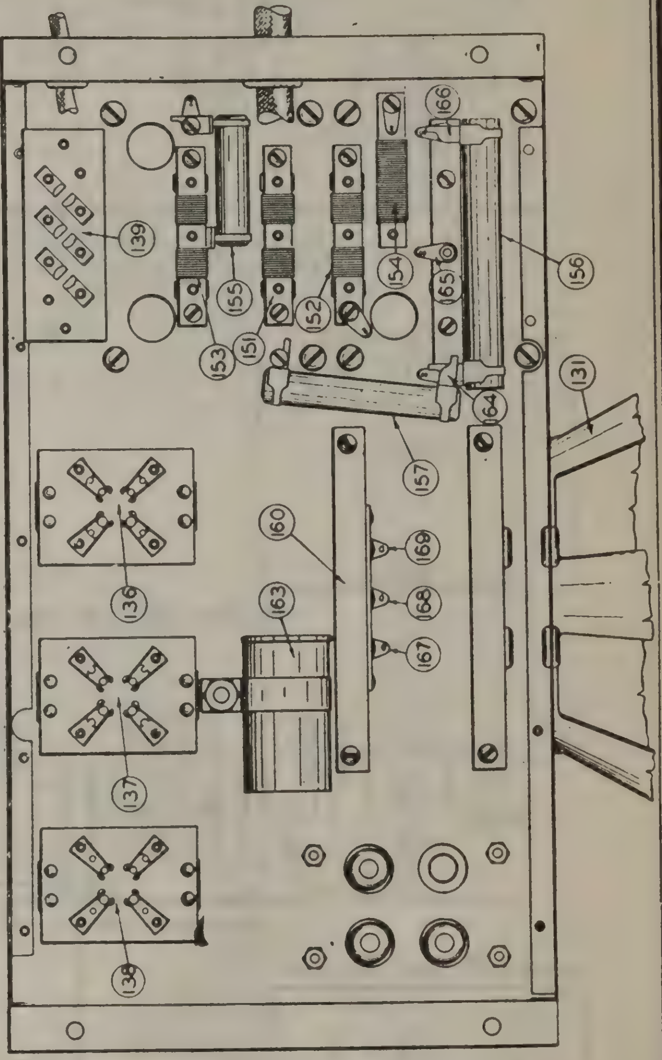
MODEL 29 AC,825
Power Pack
Chassis - Schematic


P
+90
+B
+90
-B
1.5
2.2
GND
110 VOLT A.C
131
132
138
163
156
157
150
149
153
161
136
137
152
151
154
158
155
144
145
146
148
147
133
143
159
139
162

Model 825 Super Dynamic Power Pack. Used with Model 28 Chassis only to form Model 29 Receiver.


139
153
155
151
152
154
165
166
156
131
164
157
160
169
168
167
163
136
137
138

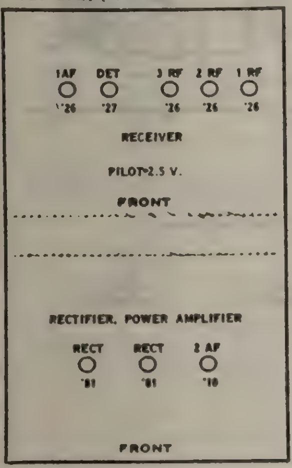
Bottom View of Model 29 Dynamic Power Pack. (Also Model 825)

MODEL 825 POWER PACK

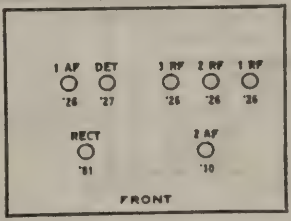
157—Plate Resistor 10,000 ohms
161—By-Pass Condenser 1. mfd.
162—Buffer Condensers
163—Filter

149—Filter Condenser 4 mfd.
150—Filter Condenser 2 mfd.
154—Bias Resistor 500 ohms
155—Bias Resistor 2000 ohms
156—Plate Resistor 10,000 ohms

Model 29B, (1928)


1AF
DET
3 RF
2 RF
1 RF
'26
'27
'26
'26
'26
RECEIVER
PILOT-2.5 V.
FRONT
RECTIFIER, POWER AMPLIFIER
RECT
RECT
2 AF
'81
'81
'10
FRONT

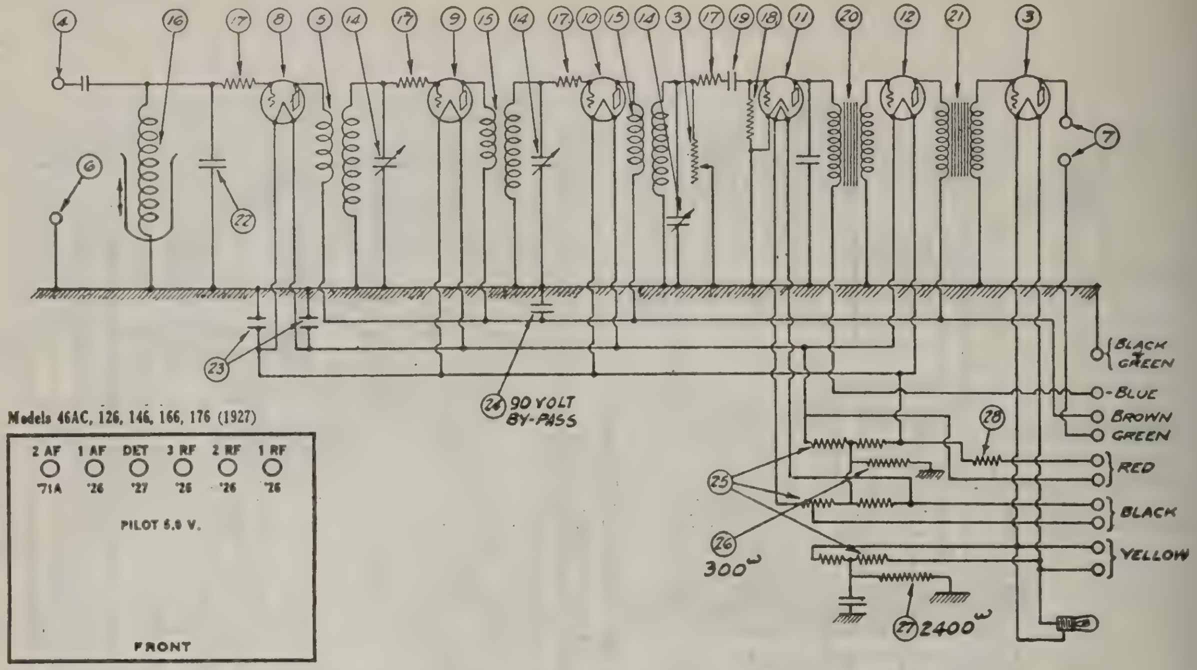
Model 29B (25 Cycle) (1928)


1 AF
DET
3 RF
2 RF
1 RF
'26
'27
'26
'26
'26
RECT
2 AF
'81
'10
FRONT

	CHASSIS					MODEL 28		MODEL 29
	1 AF.	DET	3 RF	2 RF	1 RF	PUSH-PULL		POWER
A Volts	1.3	2.3	1.3	1.3	1.3	5	5	7.5
B Volts	100	45	100	100	100	150	150	400
C Volts	7	—	7	7	7	35	35	30
Plate M. A.	3	2	4	4	4	10	10	20
Tube Test	—	—	10	10	10	35	35	—

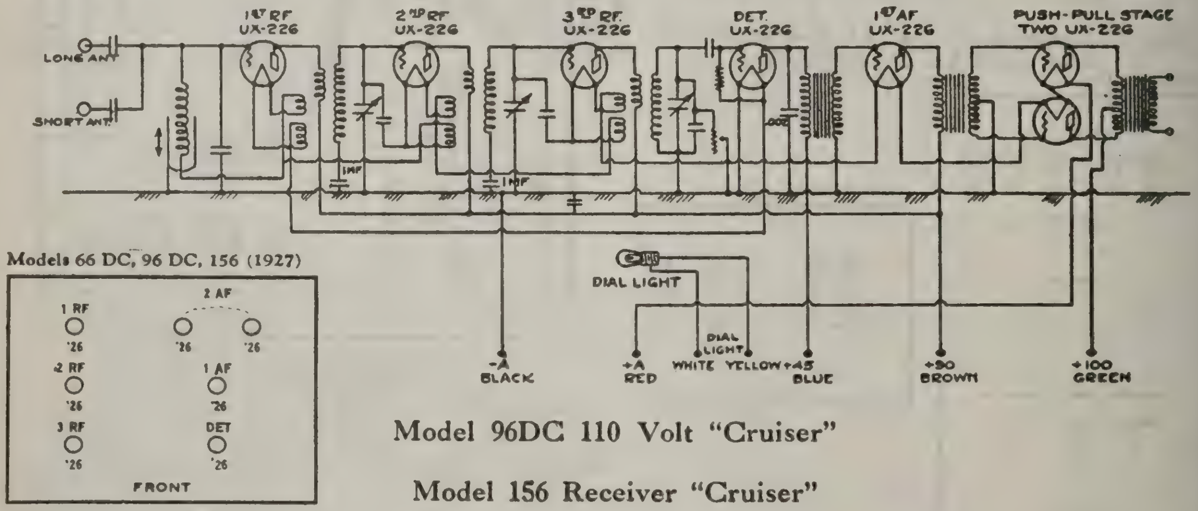
MODEL AC 46,126,146,
166,176
MODEL DC 96,156

UNITED AMERICAN BOSCH CORP.


4
16
17
8
5
14
17
9
15
14
17
10
15
14
3
17
19
18
11
20
12
21
3
7
6
22
23
24
90 VOLT
BY-PASS
BLACK
GREEN
BLUE
BROWN
GREEN
28
RED
25
BLACK
26
300ω
YELLOW
27
2400ω
2 AF
1 AF
DET
3 RF
2 RF
1 RF
'71A
'26
'27
'26
'26
'26
PILOT 5.0 V.
FRONT

Models 46AC, 126, 146, 166, 176 (1927)

Models 126, 146, 166, 176, 46AC (AC operation)


1ST RF
UX-226
2ND RF
UX-226
3RD RF
UX-226
DET.
UX-226
1ST AF
UX-226
PUSH-PULL STAGE
TWO UX-226
LONG ANT
SHORT ANT.
1MF
1MF
.002
DIAL LIGHT
DIAL
LIGHT
-A
BLACK
+A
RED
WHITE
YELLOW
+45
BLUE
+90
BROWN
+100
GREEN
1 RF
'26
2 AF
'26
'26
2 RF
'26
1 AF
'26
3 RF
'26
DET
'26
FRONT

Models 66 DC, 96 DC, 156 (1927)

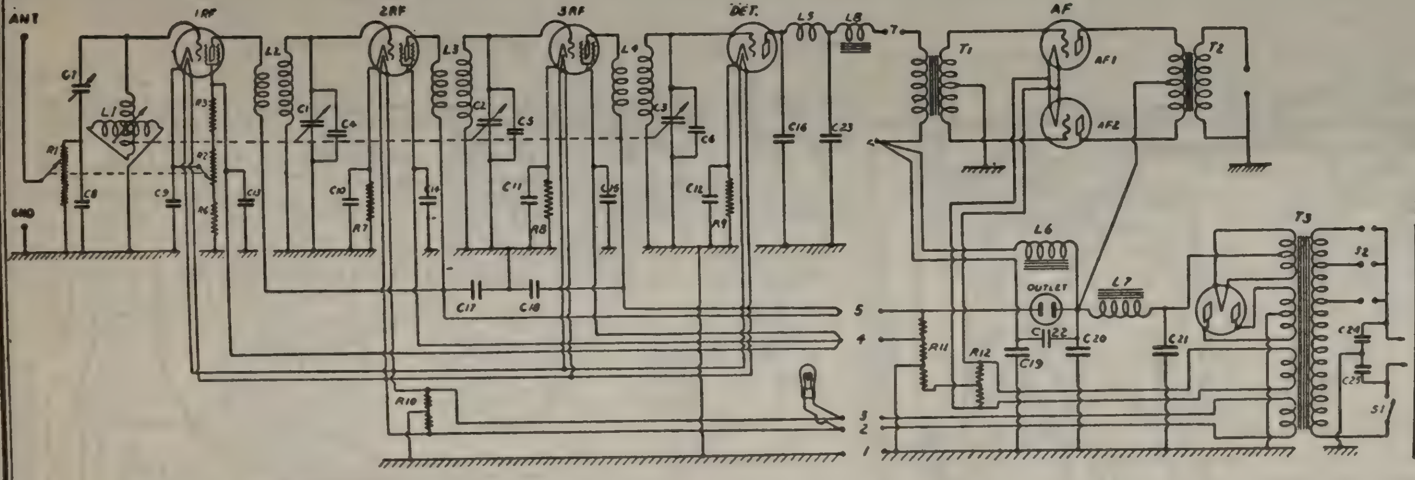
Model 96DC 110 Volt "Cruiser"

Model 156 Receiver "Cruiser"

Receiver	Circuit	Radio Frequency Stage				Det. Stage	Audio Stages		
		1	2	3	4		1	2	3
								Push Pull Stage	
96 DC 110V 66 DC 110V 156	Filament Plate Grid	1.4 95 —0.2	1.4 100 0.2	1.4 95 1.8	— — —	1.4 45 0	1.4 80 1.2	1.4 75 2.2	1.4 75 2.2
126, 146, 166, 176 (Little Six AC Chassis)	Filament Plate Grid	*1.4 90 3	*1.4 90 3	*1.4 90 3	— — —	*2.3 45 0	*1.4 70 1	*5 130 8 to 9	— — —

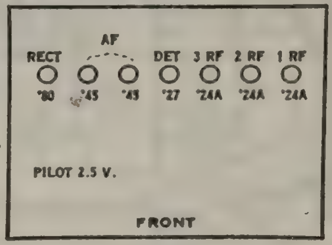
UNITED AMERICAN BOSCH CORP.

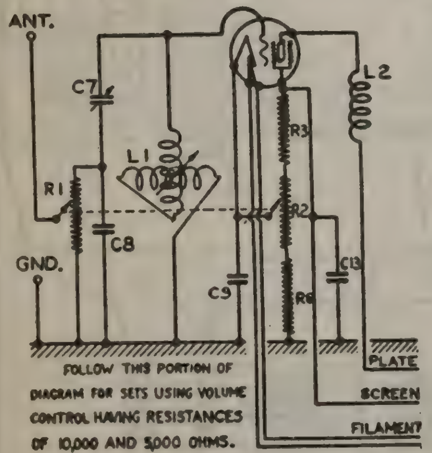
MODEL 48,49 AC
Schematic,Voltage



Model 48 Receiver (Model 49 for 25 Cycle Operation)

Models 48, 49 (1929)





FOLLOW THIS PORTION OF DIAGRAM FOR SETS USING VOLUME CONTROL HAVING RESISTANCES OF 10,000 AND 5,000 OHMS.

L1—Variometer
L2—2nd RF Coil
L3—3rd RF Coil
L4—Detector Coil
L5—Detector Plate Choke
L6—Small Filter Choke
L7—Large Filter Choke

S1—Off and On Switch
S2—Voltage Tap Switch

C1—2nd RF Tuning Condenser
C2—3rd RF Tuning Condenser
C3—Detector Tuning Condenser
C4—2nd RF Alignment Condenser
C5—3rd RF Alignment Condenser
C6—Detector Alignment Condenser

C7—Antenna Tuning Condenser
C8—Antenna Condenser .001 mfd.
C9—1st RF Cathode By-Pass Condenser .5 mfd.
C10—2nd RF Cathode By-Pass Condenser .5 mfd.
C11—3rd RF Cathode By-Pass Condenser .5 mfd.
C12—Detector Cathode By-Pass Condenser 1 mfd.
C13—1st RF Screen By-Pass Condenser .5 mfd.
C14—2nd RF Screen By-Pass Condenser .5 mfd.
C15—3rd RF Screen By-Pass Condenser .5 mfd.
C16—Detector Plate By-Pass Condenser .001 mfd.
C17—1st and 2nd RF Plate By-Pass Condenser .5 mfd.
C18—3rd RF Plate By-Pass Condenser .5 mfd.
C19—Filter Condenser 1 mfd.
C20—Filter Condenser 2 mfd
C21—Filter Condenser 4 mfd.
C22—By-Pass Condenser {60 cycles .05 mfd. / 25 cycles .2 mfd.}
C23—Detector Plate By-Pass Condenser .001 mfd

T1—Audo Input Transformer
T2—Audio Output Transformer
T3—Power Transformer

R1—Volume Control {10,000 / 10,000} ohms (Antenna)
R2—Volume Control {50,000 / 5,000} ohms
R3—1st RF Screen Resistor 25,000 ohms
R4—2nd RF Grid Resistor 500 ohms
R5—3rd RF Grid Resistor 500 ohms
R6—1st RF Bias Resistor 1500 ohms
R7—2nd RF Bias Resistor 1500 ohms
R8—3rd RF Bias Resistor 1500 ohms
R9—Detector Bias Resistor 15,000 ohms
R10—RF Center Tap Resistor
R11—Voltage Divider Resistor
R12—Audio Center Tap Resistor

BOSCH—Model 48-60 Cycle
Line Voltage 112—Volume Control Position Full On

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	-	-	2.4	175	2.5	2.5	2.6	3.5	.9	70
2	224	2nd RF	-	-	2.4	175	2.5	2.5	2.6	3.5	.9	70
3	224	3rd RF	-	-	2.4	175	2.5	2.5	2.6	3.5	.9	70
4	227	Det.	-	-	2.4	280	27	27	2	-	-	-
5	245	Aud.	-	-	2.4	250	45	-	30	50	20	-
6	245	Aud.	-	-	2.4	250	45	-	30	50	20	-
7	280	Rect.	-	-	4.8	-	-	-	100	-	-	-

BOSCH—Model 49-25 Cycle
Line Voltage 112—Volume Control Position Full On

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	224	1st RF	-	-	2.4	150	1.8	1.8	2.5	6	3.5	70
2	224	2nd RF	-	-	2.4	150	1.8	1.8	2.5	6	3.5	70
3	224	3rd RF	-	-	2.4	150	1.8	1.8	2.5	6	3.5	70
4	227	Det.	-	-	2.4	250	27	27	2	-	-	-
5	245	Aud.	-	-	2.4	200	42	-	30	50	20	-
6	245	Aud.	-	-	2.1	200	42	-	30	50	20	-
7	280	Rect.	-	-	4.8	-	-	-	100			

MODEL 48,49 AC
Chassis Views

UNITED AMERICAN BOSCH CORP.

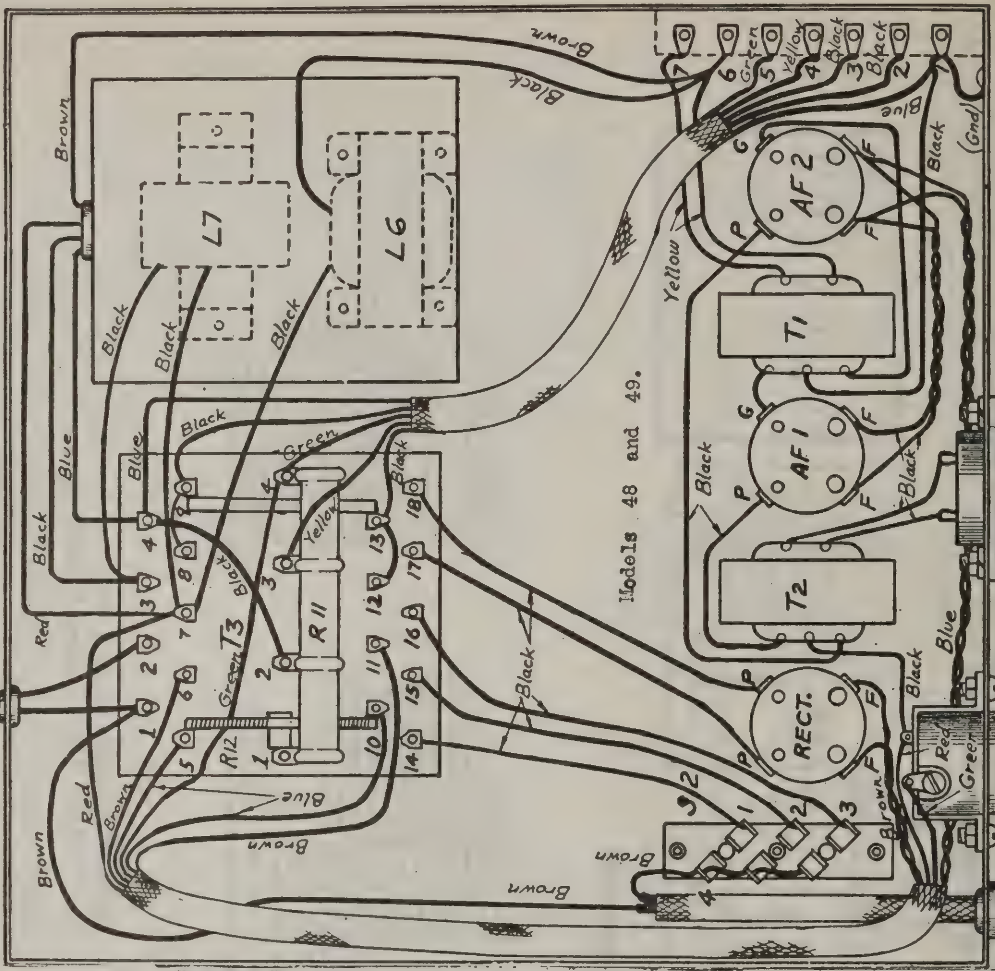

Models 48 and 49.
L7
L6
T3
R11
R12
AF2
AF1
T1
T2
RECT.
Brown
Black
Blue
Red
Green
Yellow
(Gnd)
G
P
F
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

Diagram Showing Actual Wiring of Power Pack

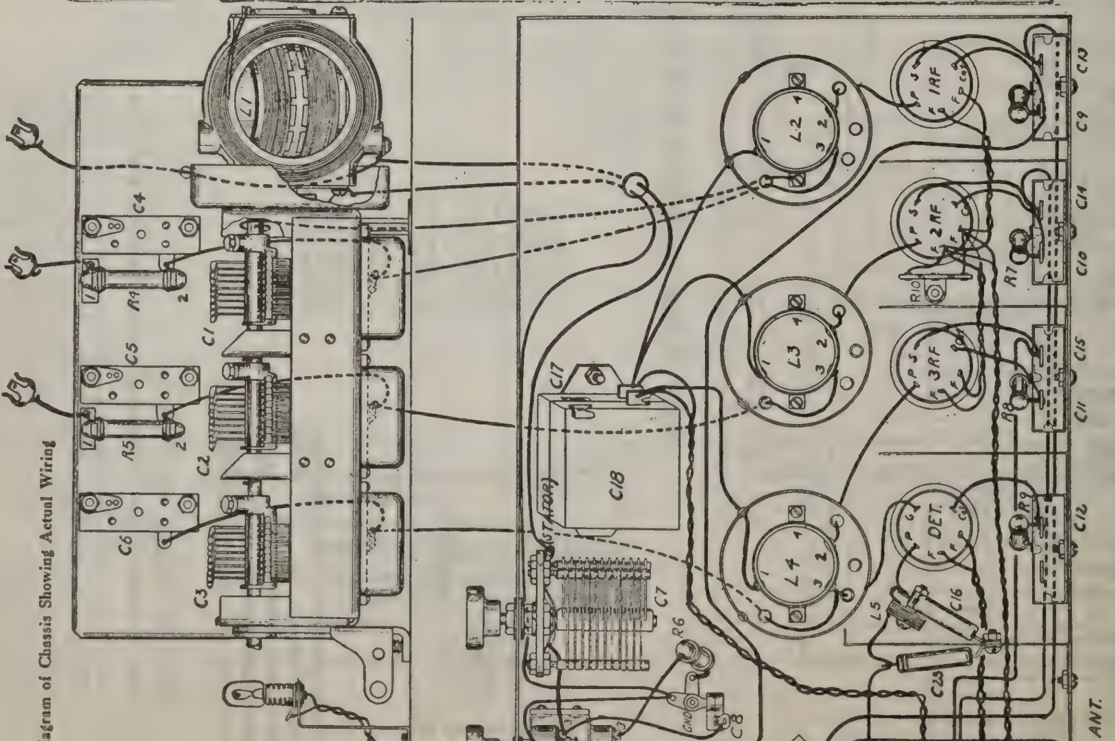
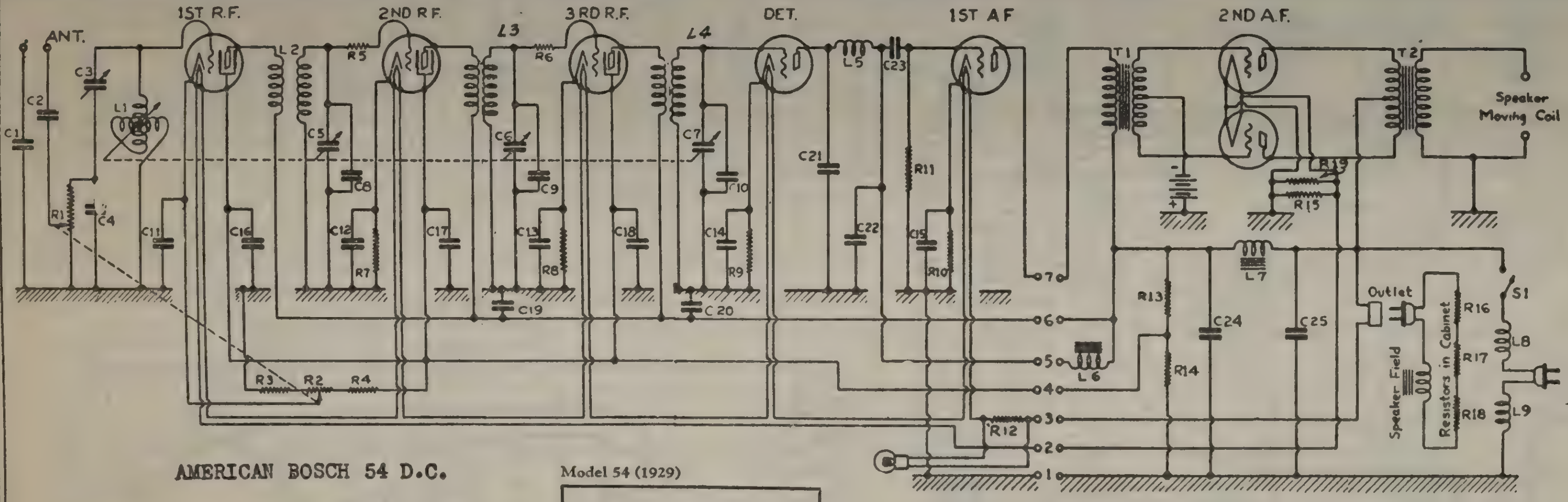

L1
L2
L3
L4
L5
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C23
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
1RF
2RF
3RF
DET.
STATOR
GND
ANT.
1
2
3
4
5
6
7

Diagram of Chassis Showing Actual Wiring

NOTE: This diagram applies to sets having dual volume control of 10,000 and 5,000 ohms.

MODEL 54 DC
Schematic
Voltage



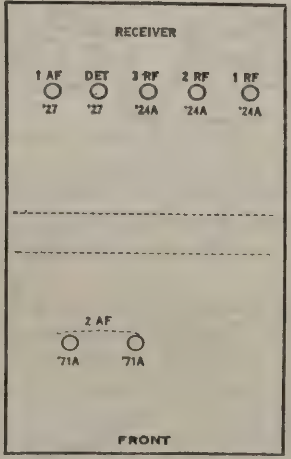
AMERICAN BOSCH 54 D.C.

Variometer: Variometer tuning of the first radio frequency stage is employed, thus assuring equal sensitivity on both high and low wave lengths. The variometer (shown at L1 on the schematic wiring diagram) is geared directly to the condenser gang and needs no separate control. Correct operation on any length of antenna is provided by the trimming condenser C3, which is operated by the "Clarifier" control.

Volume Control: The Volume Control is also located in the first radio frequency stage and consists of two resistance units operated by a single shaft. One resistance is used as a potentiometer in the antenna circuit and the other as a potentiometer to vary the grid voltage of the 1st RF tube. This type of control gives smooth variation in volume on either distant or local stations and at the same time maintains the exceptional quality of reproduction.

Reference to the schematic diagram will show that the entire radio frequency amplifier is properly designed and by-passed. Thorough shielding has been applied to the entire receiver to utilize the large gain of which the screen grid tubes are capable, and to eliminate the slightest possibility of oscillation.

Model 54 (1929)



*Variable

Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det: Etc ③	Readings Plug in Socket of Set: Tube Out: A Volts ④	B Volts ⑤	Tube in Tester: A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M A ⑩	Plate M A Grid Test ⑪	Plate Change M A ⑫	Screen Grid Volts ⑬
1	224	1 R.F.	-	-	2.3	100		-	1	2	-	25
2	224	2 R.F.	-	-	2.3	100	1	-	1	2	-	25
3	224	3 R.F.	-	-	2.3	100	1	-	1	2	-	25
4	227	Det.	-	-	2.3	100	10	-	1.5	2.5	-	-
5	227	1 A.F.	-	-	2.3	95	4	-	3.5	5	-	-
6	171A	2 A.F.	-	-	5	110	22.5	-	12	24	-	-
7	171A	2 A.F.	-	-	5	110	22.5	-	12	24	-	-
8	-	-	-	-	-	-	-	-			-	-
9	-	-	-	-	-	-	-	-			-	-
10	-	-	-	-	-	-	-	-			-	-

R 6—3rd R. F. grid resistor 250 ohms
R 7—2nd R. F. bias resistor 1500 ohms
R 8—3rd R. F. bias resistor 1500 ohms
R 9—Detector bias resistor 40,000 ohms
R10—1st A. F bias resistor 1500 ohms
R11—1st A. F. grid resistor 1 megohm
R12—Dial light resistor .75 ohms
R13—Voltage divider resistor 25000 ohms
R14—voltage divider resistor 15000 ohms
R15—2nd A. F. filament resistor 5 ohms
R16—Filament resistor 20 ohms
R17—Filament resistor 20 ohms
R18—Filament resistor 20 ohms
R19—2nd A. F. filament resistor 22 ohms

TP—Terminal plate
S 1—Main switch

T 1—Audio input transformer
T 2—Audio output transformer

C12—2nd R. F. cathode by-pass condenser .5 mfd.
C13—3rd R. F. cathode by-pass condenser .5 mfd.
C14—Detector cathode by-pass condenser 1. mfd.
C15—1st A. F. cathode by-pass condenser 1. mfd.
C16—1st R. F. screen by-pass condenser .5 mfd.
C17—2nd R. F. screen by-pass condenser .5 mfd.
C18—3rd R. F screen by-pass condenser .5 mfd.
C19—Plate by-pass condenser .5 mfd.
C20—Plate by-pass condenser .5 mfd
C21—Detector plate by-pass condenser .001 mfo.
C22—Detector plate by-pass condenser .001 mfd
C23—1st A. F. coupling condenser .005 mfd.
C24—Filter condenser 4. mfd.
C25—Filter condenser 4. mfd.

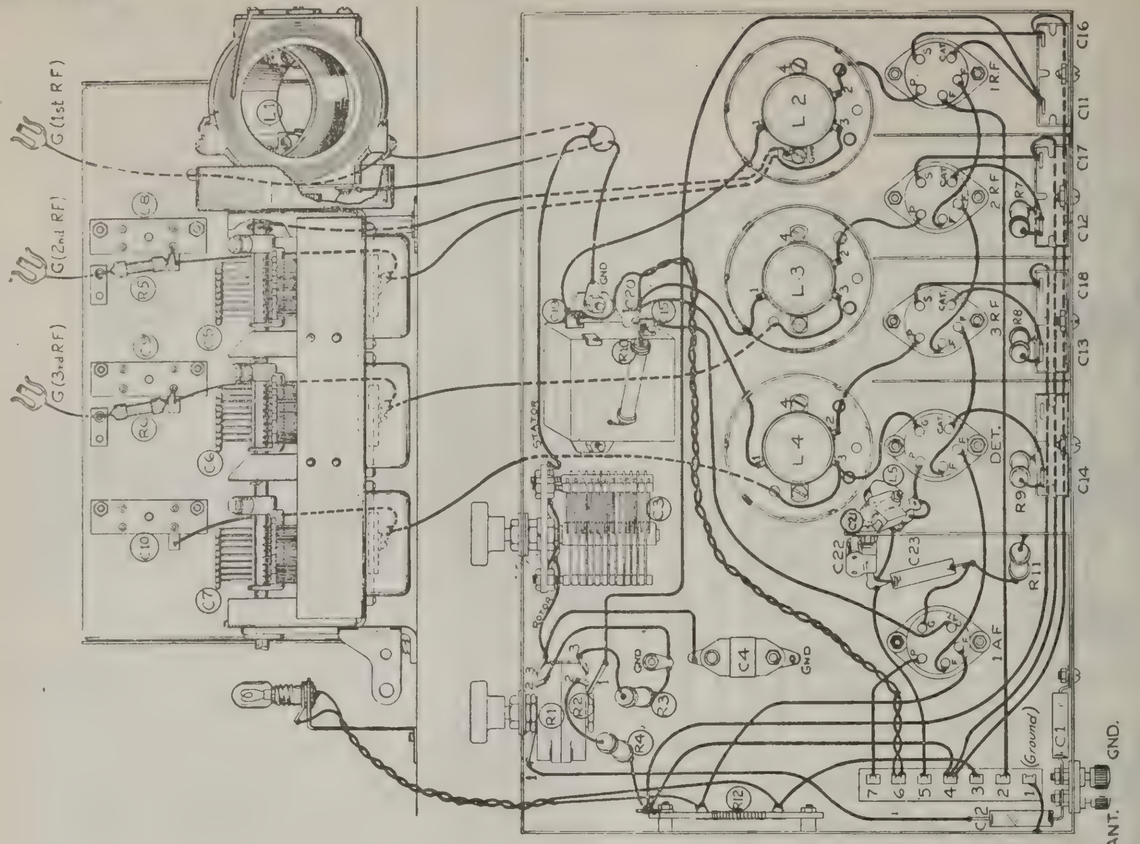
R 1—Volume control 5000 ohms
R 2—Volume control 5000 ohms
R 3—Screen resistor 500 ohms
R 4—Screen resistor 25000 ohms
R 5—2nd R. F grid resistor 250 ohms

L 1—Variometer
L 2—2nd R. F. coil
L 3—3rd R. F. coil
L 4—Detector coil
L 5—Detector choke coil
L 6—Detector filter choke
L 7—Main filter choke
L 8—Line filter choke
L 9—Line filter choke

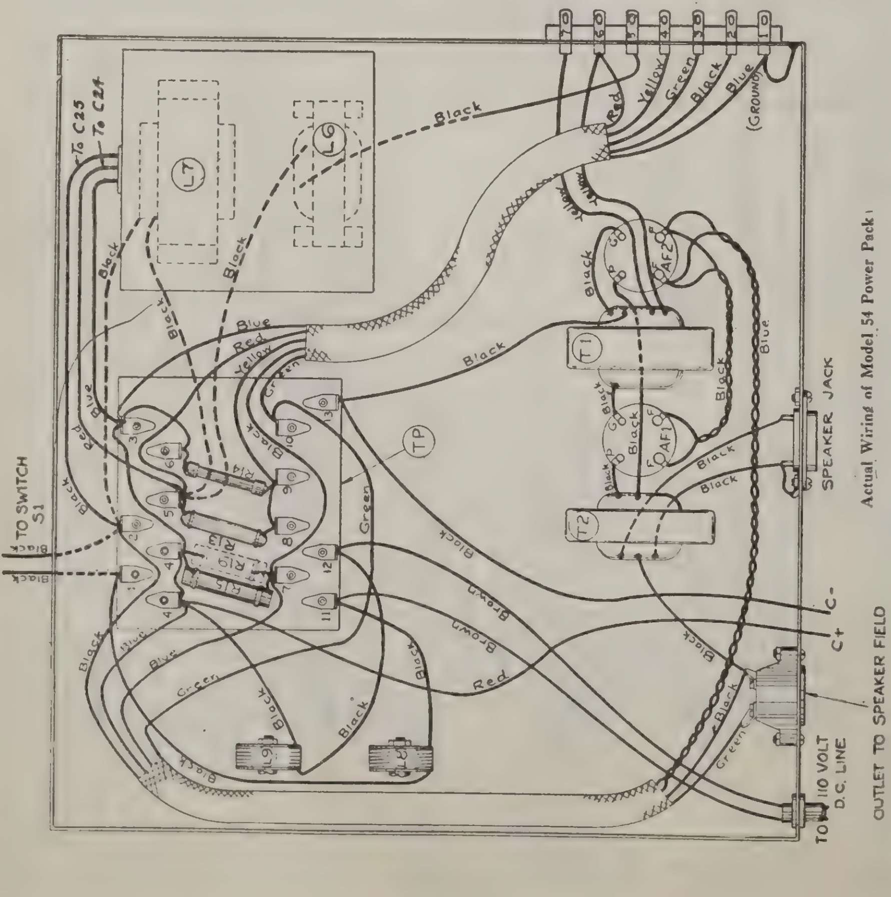
C 1—Ground condenser .005
C 2—Antenna condenser .001
C 3—Trimming condenser
C 4—Antenna condenser .00025 mfd.
C 5—2nd R. F. tuning condenser
C 6—3rd R. F Tuning condenser
C 7—Detector tuning condenser
C 8—2nd R. F. alignment condenser
C 9—3rd R. F. alignment condenser
C10—Detector alignment condenser
C11—1st R. F. cathode by-pass condenser .5 mfd

MODEL 54 DC
Chassis Views

UNITED AMERICAN BOSCH CORP.


G (1st RF)
G (2nd RF)
G (3rd RF)
L1
C8
R5
C5
C9
R6
C6
C10
C7
STATOR
ROTOR
C3
R1
R2
R3
R4
R12
GND
C4
GND
R10
C20
C19
L2
L3
L4
L5
C21
C22
C23
R11
R9
R8
R7
1 RF
2 RF
3 RF
DET.
1 AF
C16
C11
C17
C12
C18
C13
C14
C1
C2
(Ground)
ANT.
GND.
1
2
3
4
5
6
7

Actual Wiring of Model 54 Chassis


TO SWITCH S1
Black
To C25
To C24
L7
L6
TP
R14
R13
R15
R16
T1
T2
AF1
AF2
L9
L8
SPEAKER JACK
C-
C+
TO 110 VOLT D.C. LINE
OUTLET TO SPEAKER FIELD
Red
Yellow
Green
Black
Blue
(GROUND)
Brown
1
2
3
4
5
6
7
8
9
10
11
12
13

Actual Wiring of Model 54 Power Pack

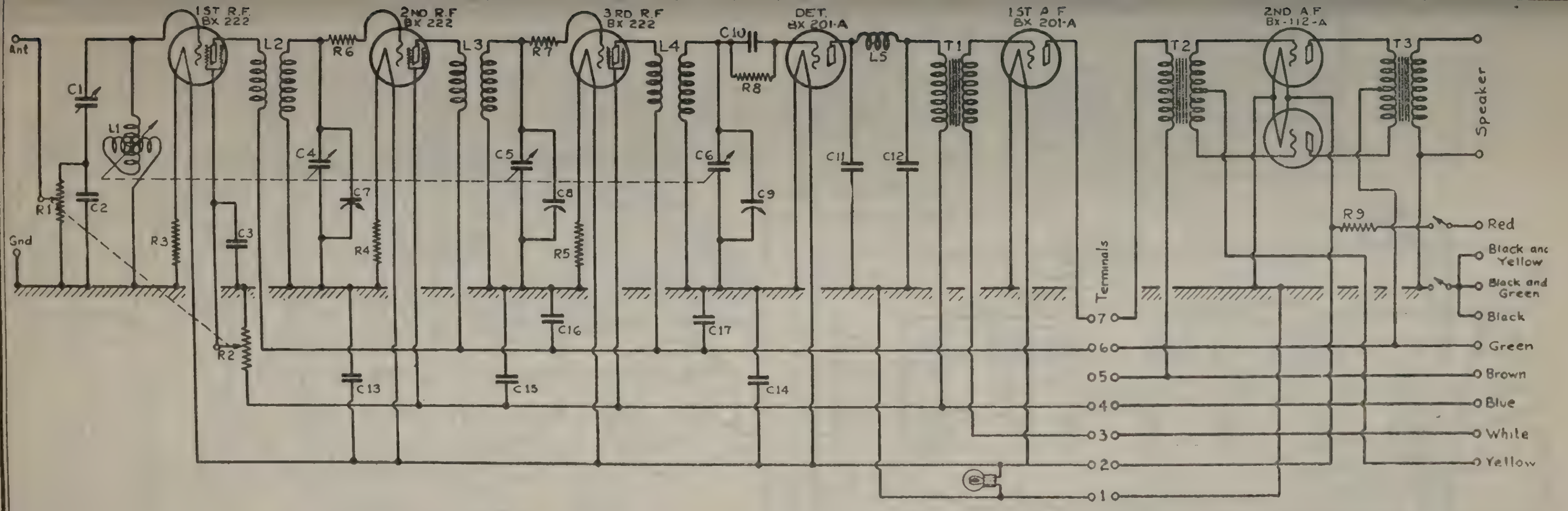
Note: Do not attempt to switch the receiver "on" until all tubes are in place, and aerial and ground are connected.

Connect the ground wire *only* to the terminal provided. *Do not* connect it to any other portion of the chassis.

Loud Speaker: The speaker used with the model 54 Bosch receiver is an electrodynamic type similar to the Bosch models 619 and 620 except that it embodies a special field winding having a resistance of 4 ohms.

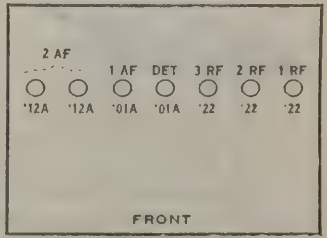
MODEL 56 Battery
Schematic
Parts List

UNITED AMERICAN BOSCH CORP.


Ant
Gnd
C1
C2
R1
L1
R3
1ST R.F. BX 222
C3
R2
L2
R6
C4
C7
R4
C13
2ND R.F. BX 222
L3
R7
C5
C8
R5
C16
C15
3RD R.F. BX 222
L4
C10
R8
C6
C9
C17
C14
DET. BX 201-A
L5
C11
C12
T1
1ST A F BX 201-A
Terminals
7
6
5
4
3
2
1
T2
2ND A F Bx-112-A
T3
R9
Speaker
Red
Black and Yellow
Black and Green
Black
Green
Brown
Blue
White
Yellow

C1.	Trimming Condenser
C2.	Antenna Condenser .00025 mf.
C3.	Screen By-pass Condenser .5 mf.
C4.	2nd RF Tuning Condenser
C5.	3rd RF Tuning Condenser
C6.	Detector Tuning Condenser
C7.	2nd RF Alignment Condenser
C8.	3rd RF Alignment Condenser
C9.	Detector Alignment Condenser
C10.	Grid Condenser .00025 mf.
C11.	Detector By-pass Condenser .001 mf.
C12.	Detector By-pass Condenser .001 mf.
C13.	Filament By-pass Condenser .5 mf.
C14.	Filament By-pass Condenser .5 mf.
C15.	Screen By-pass Condenser .5 mf.
C16.	Plate By-pass Condenser .5 mf.
C17.	Plate By-pass Condenser .5 mf.
R1.	Volume Control (Antenna) 10,000 ohms
R2.	Volume Control (Screen) 50,000 ohms
R3.	Filament Resistor 12.8 ohms
R4.	Filament Resistor 12.8 ohms
R5.	Filament Resistor 12.8 ohms
R6.	2nd RF Grid Resistor 250 ohms
R7.	3rd RF Grid Resistor 250 ohms
R8.	Grid Leak 2 meg.
R9.	Main Filament Resistor .55 ohms
T1.	1st Audio Transformer
T2.	2nd Audio Input Transformer
T3.	2nd Audio Output Transformer
L1.	Variometer
L2.	2nd RF Coil
L3.	3rd RF Coil
L4.	Detector Coil
L5.	Detector Choke Coil

Model 56—Battery (1929)

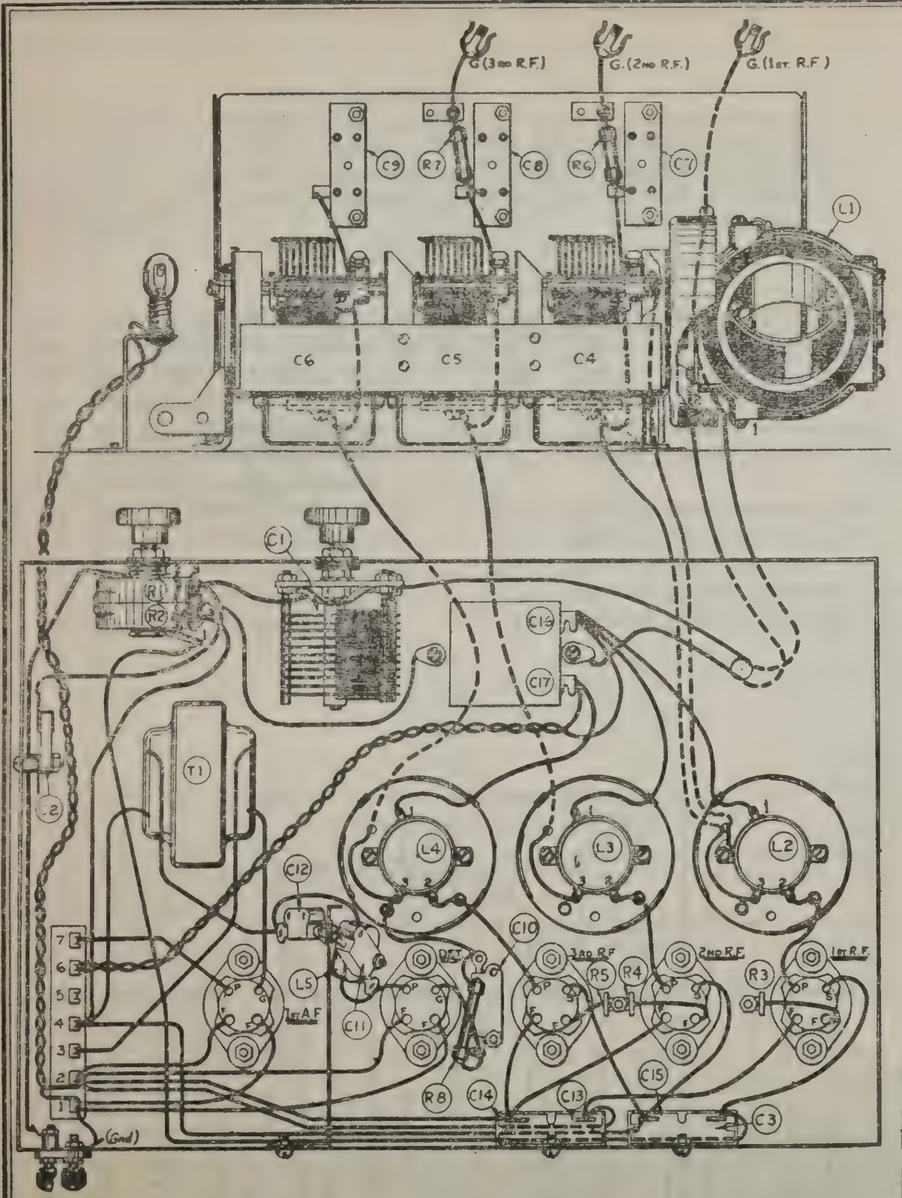

2 AF
1 AF
DET
3 RF
2 RF
1 RF
'12A
'12A
'01A
'01A
'22
'22
'22
FRONT

The table model is known as the model 56 and is to be used with the Bosch model 616 speaker. The console model (model 56AB) consists of the table model used in conjunction with the AB console. A type 612 speaker is used in the console.

Model 56 Battery Operated

MODEL 56 Battery
Chassis Views
Voltage

UNITED AMERICAN BOSCH CORP.


G.(3RD R.F.)
G.(2ND R.F.)
G.(1ST R.F.)
C9
R7
C8
R6
C7
L1
C6
C5
C4
C1
R1
R2
C16
C17
T1
C2
L4
L3
L2
C12
L5
C11
C10
DET.
3RD R.F
2ND R.F
1ST R.F.
R5
R4
R3
C3
R8
C14
C13
C15
1ST A.F
7
6
5
4
3
2
1
(Gnd)

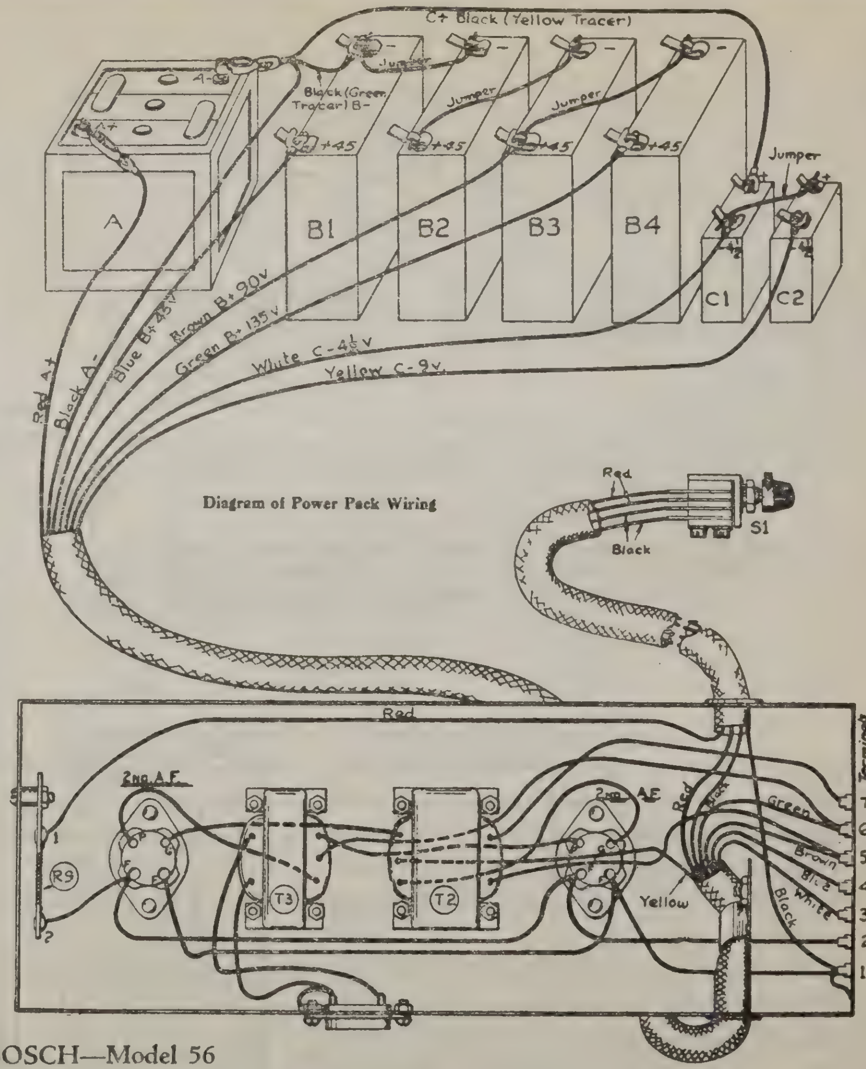

C+ Black (Yellow Tracer)
Jumper
Black (Green Tracer) B-
+45
A
B1
B2
B3
B4
C1
C2
Red A+
Black A-
Blue B+45V
Brown B+90V
Green B+135V
White C-4½V
Yellow C-9V.
Red
Black
S1
Red
2ND A.F.
R9
T3
T2
2ND A.F.
Yellow
Green
Brown
Blue
White
Black
Terminal
7
6
5
4
3
2
1

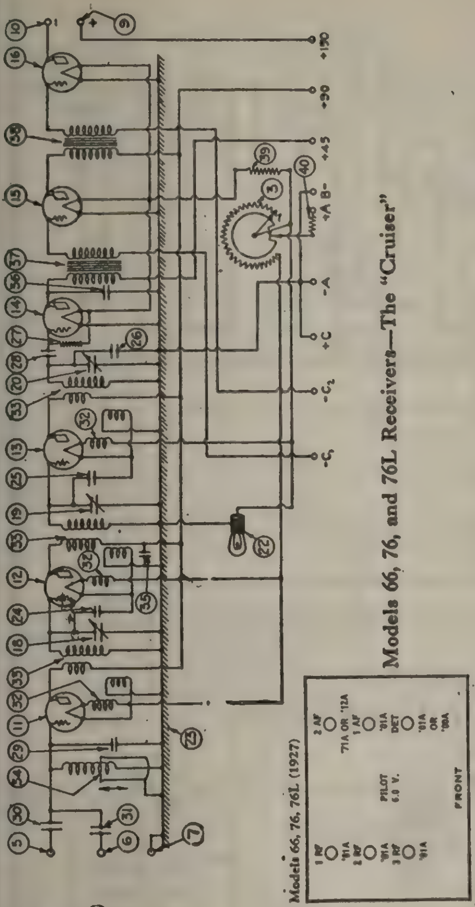
Diagram of Power Pack Wiring

BOSCH—Model 56
All readings taken with tubes in sockets

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS, PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER ⑨ VOLTS	NORMAL PLATE ⑩ MA	PLATE MA GRID ⑪ TEST	PLATE CHANGE ⑫ MA.	SCREEN GRID ⑬ VOLTS
1	222	1 R.F.	-	-	3.2	135	1.7	-	1.5	-	-	45
2	222	2 R.F.	-	-	3.2	135	1.7	-	1.5	-	-	45
3	222	3 R.F.	-	-	3.2	135	1.7	-	1.5	-	-	45
4	201A	Det.	-	-	5	45	-	-	1.5	-	-	-
5	201A	1 A.F.	-	-	5	90	4.5	-	2.5	-	-	-
6	112A	2 A.F.	-	-	5	135	9	-	7	-	-	-
7	112A	2 A.F.	-	-	5	135	9	-	7	-	-	-

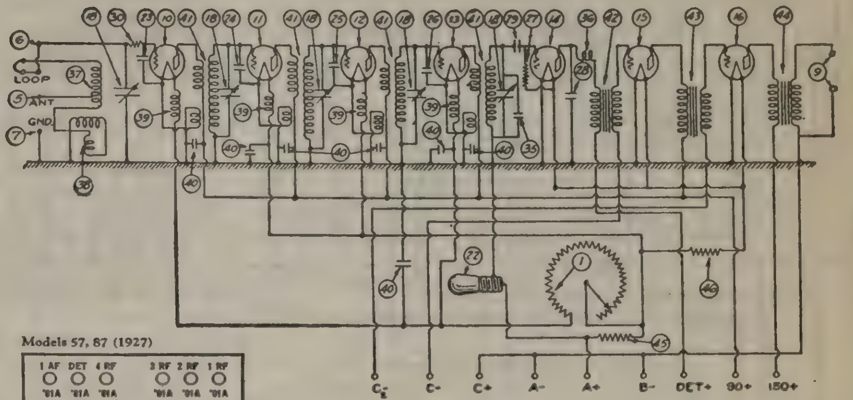
UNITED AMERICAN BOSCH CORP.

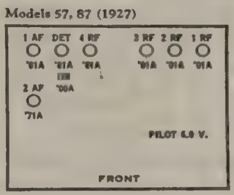
MODEL 57,87
MODEL 66,76,76-L
MODEL 66AC,96,116
136. AC
MODEL 107 AC


+130
+90
+45
+A B-
-A
+C
-C2
-C1
2 AF
'71A OR '12A
1 AF
'01A
DET
'01A
'01A OR '00A
PILOT 6.0 V.
FRONT
1 RF
'01A
2 RF
'01A
3 RF
'01A

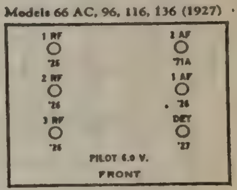
Models 66, 76, and 76L Receivers—The "Cruiser"

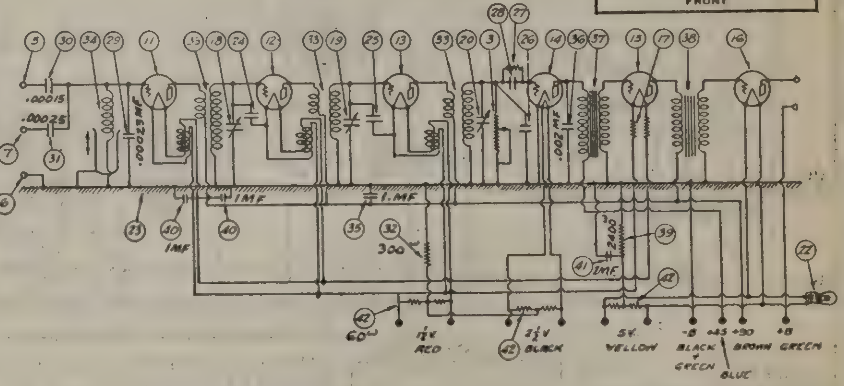
Models 66, 76, 76L (1927)


LOOP
ANT
GND.
C2
C-
C+
A-
A+
B-
DET+
90+
150+

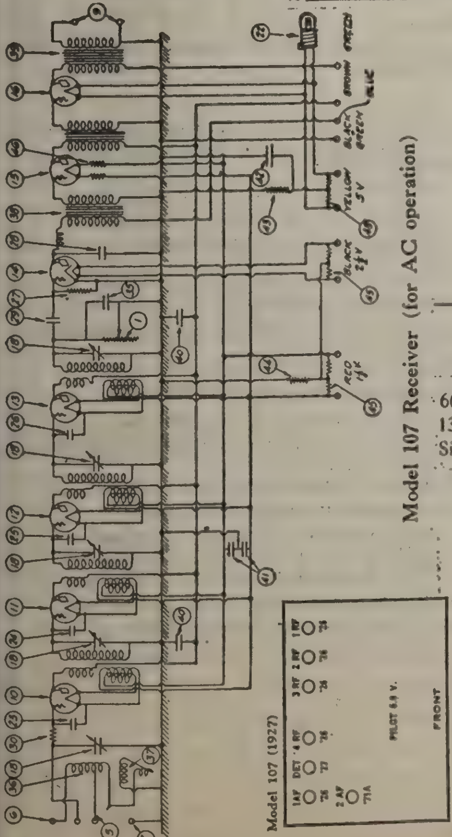

Models 57, 87 (1927)
1 AF
'01A
DET
'01A
'00A
4 RF
'01A
3 RF
'01A
2 RF
'01A
1 RF
'01A
2 AF
'71A
PILOT 6.0 V.
FRONT

Models 57 and 87 Receivers


Models 66 AC, 96, 116, 136 (1927)
1 RF
'26
2 RF
'26
3 RF
'26
2 AF
'71A
1 AF
'26
DET
'27
PILOT 6.0 V.
FRONT


.00015
.00025
.00025 MF
1 MF
1 MF
1 MF
.002 MF
300
2400
1 MF
60~
1½ V RED
2¼ V BLACK
5V YELLOW
-B BLACK GREEN
+45 BLUE
+90 BROWN
+B GREEN

Models 66AC, 96, 116, 136 Receivers (for AC operation)
"CRUISER"


BROWN
GREEN
BLUE
BLACK GREEN
YELLOW 5V
BLACK 2¼ V
RED 1½ V
PILOT 6.0 V.
FRONT

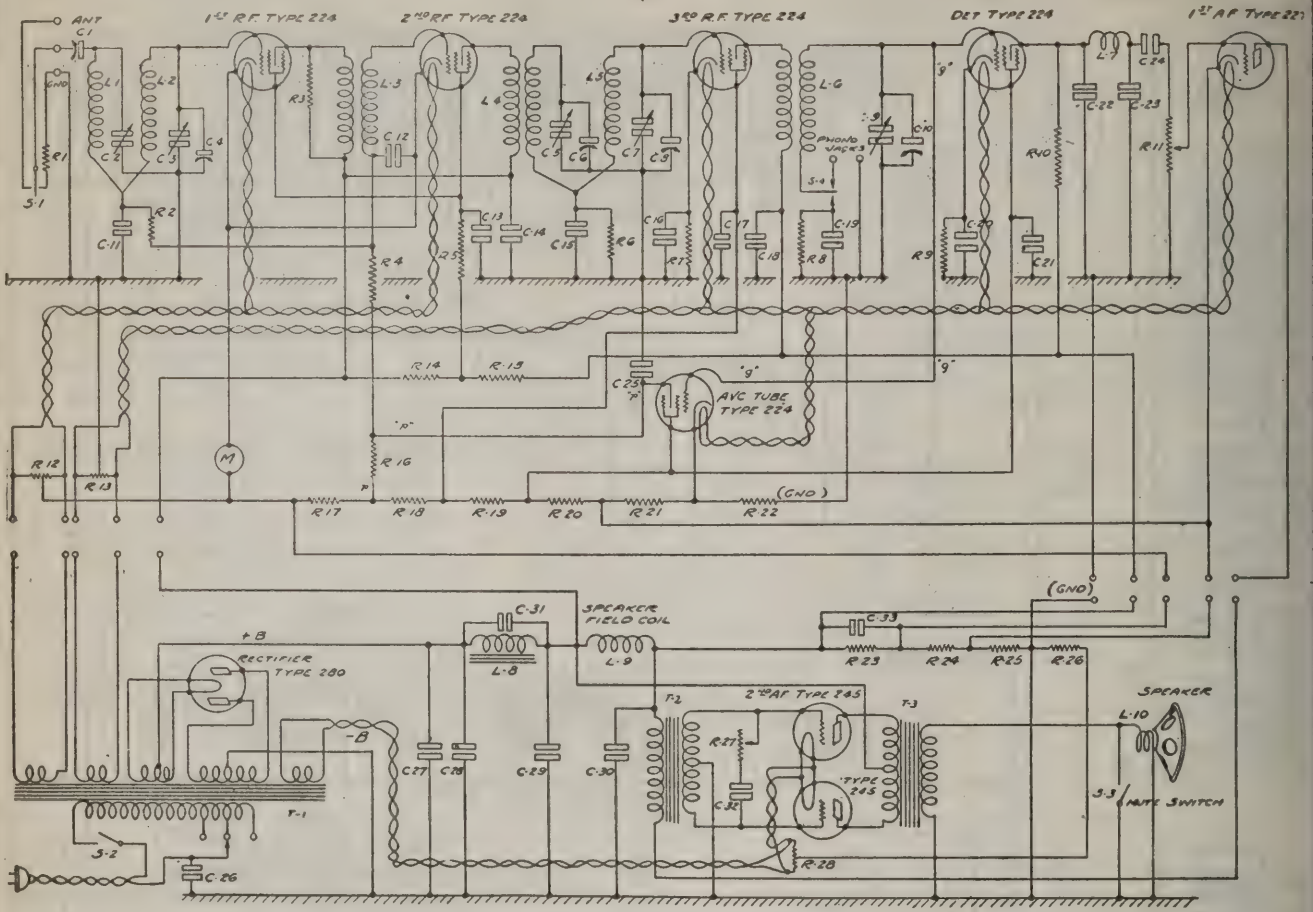
Model 107 Receiver (for AC operation)

Model 107 (1927)

Receiver	Circuit	Radio Frequency Stages 1	2	3	4	Detector Stage	Audio Stages 1	2	3
66AC, 96, 116, 136, (Regular AC Six Tube Chassis)	Filament	*1.4	*1.4	*1.4	—	*2.3	*1.4	*5	—
	Plate	90	90	90	—	45	70	130	—
	Grid	5	5	5	—	0	1	8 to 9	—
Model 57, 87	Filament	5	5	5	5	5	5	5	—
	Plate	90	90	90	90	45	80	100	—
	Grid	3	5	5	5	0	1	3	—
Model 66, 76	Filament	5	5	5	—	5	5	5	—
	Plate	90	90	90	—	45	80	100	—
	Grid	5	5	5	—	0	-1	3	—
107 (Seven Tube AC Chassis)	Filament	*1.4	*1.4	*1.4	*1.4	*2.3	*1.4	*5	—
	Plate	90	90	90	90	45	70	130	—
	Grid	3	5	5	5	0	1	8 to 9	—

MODEL 60,60-D,
60-E,61
Schematic
Voltage
Parts List

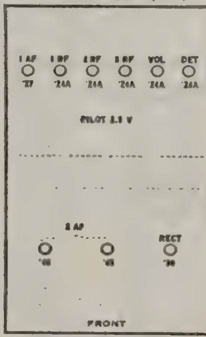
UNITED AMERICAN BOSCH CORP.


ANT
C1
GND
R1
S-1
1st R.F. TYPE 224
2nd RF TYPE 224
3rd R.F. TYPE 224
DET TYPE 224
1st AF TYPE 227
L1
L2
L3
L4
L5
L6
L7
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
PHONO JACKS
S-4
"g"
R14
R15
"P"
AVC TUBE TYPE 224
M
R12
R13
R16
R17
R18
R19
R20
R21
R22
(GND)
C-31
SPEAKER FIELD COIL
L-8
L-9
+B
RECTIFIER TYPE 280
-B
C-33
R23
R24
R25
R26
T-2
2nd AF TYPE 245
T-3
TYPE 245
R27
C32
R28
SPEAKER
L-10
S-3
MUTE SWITCH
C27
C28
C29
C30
T-1
S-2
C-26

Schematic Diagram of Model 60 Receiver.

L1—1st RF Coil
L2—1st RF Coil
L3—2nd RF Coil (untuned)
L4—3rd RF Coil
L5—3rd RF Coil
L6—Detector Coil
L7—Detector Plate Choke
L8—Power Pack Filter Choke
L9—Speaker Field Coil
L10—Speaker Voice Coil
T1—Main Power Transformer
T2—Audio Input Transformer
T3—Audio Output Transformer
C1—Antenna Trimmer Condenser
C2—1st RF Tuning Condenser
C3—1st RF Tuning Condenser
C4—1st RF Alignment Condenser
C5—3rd RF Tuning Condenser
C6—3rd RF Alignment Condenser
C7—3rd RF Tuning Condenser
C8—3rd RF Alignment Condenser
C9—Detector Tuning Condenser
C10—Detector Alignment Condenser
C11—1st RF Coupling Condenser .04 mfd
C12—2nd RF Grid Return Condenser .5 mfd.
C13—1st and 2nd RF Screen Condenser .25 mfd.

Models 60, 61, 60D, 60E (1930)

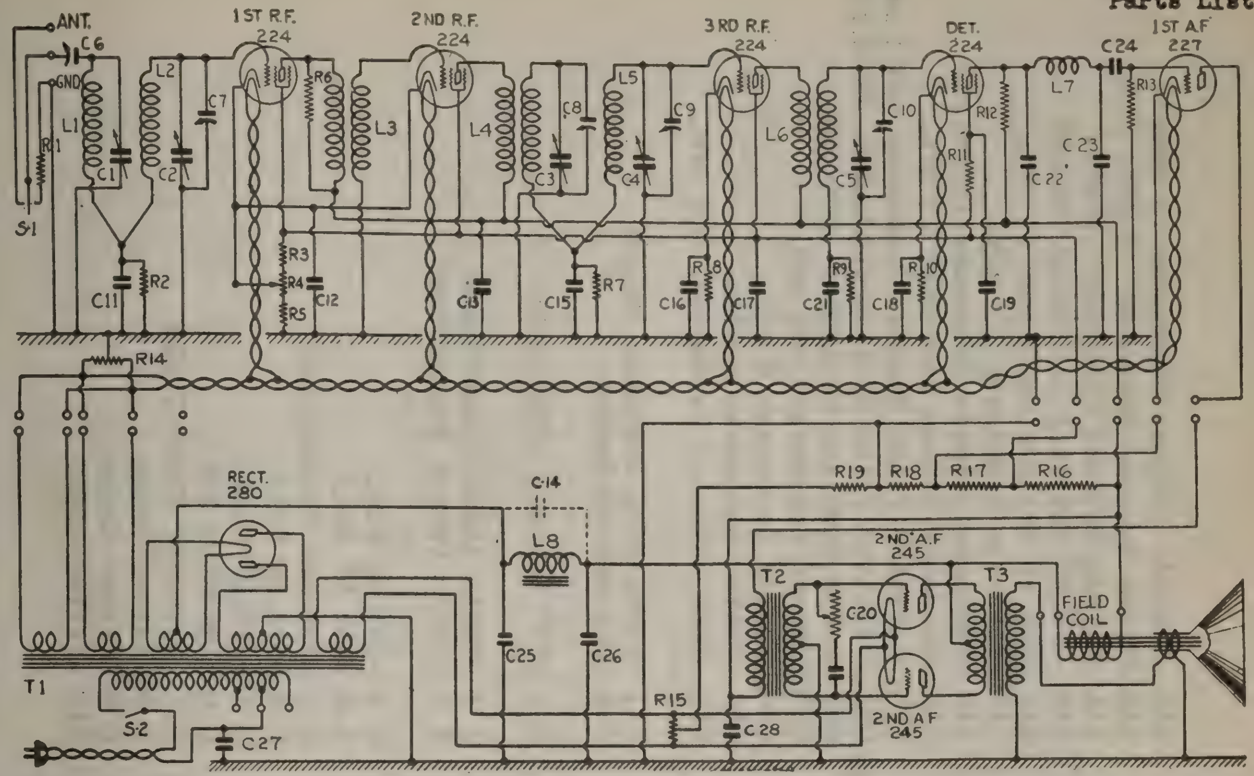

1 AF
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
VOL
'24A
DET
'24A
PILOT 2.5 V
2 AF
'45
'45
RECT
'80
FRONT

C14—1st and 2nd RF Plate Condenser .25 mfd.
C15—3rd RF Coupling Condenser .04 mfd.
C16—3rd RF Cathode Condenser .5 mfd.
C17—3rd RF Screen Condenser .5 mfd.
C18—3rd RF Plate Condenser .5 mfd.
C19—Detector Grid Return Condenser .04 mfd.
C20—Detector Cathode Condenser 1. mfd.
C21—Detector Screen Condenser .5 mfd.
C22—Detector Plate By-pass Condenser .0001 mfd.
C23—Detector Plate By-pass Condenser .0001 mfd.
C24—Audio Coupling Condenser .006 mfd.
C25—AVC Plate By-pass Condenser .006 mfd.
C26—Buffer Condenser .1 mfd.
C27—Power Pack Filter Condenser 2. mfd.
C28—Power Pack Filter Condenser 2. mfd.
C29—Power Pack Filter Condenser 4. mfd.
C30—Power Pack Filter Condenser 2. mfd.
C31—Filter Choke Tuning Condenser .075 mfd.
C32—Tone Control Condenser .006 mfd.
C33—By-pass Condenser 2. mfd.

R1—Antenna Resistance 500 ohms
R2—1st RF de-coupling Resistor 1000 ohms
R3—Untuned Coil Resistor 50,000 ohms
R4—1st and 2nd RF Grid Resistor .5 meg.
R5—1st and 2nd RF Screen Resistor 18,000 ohms
R6—3rd RF de-coupling Resistor 1,000 ohms
R7—3rd RF Bias Resistor 1,000 ohms
R8—Detector Grid Resistor 1,000 ohms
R9—Detector Bias Resistor 50,000 ohms
R10—Detector Plate Resistor .5 meg.
R11—Volume Control .5 meg.
R12—1st and 2nd RF Center Tap Resistor
R13—Center Tap Resistor
R14—1st and 2nd RF Screen Resistor 20,000 ohms
R15—Resistor 10,000 ohms
R16—AVC Resistor .5 megohms
R17—Resistor 900 ohms
R18—3rd RF Screen Resistor 5,000 ohms
R19—AVC and Detector Screen Resistor 25,000 ohms
R20—Resistor 5,000 ohms
R21—1st AF Bias Resistor 2,000 ohms
R22—AVC Bias Resistor 2,000 ohms
R23—Voltage Divider Resistor 1,300 ohms
R24—Voltage Divider Resistor 2,380 ohms
R25—Voltage Divider Resistor 160 ohms
R26—2nd Audio Bias Resistor 950 ohms
R27—Tone Selector Resistor .5 megohm
R28—2nd Audio Center Tap-Resistor

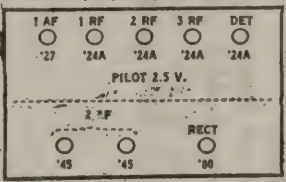
UNITED AMERICAN BOSCH CORP.

MODEL 58 AC
Schematic
Voltage
Parts List


ANT.
C6
GND.
L1
R1
C1
S-1
L2
C2
C7
1ST R.F.
224
R6
L3
2ND R.F.
224
L4
C8
C3
L5
C9
C4
3RD R.F.
224
L6
C5
C10
DET.
224
R12
R11
C22
L7
C24
C23
1ST A.F.
227
R13
R3
R4
R5
C11
R2
C12
C13
C15
R7
C16
R8
C17
C21
R9
C18
R10
C19
R14
RECT.
280
C-14
L8
R19
R18
R17
R16
2ND A.F
245
T2
C20
T3
FIELD
COIL
C25
C26
T1
S-2
C27
R15
C28
2ND AF
245

L 1 -1st RF Coil
L 2 -1st RF Coil
L 3 -2nd RF Coil (untuned)
L 4 -3rd RF Coil
L 5 -3rd RF Coil
L 6 -Detector Coil
L 7 -Detector Plate Choke
L 8 -Filter Choke
T 1 -Main Power Transformer
T 2 -Audio Input Transformer
T 3 -Audio Output Transformer
C 1 -1st RF Tuning Condenser
C 2 -1st RF Tuning Condenser
C 3 -3rd RF Tuning Condenser
C 4 -3rd RF Tuning Condenser
C 5 -Detector Tuning Condenser
C 6 -Antenna Trimming Condenser
C 7 -1st RF Alignment Condenser
C 8 -3rd RF Alignment Condenser
C 9 -3rd RF Alignment Condenser
C10 -Detector Alignment Condenser
C11 -1st RF Coupling Condenser .04 mfd.
C12 -Cathode By-pass Condenser .5 mfd.
C13 -Plate By-pass Condenser .5 mfd.
C14 -Filter Condenser .2 mfd. (25 cycle only)
C15 -3rd RF Coupling Condenser .04 mfd.
C16 -Cathode By-pass Condenser .5 mfd.
C17 -Screen By-pass Condenser .5 mfd.
C18 -Detector Cathode By-pass Condenser 1 mfd.
C19 -Detector Screen By-pass Condenser .5 mfd
C20 -Tone Control Condenser .006 mfd.
C21 -Detector Condenser .04 mfd.
C22 -Detector Plate By-pass Condenser .0001
C23 -Detector Plate By-pass Condenser .0001
C24 -Audio Coupling Condenser .006 mfd.

Models 58, 59, 58A, 58B (1930)


1 AF
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'24A
PILOT 2.5 V.
2 AF
'45
'45
RECT
'80

C25 -Power Pack Filter Condenser 2 mfd.
C26 -Power Pack Filter Condenser 2 mfd.
C27 -Buffer Condenser 1 mfd
C28 -Audio By-pass Condenser 4 mfd.

R 1 -Antenna Resistor 500 ohms
R 2 -De-coupling Resistor 1,000 ohms
R 3 -Screen Resistor 20,000 ohms
R 4 -Volume Control 3,000 ohms
R 5 -Screen Resistor 250 ohms
R 6 -Untuned Transformer Resistor .1 megohm
R 7 -3rd RF de-coupling Resistor 1,000 ohms
R 8 -3rd RF Cathode Resistor 1,000 ohms
R 9 -Detector Grid Resistor 1,000 ohms
R10 -Detector Cathode Resistor 50,000 ohms
R11 -Detector Screen Resistor 1 megohm
R12 -Detector Plate Resistor .25 megohm
R13 -1st Audio Grid Resistor 2 megohms
R14 -Center Tap Resistor (chassis)
R15 -Center Tap Resistor (power pack)
R16 -Screen Supply Resistor 2,050 ohms
R17 -Audio Cathode Resistor 1,950 ohms
R18 -Divider Resistor 180 ohms
R19 -Audio Bias Resistor 950 ohms
R20 -Tone Control 5 megohm

Line Voltage 115—Voltage Tap 115
Volume Control Full On
*Not true readings due to resistors in circuit.

Tube No. in Order Tested ①	Type of Tube ②	Position of Tube in Set ③	Meter Readings with Jewell Test Plug in						
			Operating Voltages						Mill.
			Filament or Heater ④	Plate or Anode ⑤	Control Grid—Space Gd + ⑥	Normal Grid—Screen Gd + ⑦	Cathode to Heater ⑧	Screen Gd L.H. Gd Plate ⑨	Plate S.H. Gd Plate ⑩
1	224	1 R.F.	2.2	170	2.2	75	-	-	3
2	224	2 R.F.	2.2	170	2.2	75	-	-	3
3	224	3 R.F.	2.2	170	2.2	75	-	-	3
4	224	Det.	2.2	30*	1.5	10*	-	-	.1*
5	227	1 A.F.	2.2	150	-	8	-	-	5
6	245	PP-AF	2.4	250	-	50	-	-	30
7	245	PP-AF	2.4	250	-	50	-	-	30
8	280	Rect.	5.0	-	-	-	-	-	-

MODEL 62 DC
Electrical Values
Voltage

UNITED AMERICAN BOSCH CORP.

R 1 -Antenna Resistor 500 ohms
R 2 -De-coupling Resistor 1,000 ohms
R 3 -Resistor 20,000 ohms
R 4 -Volume Control 3,000 ohms
R 5 -Resistor 150 ohms
R 6 -Untuned Transformer Resistor .1 meg.
R 7 -De-coupling Resistor 1,000 ohms
R 8 -3rd RF Cathode Resistor 600 ohms
R 9 -Resistor 1,000 ohms
R10 -Detector Cathode Resistor 50,000 ohms
R11 -Detector Screen Resistor 1 meg.
R12 -Detector Plate Resistor .5 meg.
R13 -1st Audio Grid Resistor 2 meg.
R14 -Filament Resistor 1.8 ohms
R15- Filament Resistor 18 ohms
R16 -Filament Resistor 18 ohms
R17 -Filament Resistor 18 ohms
R18 -Tone Selector Resistor .5 meg.
R19 -Voltage Divider Resistor 1,400 ohms
R20 -Voltage Divider Resistor 2,600 ohms
R21 -Voltage Divider Resistor 250 ohms

C 1 -1st RF tuning Condenser
C 2 -1st RF Tuning Condenser
C 3 -3rd RF Tuning Condenser
C 4 -3rd RF Tuning Condenser
C 5 -Detector Tuning Condenser
C 6 -Antenna Trimming Condenser
C 7 -1st RF Alignment Condenser
C 8 -3rd RF Alignment Condenser
C 9 -3rd RF Alignment Condenser
C10 -Detector Alignment Condenser
C11 -1st RF Coupling Condenser .04 mfd.

C12 -Cathode By-pass Condenser .5 mfd.
C13 -Plate By-pass Condenser .5 mfd.
C14 -Screen By-Pass Condenser .5 mfd.
C15 -3rd RF Coupling Condenser .04 mfd
C16 -3rd RF Cathode Condenser .5 mfd.
C17 -Detector Condenser .04 mfd.
C18 -Detector Cathode Condenser 1. mfd.
C19 -Detector Screen Condenser .5 mfd.
C20 -Detector Plate By-pass Condenser .0001 mfd
C21 -Detector Plate By-pass Condenser .0001 mfd.
C22 -Audio Coupling Condenser .006 mfd.
C23 -Ground Condenser .006 mfd.
C24 -Filter Condenser 4 mfd.
C25 -Filter Condenser 4 mfd.
C26 -Tone Selector Condenser .002 mfd.

S 1 -Local-Long Distance Switch
S 2 -Off and On Switch

B 1 -"C" Battery -22½ volts

T 1 -Audio Input Transformer
T 2 -Audio Output Transformer

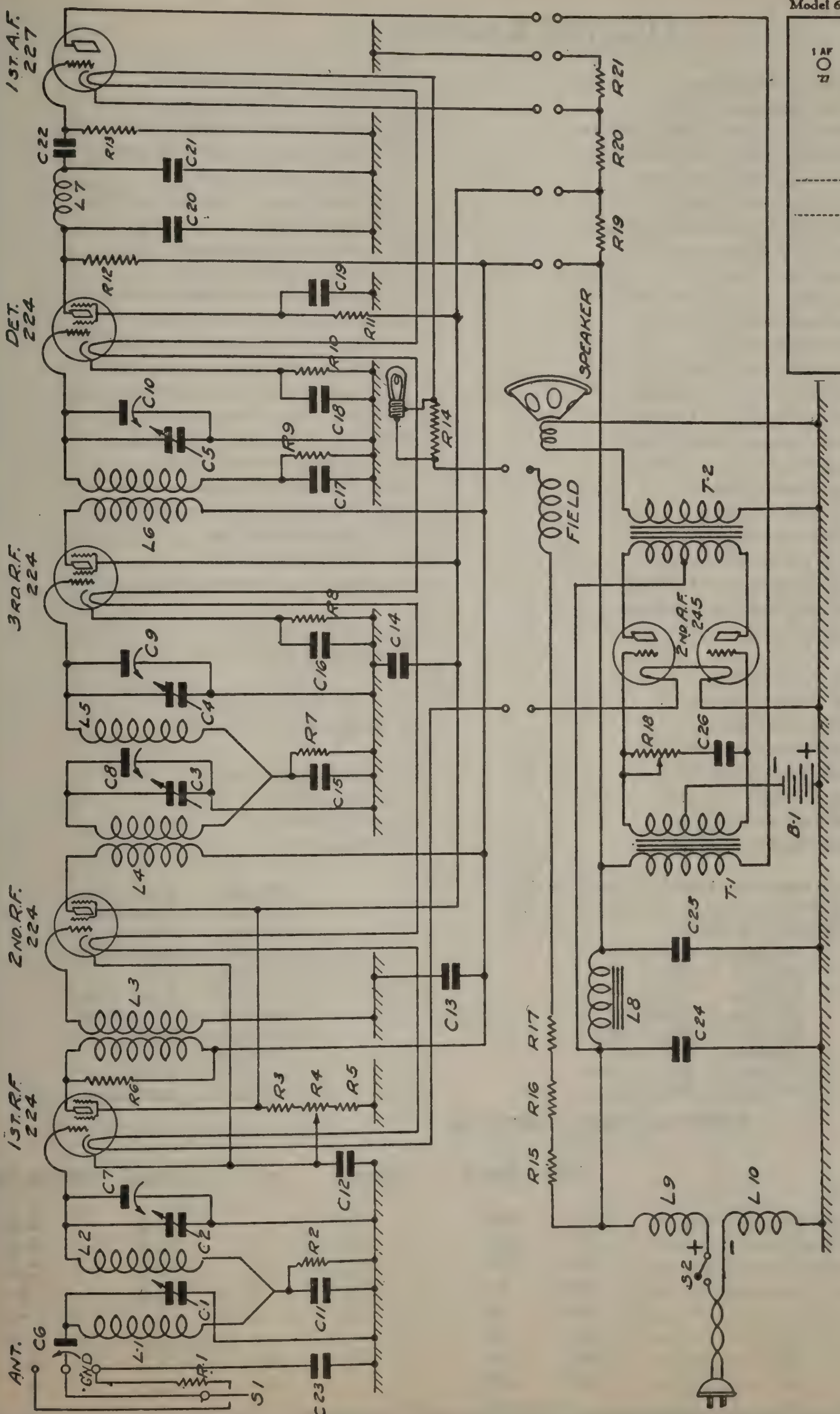
L 1 -1st RF Coil
L 2 -1st RF Coil
L 3 -Untuned Transformer
L 4 -3rd RF Coil
L 5 -3rd RF Coil
L 6 -Detector Coil
L 7 -Detector Plate Choke
L 8 -Filter Choke
L 9 -Filter Choke
L10 -Filter Choke

SOCKET VOLTAGES - MODEL 62

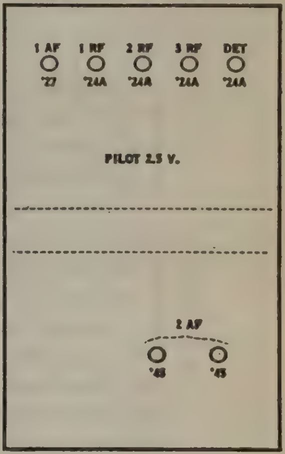
STAGE	Tube	Plate	Screen	Grid.	Fil.	Plate MA.
1st RF................	224	100	60	10	2.1	1.5
2nd RF................	224	100	60	9	2.1	1.5
3rd RF................	224	100	60	8	2.1	1.5
Detector..............	224	30	15	*	2.1	*
1st AF................	227	85	-	8	2.1	2.5
2nd AF................	245	105	-	20	2.1	8
2nd AF................	245	105	-	20	2.1	8

UNITED AMERICAN BOSCH CORP.

MODEL 62 DC
Schematic
Socket


1ST. A.F. 227
DET. 224
3RD. R.F. 224
2ND. R.F. 224
1ST. R.F. 224
2ND. A.F. 245
ANT.
GND
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26
R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10
T-1 T-2
S1 S2
B-1
SPEAKER
FIELD
+
-

Model 62C (110 V. DC) (1930)


1 AF
'27
1 RF
'24A
2 RF
'24A
3 RF
'24A
DET
'24A
PILOT 2.5 V.
2 AF
'45
'45

*Schematic Diagram of Model 62 Receivers

For Resistor Color Code See Model 63

MODEL 63 DC
Values
Resistor Code
Voltage

UNITED AMERICAN BOSCH CORP.

Model 63 Receiver

R 1—Antenna Resistor 500 ohms
R 2—De-coupling Resistor 1,000 ohms
R 3—Untuned Transformer Resistor 50,000 ohms
R 4—De-coupling Resistor 1,000 ohms
R 5—3rd RF Cathode Resistor 600 ohms
R 6—Detector Resistor 1,000 ohms
R 7—Detector Cathode Resistor 50,000 ohms
R 8—Detector Plate Resistor .5 meg.
R 9—Volume Control .5 meg.
R10—1st and 2nd RF Bias Resistor 1 meg.
R11—Bias Control Resistor 1 meg.
R12—Filament Resistor 1.8 ohms
R13—AVC Screen Resistor 20,000 ohms
R14—Voltage Divider Resistor 150 ohms
R15—Voltage Divider Resistor 900 ohms
R16—Voltage Divider Resistor 5,000 ohms
R17—Voltage Divider Resistor 20,000 ohms
R18—Filament Resistor 18 ohms
R19—Filament Resistor 18 ohms
R20—Filament Resistor 18 ohms
R21—Tone Control Resistor .5 meg.
R22—Voltage Divider Resistor 1,400 ohms
R23—Voltage Divider Resistor 2,600 ohms
R24—Voltage Divider Resistor 250 ohms

C 1—1st RF Tuning Condenser
C 2—1st RF Tuning Condenser
C 3—3rd RF Tuning Condenser
C 4—3rd RF Tuning Condenser
C 5—Detector Tuning Condenser
C 6—Antenna Trimmer Condenser
C 7—1st RF Alignment Condenser
C 8—3rd RF Alignment Condenser
C 9—3rd RF Alignment Condenser
C10—Detector Alignment Condenser
C11—Ground Series Condenser .0001 mfd.
C12—1st RF Coupling Condenser .04 mfd.
C13—2nd RF Condenser .5 mfd.
C14—Cathode By-pass Condenser .5 mfd.
C15—3rd RF Coupling Condenser .04 mfd.
C16—3rd RF Cathode Condenser .5 mfd.
C17—Detector Condenser .04 mfd.
C18—Detector Cathode Condenser 1 mfd.
C19—Detector Plate Condenser 1 mfd.
C20—Detector Plate Condenser .0001 mfd.
C21—Detector Plate Condenser .0001 mfd.
C22—Audio Coupling Condenser .006 mfd.
C23—Plate By Pass Condenser .25 mfd.
C24—Screen By Pass Condenser .25 mfd.
C25—Plate By Pass Condenser .5 mfd.
C26—AVC Plate By Pass Condenser .006 mfd.
C27—AVC Screen Condenser .5 mfd.
C28—Filter Condenser 4 mfd.
C29—Filter Condenser 4 mfd.
C30—Tone Control Condenser .006 mfd.

T 1—Input Transformer
T 2—Output Transformer

B 1—AVC Plate Battery 22½ volts
B 2—2nd Audio "C" Battery 22½ volts

S 1—Local Distance Switch
S 2—Phono Switch
S 3—Main Switch
S 4—Mute Switch

The resistors used in the Models 62 and 63 receivers are marked in colors as a means of identification. The complete color code is as follows:

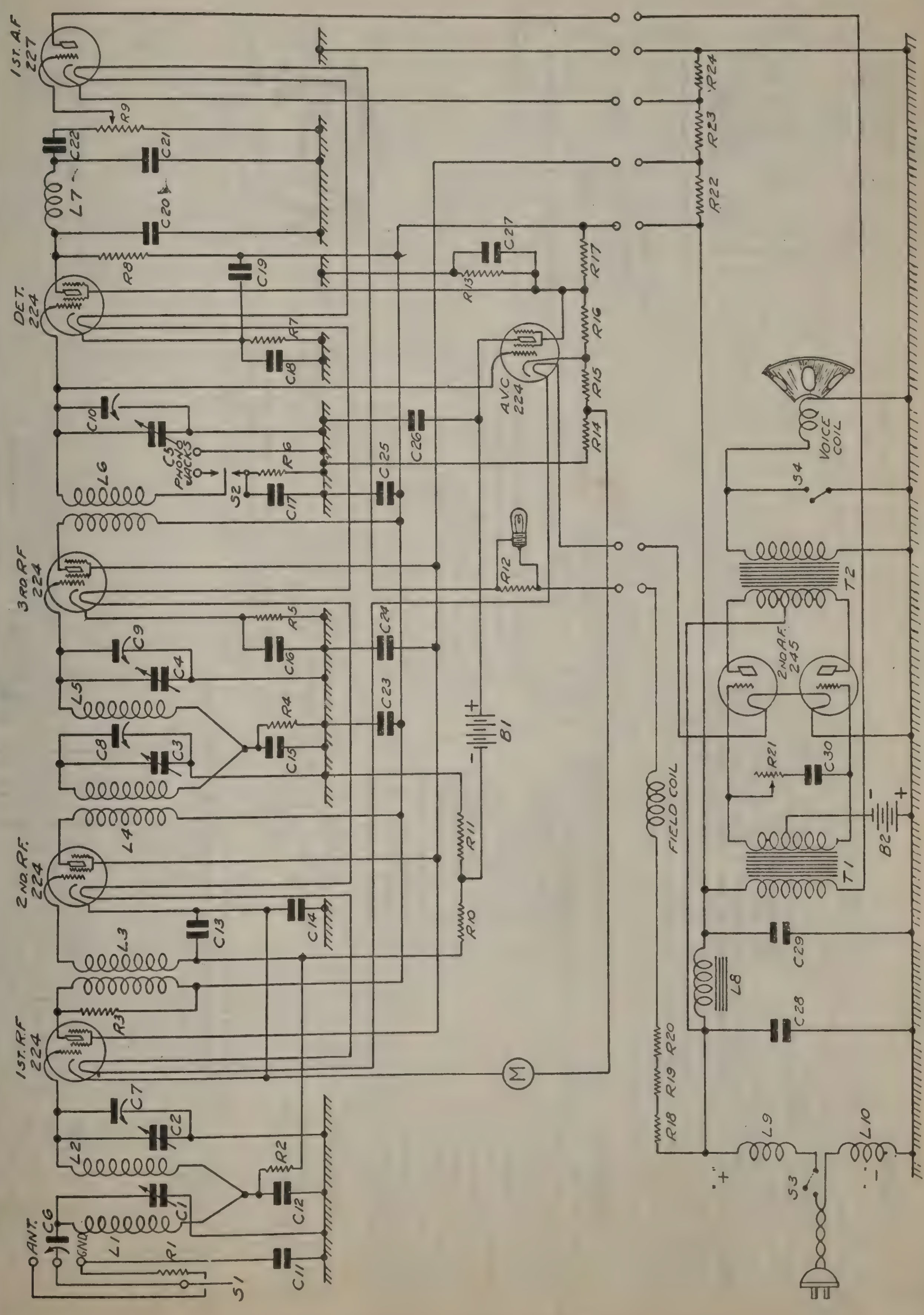
150 ohms — Red-black
250 ohms — White
500 ohms — Yellow
600 ohms — Blue-black
900 ohms — Black-brown
1,000 ohms — White-red
2,000 ohms — Brown-yellow
2,500 ohms — White-brown
5,000 ohms — Black-yellow
10,000 ohms — Blue-yellow
18,000 ohms — White-gray
20,000 ohms — Green-yellow
25,000 ohms — Blue
50,000 ohms — Green-white
.1 megohm — Blue-white
.25 megohms — Brown
.5 megohms — Grey
1. megohm — Black
2. megohms — Black-white

SOCKET VOLTAGES - MODEL 63

Stage	Tube	Plate	Screen	Grid.	Fil.	Plate MA.
1st RF..........................	224	100	60	1	2.1	1.5
2nd RF..........................	224	100	60	1	2.1	1.5
3rd RF..........................	224	100	60	1	2.1	1.5
AVC.............................	224	10	20	3	2.1	*
Detector........................	224	30	15	1	2.1	*
1st AF..........................	227	85	-	8	2.1	2.5
2nd AF..........................	245	105	-	20	2.1	8
2nd AF..........................	245	105	-	20	2.1	8

MODEL 63 DC
Schematic

UNITED AMERICAN BOSCH CORP


1ST. A.F. 227
R9
C22
C21
L7
C20
R8
C19
DET. 224
R7
C18
C27
R13
R17
R16
R15
R14
AVC 224
R24
R23
R22
C10
C5
PHONO JACKS
R6
S2
C17
C25
C26
L6
3RD. R.F. 224
R12
C9
C4
R5
C16
C24
L5
C8
C3
R4
C15
C23
B1
L4
2ND. R.F. 224
R11
R10
L3
C13
C14
R3
1ST. R.F. 224
M
C7
C2
L2
R2
C12
C1
ANT.
CG
GND.
L1
R1
C11
S1
VOICE COIL
S4
T2
2ND A.F. 245
R21
C30
B2
T1
FIELD COIL
C29
L8
C28
R18 R19 R20
L9
L10
S3
"+"
"-"

Schematic Diagram of Model 63 Receivers

MODEL 73,74
Parts List
Voltage - Data

UNITED AMERICAN BOSCH CORP.

NOMENCLATURE

Resistors

R1	Volume Control 10,000 ohms
R2	2750 ohms) Tapped unit
R3	250 ohms) Tapped unit
R4	Cathode Resistor 750 ohms
R5	Cathode Resistor 25,000 ohms
R6	50,000 ohms
R7	Tone Control 50,000 ohms
R8	Plate Supply Resistor 5,000 ohms.
R9	Plate Supply Resistor 10,000 ohms
R10	Screen Supply Resistor 750 ohms
R11	Cathode Resistor 25,000 ohms
R12	Screen Supply Resistor 30,000 ohms
R13	Audio Bias Resistor 800 ohms
R14	Center Tap Resistor 4.1 ohms

Condensers

C1	Antenna Trimmer Condenser
C2	Coupling Capacity
C3	Coupling Capacity
C4	Coupling Capacity
C5	Tuning Condenser
C6	Tuning Condenser
C7	Tuning Condenser
C8	Tuning Condenser
C9	Alignment Condenser
C10	Alignment Condenser
C11	Alignment Condenser
C12	Det. Plate By-pass .005 mfd.
C13	Tone Control Condenser .05 mfd.
C14	Cathode By-pass .05 mfd.
C15	Screen By-pass .05 mfd.
C16	Plate By-pass .05 mfd.
C17	Cathode By-pass .05 mfd.
C18	Screen By-pass .05 mfd.
C19	Plate By-pass .05 mfd.
C20	Det. Cathode By-pass 1.0 mfd.
C21	Filter Condenser 2.mfd.)top
C22	Filter Condenser 2.mfd.)unit
C23	Filter Condenser 4.mfd.
C24	Audio Bias By-pass .05 mfd.
C25	Buffer Condenser .1 mfd.

Coils and Inductances

L1	Antenna Coil
L2	2nd RF primary
L3	2nd RF secondary
L4	3rd RF primary
L5	3rd RF secondary
L6	Det. coil primary
L7	Det. coil secondary
L8	Degenerative choke
L9	Det. Plate choke
L10	Tone Control choke
L11	Filter choke
L12	Speaker Field
L13	Speaker Voice Coil

Transformers

T1	Audio Input Transformer
T2	Audio Output Transformer
T3	Main Power Transformer

Switches

S1	Main Switch

Model 73 and 74 Voltage Readings

Stage	Tube	Plate	Screen	Cathode	Grid	Fil.	Plate Current
1st RF	224	240	90	44	3	2.2	4
2nd RF	224	240	90	44	3	2.2	4
3rd RF	224	240	90	44	3	2.2	4
Det.	227	250	....	20	25	2.2	1
Audio	245	230	....	....	44	2.3	25
Audio	245	230	....	....	44	2.3	25
Rect.	280	......	....	....	....	4.8	30-30

MAIN POWER TRANSFORMER "T3"

No. 1. Start of Primary Wind
No. 3. 110 Volt Tap
No. 4. Center Tap of 280 Plate Winding
No. 6. Filament Supply Winding
No. 7. 120 Volt Tap
No. 9. Filament Supply Winding

Filament Supply to 280 tube are heavy wires direct from winding.

Plate Supply to 280 tube are stranded wires direct from winding.

If the transformer is perfect the following readings will be obtained:

Primary Winding
1 to 3—full reading
1 to 7—full reading

Filament Supply Sec.
6 to 9—full reading

280 Filament Winding
F to F of 280 socket—full reading

280 Plate Winding
P to P of 280 socket—350 ohms

280 Center Tap
4 to P of 280 socket—175 ohms

AUDIO INPUT TRANSFORMER "T1"

This is a special unit having a ratio of 6 to 1. Under no circumstances may it be replaced by any other type of tranfsormer, nor may it be used as a replacement in receivers of other models. It may be identified by the mounting for the small choke coil.

COIL TEST:

Circuit Test—From 1 to 2—full reading
From 3 to 4—full reading

A reading from 1 or 2 to either 3 or 4 denotes a defective (short circuited) coil. In this case the primary coil may be replaced. It is very important that it is replaced exactly in the center of the secondary, and that the wire on which it is mounted is perfectly straight.

The coupling units (C2, C3 and C4) are not ordinary condensers, but are formed of the capacity between the plate end (1) of the primary winding and the small brass plate which is connected to the grid terminal 2.

As volume is decreased,

1st and 2nd RF:
- Grid voltage increases.
- Screen voltage increases
- Plate current decreases
- Plate voltage increases.

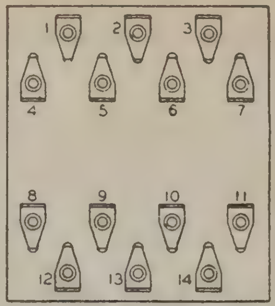


Fig. 4
Terminal Plate of Main Power Transformer T3

If the transformer is perfect the following readings will be obtained:

Primary Winding
1500 ohms (See T1, pages 5 and 6)

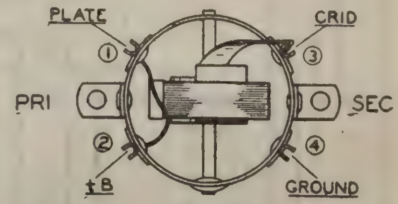
Secondary Winding
(each half) 4000 ohms

AUDIO OUTPUT TRANSFORMER "T2"

This unit may be identified by the low resistance heavy secondary winding terminating at "1" and "2."

Primary Winding
(each half) 200 ohms

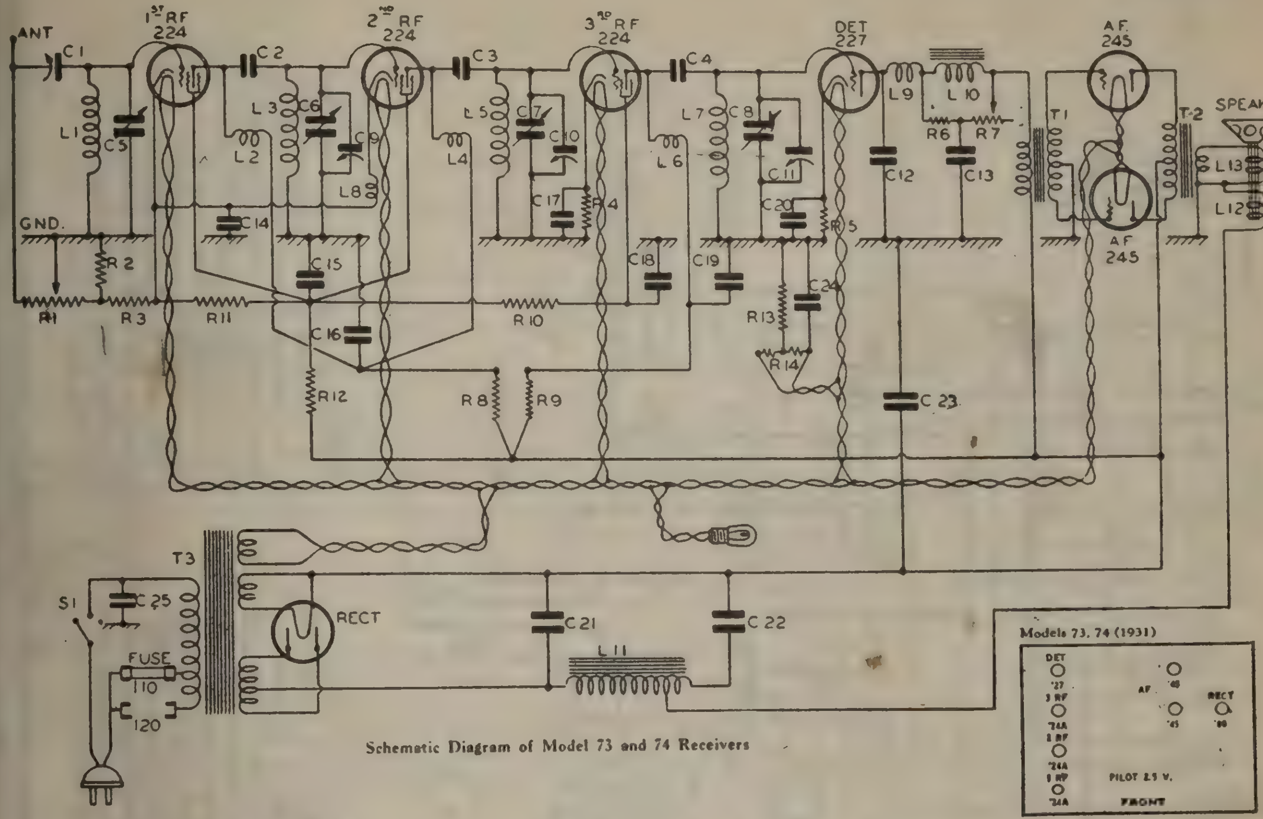
Secondary Winding
full reading



Top View of Coil

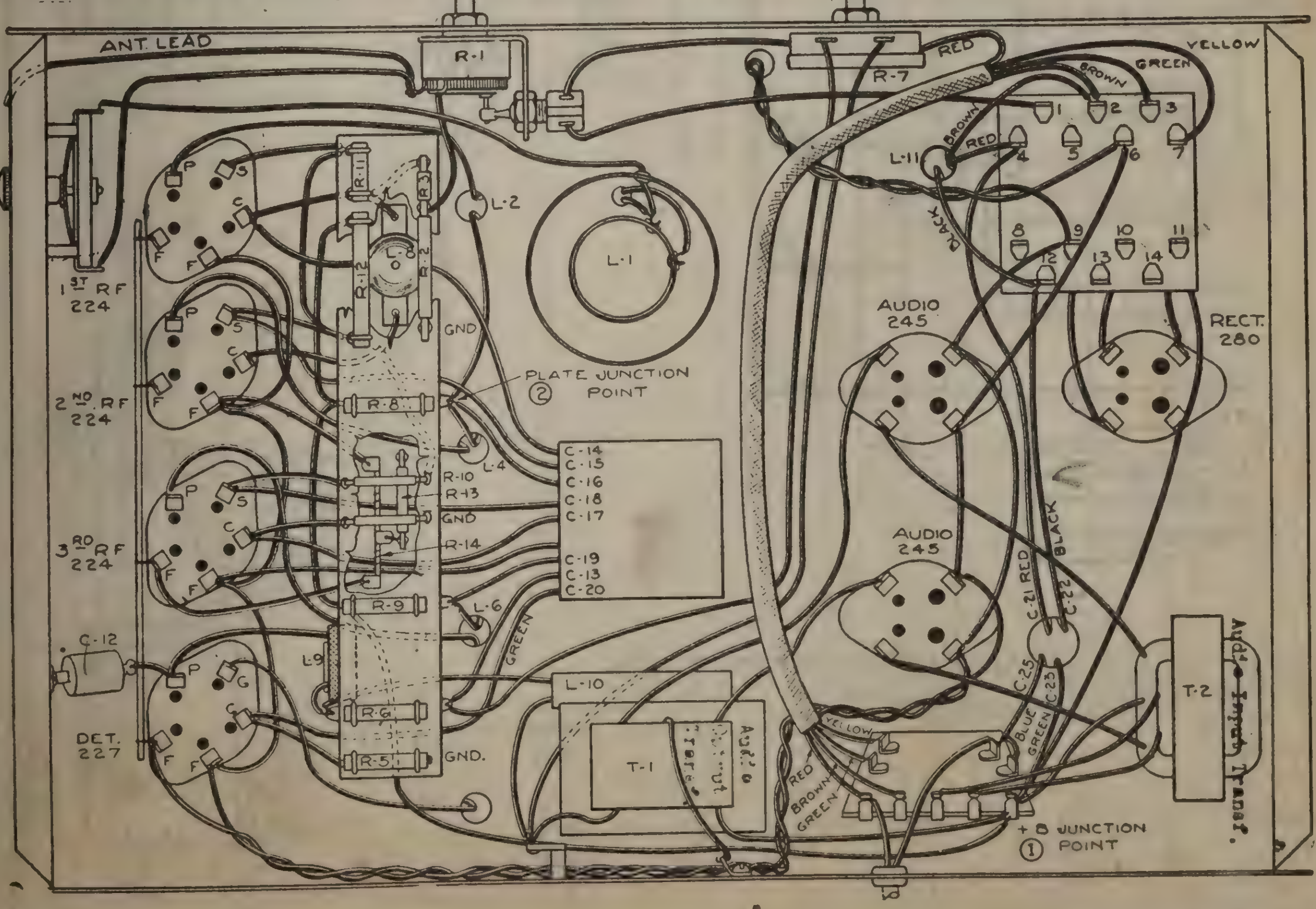
UNITED AMERICAN BOSCH CORP.

MODEL 73,74
Schematic
Chassis


ANT
C1
1ST RF 224
C2
2ND RF 224
C3
3RD RF 224
C4
DET 227
L10
AF 245
SPEAKER
L1
C5
L3
C6
L2
C9
L8
L5
C7
C10
L4
C17
R4
L7
C8
L6
C11
C20
R5
L9
R6
R7
C12
C13
T1
T-2
L13
VOICE
L12
FIELD
AF 245
GND.
R2
C14
C15
C18
C19
C24
R1
R3
R11
R10
R13
C16
R14
R12
R8
R9
C 23
T3
S1
C 25
RECT
C 21
C 22
L11
FUSE
110
120
Models 73, 74 (1931)
DET
'27
3 RF
'24A
2 RF
'24A
1 RF
'24A
AF
'45
'45
RECT
'80
PILOT 2.5 V.
FRONT

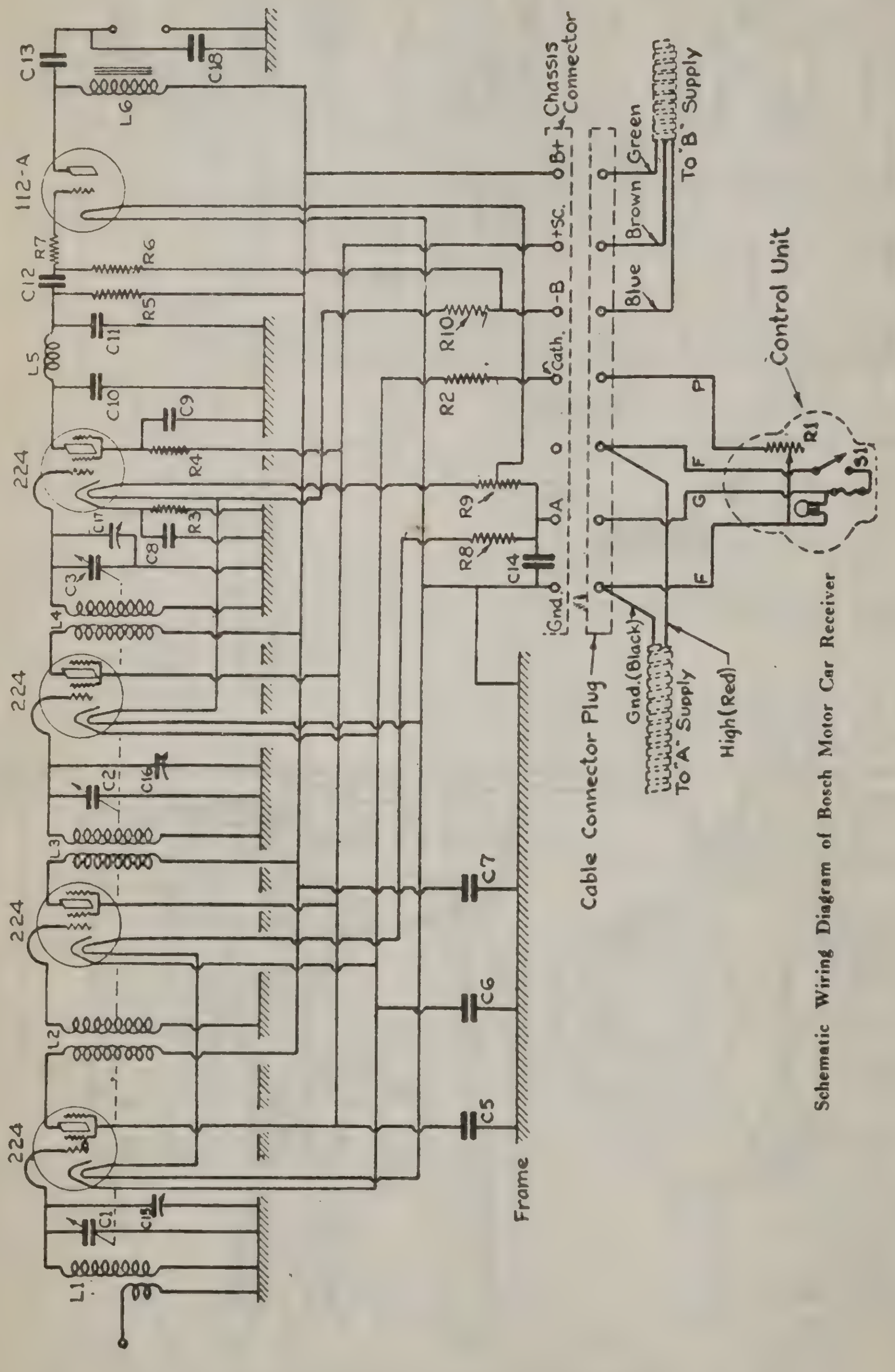
Schematic Diagram of Model 73 and 74 Receivers

Model 73 - For 50 to 60 cys. 105 to 125 volts
Model 74 - For 25 to 40 cys. 105 to 125 volts


ANT. LEAD
R-1
R-7
RED
YELLOW
BROWN
GREEN
BROWN
RED
1
2
3
L-11
4
5
6
7
BLACK
8
9
10
11
12
13
14
P
S
C
F
F
1ST RF 224
R-11
R-3
L-8
R-12
L-2
L-1
P
S
C
F
F
2ND RF 224
GND
R-8
PLATE JUNCTION ② POINT
AUDIO 245
RECT. 280
L-4
C-14
C-15
C-16
C-18
C-17
C-19
C-13
C-20
R-10
R-13
R-2
GND
R-14
P
S
C
F
F
3RD RF 224
R-9
L-6
AUDIO 245
BLACK
C-21 RED
C-22
GREEN
C-12
L-9
P
G
C
F
F
DET. 227
L-10
R-6
R-5
GND.
T-1
Audio Output Transf.
C-25
C-23
BLUE
GREEN
YELLOW
RED
BROWN
GREEN
T-2
Audio Input Transf.
+ B JUNCTION ① POINT

UNITED AMERICAN BOSCH CORP.

MODEL 80
SCHEMATIC
VOLTAGE


C13
C18
L6
112-A
C12
R7
R6
R5
C11
L5
C10
C9
R4
224
C17
R3
C8
C3
L4
224
C2
C16
L3
224
L2
224
C1
C15
L1
C7
C6
C5
Frame
B+
Chassis Connector
+Sc.
-B
Cath.
A
Gnd.
R10
R2
R9
R8
C14
Green
Brown
Blue
To 'B' Supply
Control Unit
P
F
G
F
R1
S1
Cable Connector Plug
Gnd.(Black)
To 'A' Supply
High(Red)

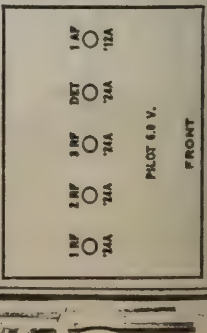
Schematic Wiring Diagram of Bosch Motor Car Receiver

L-1—1st RF Coil
L-2—2nd RF Coil
L-3—3rd RF Coil
L-4—Detector Coil
L-5—Detector Choke
L-6—Output Choke
R-1—Volume Control 18,000 ohms
R-2—1st RF Bias Resistor 500 ohms
R-3—Detector Bias Resistor 25,000 ohms
R-4—Detector Screen Resistor 500,000 ohms
R-5—Detector Plate Resistor 500,000 ohms
R-6—Audio Grid Resistor 2 meg.
R-7—Series Grid Resistor 250,000 ohms
R-8—Filament Resistor 1.3 ohms
R-9—Filament Resistor 1.1 ohms
R-10—Audio Bias Resistor 900 ohms
C-1—1st RF Tuning Condenser
C-2—2nd RF Tuning Condenser
C-3—3rd RF Tuning Condenser
C-5—Screen By-pass Condenser .5mf.
C-6—Cathode By-pass Condenser .5mf.
C-7—Plate By-pass Condenser 1.mf.
C-8—Detector Cathode Condenser .5mf.
C-9—Detector Screen Condenser .5mf.
C-10—Detector Plate Condenser .0001mf.
C-11—Detector Plate Condenser .0001mf.
C-12—Coupling Condenser .002mf.
C-13—Output Condenser 1.mf.
C-14—Filament By-pass Condenser
C-15—1st RF Alignment Condenser
C-16—3rd RF Alignment Condenser
C-17—Det. Alignment Condenser
C-18—Speaker Condenser

TABLE OF SOCKET VOLTAGES

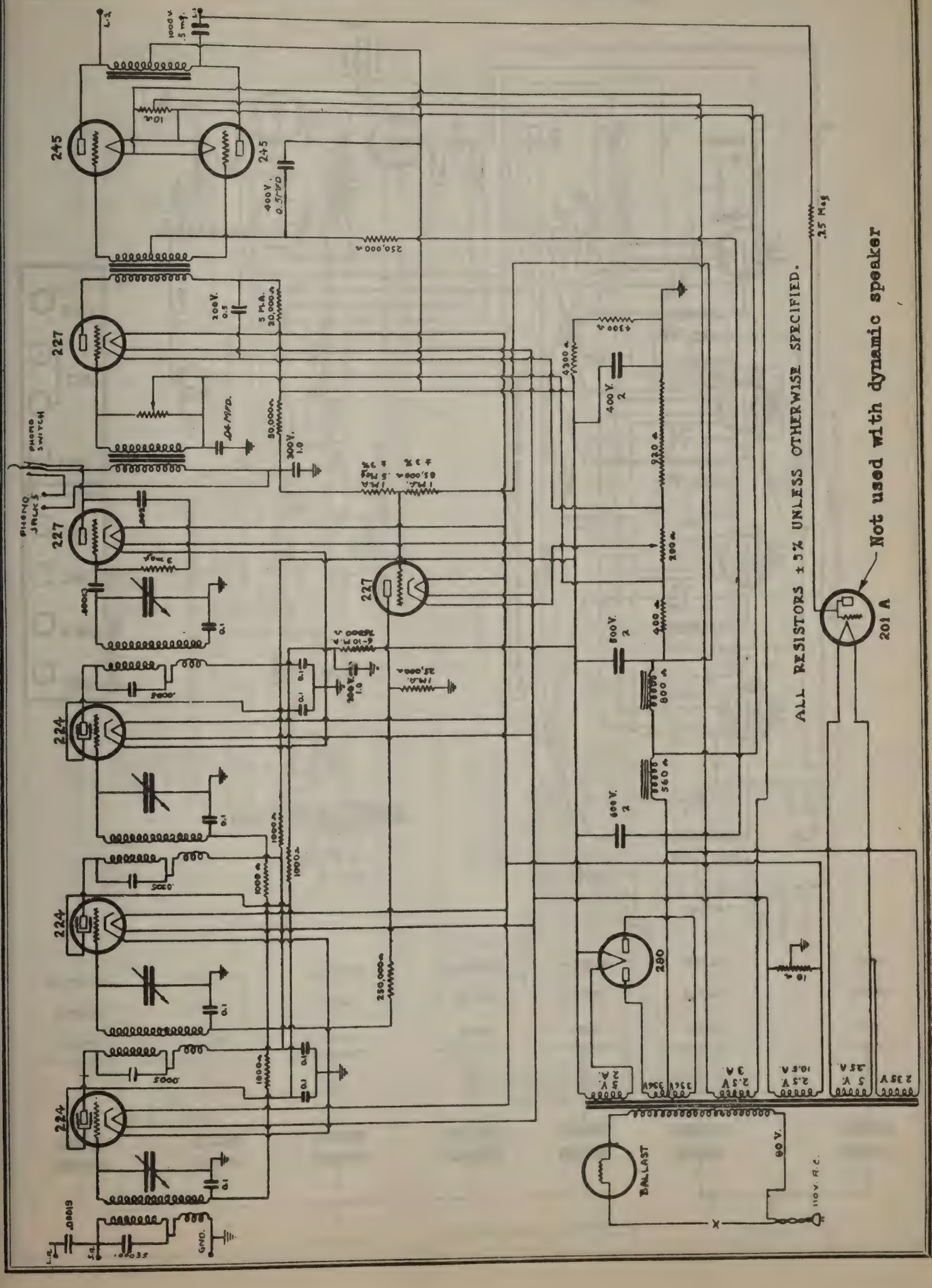
STAGE	TUBE	FIL.	PLATE	SCREEN	GRID	PLATE M.A.	
						Normal	*Test*
1st RF	224	2.0	170	75	3.5	3.0	5.00
2nd RF	224	2.0	170	75	3.5	3.0	5.00
3rd RF	224	2.0	170	75	3.5	3.0	5.00
Det.	224	2.0	50	15	1.0		
Audio	112-A	4.8	165		0.1	6.5	9

Models 80, 84 (1930)


1 RF
224
2 RF
224
3 RF
224
DET
224
1 AF
112A
PILOT 6.0 V.
FRONT

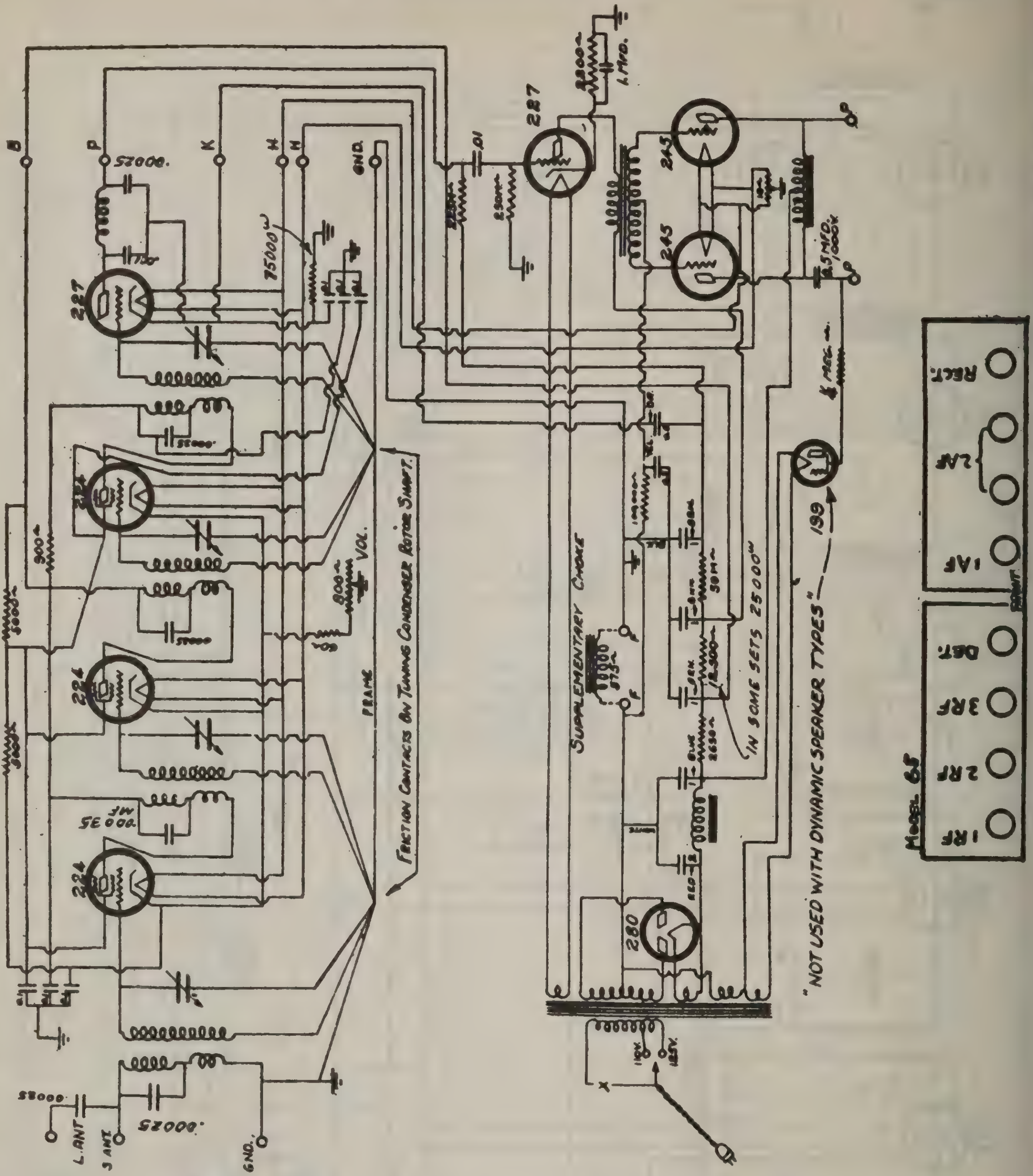
UNITED REPRODUCERS CORP.

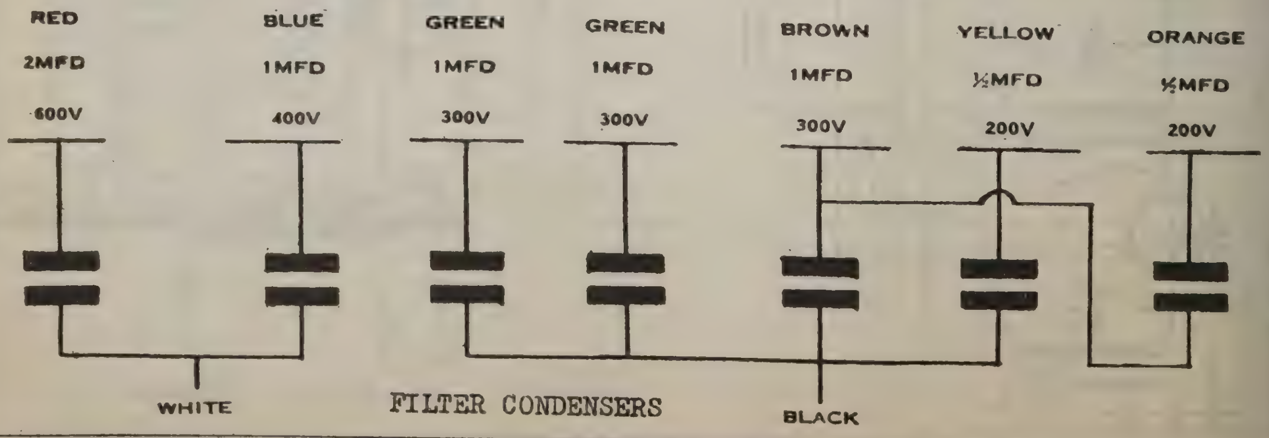
MODEL 20 Series


ALL RESISTORS ± 5% UNLESS OTHERWISE SPECIFIED.
Not used with dynamic speaker
201 A
245
245
227
227
227
224
224
224
280
BALLAST
L.S.
1000 V. .5 mf.
10 Ω
400 V. 0.5 MFD
250,000 Ω
.25 Meg
200 V. 0.5
5 M.A. 20,000 Ω
.04 MFD.
50,000 Ω
300 V. 1.0
PHONO SWITCH
PHONO JACKS
1 M.A. .5 Meg ± 5%
1 M.A. 85,000 Ω ± 3%
4300 Ω
400 V. 2
920 Ω
200 Ω
400 Ω
500 V. 2
800 Ω
560 Ω
600 V. 2
200 V. 1.0
1 M.A. 25,000 Ω
0.1
.0005
5000
1000 Ω
250,000 Ω
.00019
.00035
L.A.
S.A.
GND.
5 V. 2 A.
2.5 V. 3 A.
2.5 V. 10.5 A.
5 V. .25 A.
2.25 V
10 Ω
80 V.
110 V. A.C.

UNITED REPRODUCERS CORP

MODEL 65
Schematic

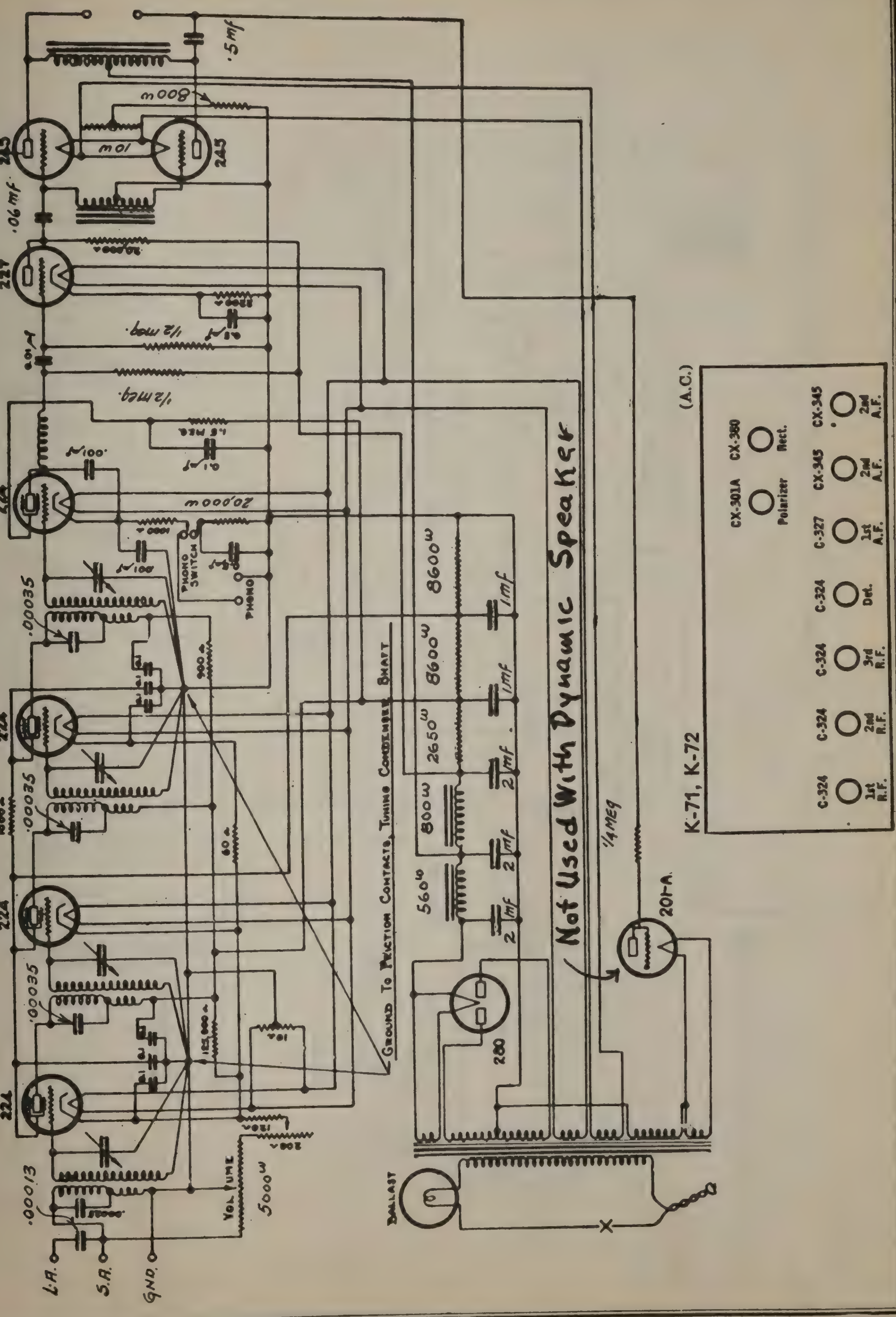

B
P
K
H
H
GND.
52000.
227
224
224
224
75000Ω
300Ω
3000Ω
800Ω
VOL.
FRAME
FRICTION CONTACTS ON TUNING CONDENSER ROTOR SHAFT.
.00035 MF
52000.
L.ANT
S ANT
GND.
.01
250M
227
2200Ω
1 MFD.
245
245
P
P
.5 MFD. 1000V
1/4 MEG.
199
"NOT USED WITH DYNAMIC SPEAKER TYPES"
SUPPLEMENTARY CHOKE
IN SOME SETS 25000Ω
280
110V
125V
RECT.
2AF
1AF
DET.
3RF
2RF
1RF
Model 65


RED
2MFD
600V
BLUE
1MFD
400V
GREEN
1MFD
300V
GREEN
1MFD
300V
BROWN
1MFD
300V
YELLOW
½MFD
200V
ORANGE
½MFD
200V
WHITE
BLACK

FILTER CONDENSERS

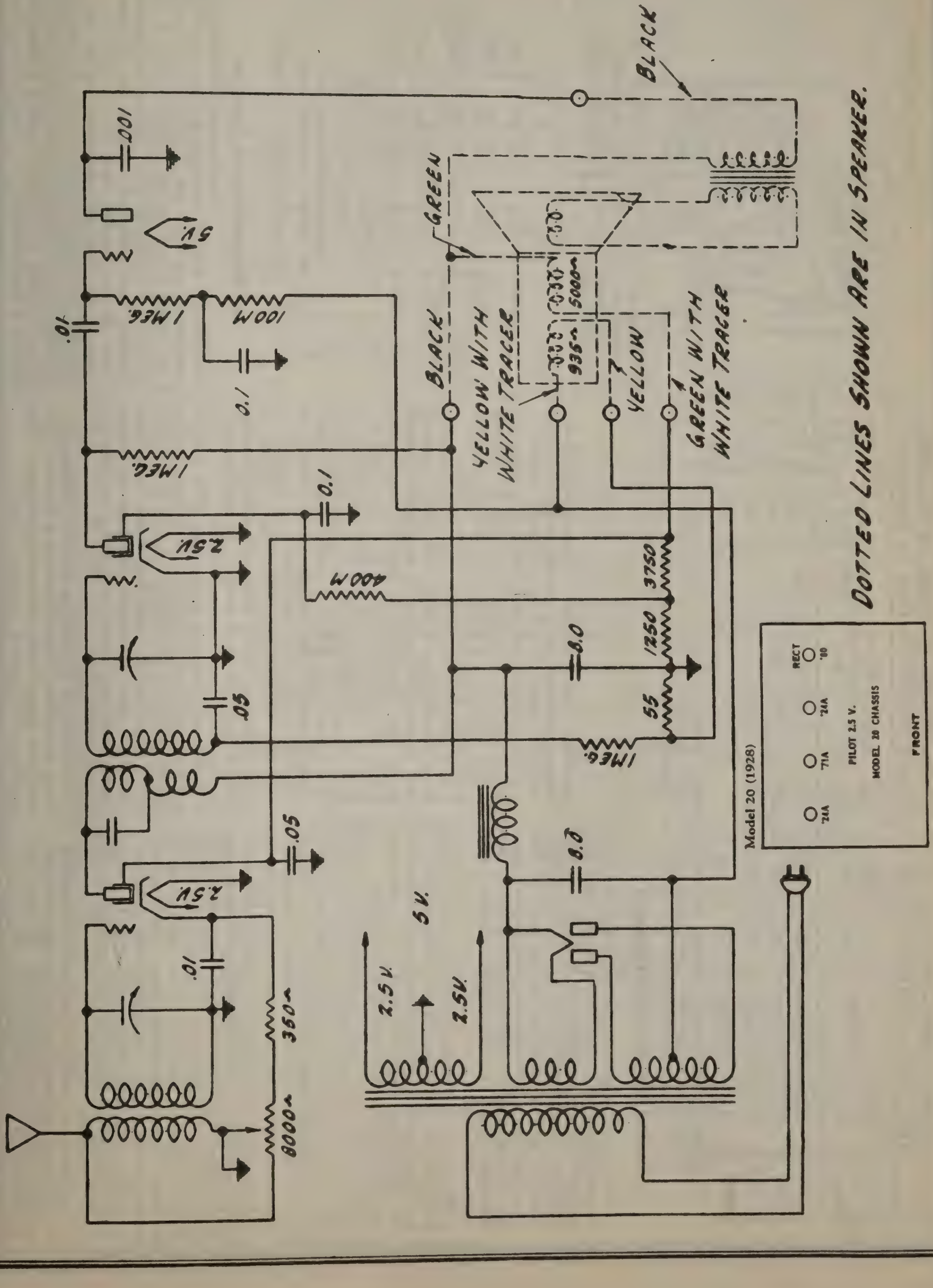
MODEL 70 Series
(71,72)

UNITED REPRODUCERS CORP.


245
245
10w
800w
.5mf
.06mf
227
30,000Ω
2500Ω
.1mf
1/2 meg.
.01mf
1/2 meg.
1.5 MEG.
.1mf
.0001
224
20,000w
1000Ω
.0001
PHONO SWITCH
PHONO
.00035
900Ω
224
1000Ω
.00035
60Ω
224
.00035
125,000Ω
10Ω
224
120Ω
200Ω
VOL TUNE
5000w
.00013
L.A.
S.A.
GND.
GROUND TO FRICTION CONTACTS, TUNING CONDENSER SHAFT
8600w
8600w
2650w
800w
560w
1mf
1mf
2mf
2mf
2mf
280
201-A
Not Used With Dynamic Speaker
1/4 MEG
BALLAST
(A.C.)
K-71, K-72
CX-301A
Polarizer
CX-380
Rect.
C-324
1st R.F.
C-324
2nd R.F.
C-324
3rd R.F.
C-324
Det.
C-327
1st A.F.
CX-345
2nd A.F.
CX-345
2nd A.F.

U. S. RADIO & TELEVISION CORP.

MODEL 20
Schematic


.001
5V.
.01
1 MEG.
100M
0.1
1 MEG.
0.1
2.5V.
400M
3750
1250
8.0
.05
55
1 MEG.
.05
2.5V.
.01
350~
8000~
8.0
5V.
2.5V.
2.5V.
BLACK
GREEN
BLACK
YELLOW WITH WHITE TRACER
3.0
.030
5000~
935~
YELLOW
GREEN WITH WHITE TRACER
DOTTED LINES SHOWN ARE IN SPEAKER.
Model 20 (1928)
RECT
'80
'24A
PILOT 2.5 V.
'71A
MODEL 20 CHASSIS
'24A
FRONT

No. 20 CHASSIS—VOLTAGES AT SOCKETS—VOLUME CONTROL AT MAXIMUM LINE VOLTAGE. 115—PLUG IN SOCKET OF RECEIVER—TUBE IN TEST SET

Type of Tube	*Position of Tube*	*Function*	*"A" Volts*	*"B" Volts*	*Control Grid "C" Volts*	*Screen Volts*	*Screen Current MA*	*Cathode Volts*	*Plate MA*	*Grid Test MA*
224	1	1st Radio	2.5	196	2.2	85	1.4	2.2	5.	7.1
224	2	Detector	2.5	95(1)	2.3(2)	17(3)	.015		.1	.2
171A	3	1st Audio	5.1	191	43. (4)				18.	20.
280	4	Rectifier	5.1						23. Per Plate	

(1) (3) Computed value. Reading with voltmeter will be lower.
(2) This voltage read across 55 ohm section of shunt resistor.
(4) This voltage read across 935 ohm section of speaker field and 55 ohm section of shunt resistor.

Tuning Condenser Alignment

The tuning condensers are aligned at the factory with oscillators and output meters and the receiver will not normally lose its alignment unless mishandled or tampered with. When the condenser is out of alignment one or more of the stages are not in resonance and the receiver may tune broadly, lack volume at certain parts of the broadcast band, or tune in a signal at two or more points of the dial.

The chassis should be grounded but the antenna disconnected. In case a strong enough signal is not being received from the oscillator, connect a five or six foot length of wire to the antenna post and run it over towards the oscillator.

First set the oscillator for a signal of 1,400 K.C. Then carefully tune to resonance by turning the tuning condenser rotor slowly back and forth until maximum output is obtained. Now adjust the trimmer condensers to resonance. Adjust the volume control until the pointer of the output meter is at about half scale. The oscillator signal should not be too great in intensity as distortion will be introduced. The trimmer condensers are adjusted by raising or lowering the center screw. Turn the screws down until the volume starts to drop. Then adjust the trimmers to resonance, raising or lowering the screws until maximum deflection is obtained. Adjustment may be made with a metal screw driver as the rotor is at ground potential.

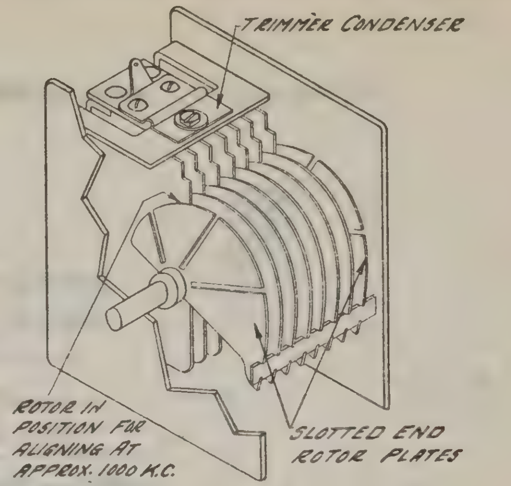
An important point to remember in adjusting the trimmer condenser is that the screws should not be turned completely down. If they are screwed in too tightly the capacity of the trimmer condenser which is added to the capacity of the tuning condenser will be so high that the receiver cannot be tuned to a high frequency signal.

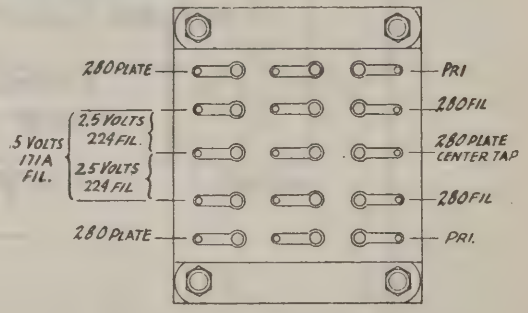
After the trimmer condensers have been adjusted at 1,400 K.C., they should not be changed in any way when aligning the tuning condensers at different frequencies as explained below.

Next set the oscillator for a signal of 1,000 K.C. Then turn the tuning condenser rotor carefully until maximum deflection is obtained on output meter. The second slotted section of the rotor will be approximately half way in mesh with the stator as shown in Fig. 3. Bend this section of the two end rotor plates of the first section of the tuning condenser in or out until maximum reading is obtained on the output meter. Follow the same procedure with section two of the tuning condenser. The corresponding slotted section on both ends of any rotor section should be bent in or out about the same amount for each adjustment.

After each material adjustment of a slotted rotor plate section, the tuning or setting of rotor for resonance should be checked. In other words, after every bending turn the tuning knob back and forth until maximum deflection of output meter is obtained before proceeding to make the next adjustment.

Next tune in a signal at 750 K.C. Follow the same procedure. Lastly, tune in a signal at 600 K.C. and again follow the same procedure. The condenser will then be properly aligned.





CENTER ROW OF LUGS USED AS WIRING TERMINALS ONLY

Power Transformer Terminals

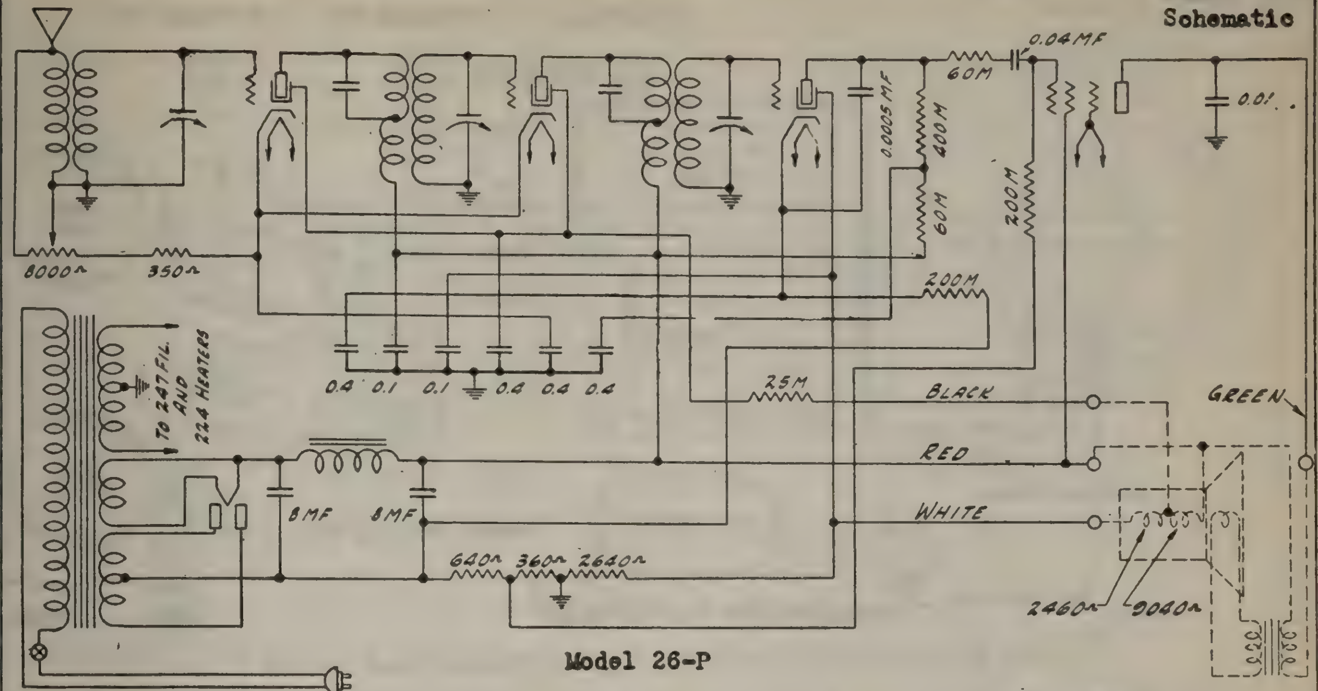
Electrodynamic Speaker

An especially designed electrodynamic speaker is supplied with the No. 20 chassis. The field of this speaker is energized by the power system of the chassis and is a part of the power system. For that reason no other speaker should be used with the No. 20 chassis than the one supplied with it.

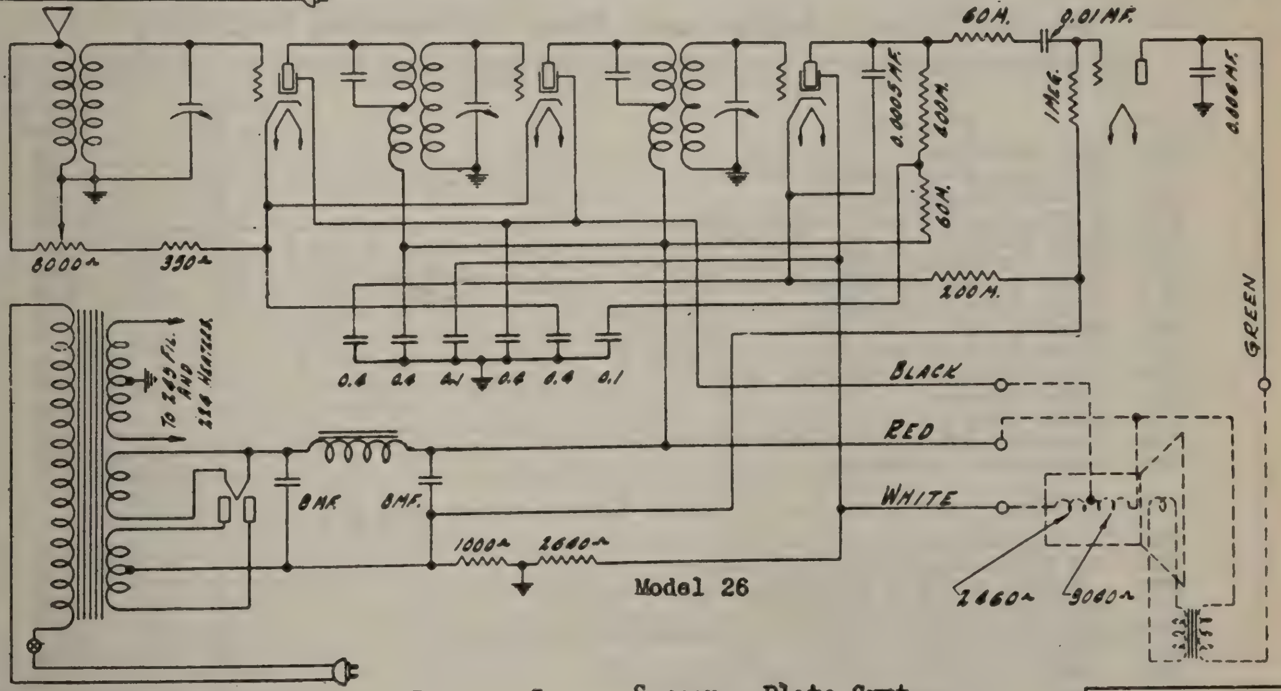
Care should be taken in servicing the No. 20 receiver not to reverse the leads to one of the field sections as the fields will then "buck" and low signal strength will result. The field winding also acts as a filter choke.

U. S. RADIO & TELEVISION CORP.

MODEL 26
Schematic
MODEL 26-P
Schematic


0.04MF
60M
0.01
0.0005MF
400M
60M
200M
8000^
350^
200M
0.4
0.1
0.1
0.4
0.4
0.4
TO 247 FIL. AND 224 HEATERS
25M
BLACK
GREEN
RED
WHITE
8MF
8MF
640^
360^
2640^
2460^
9040^

Model 26-P


60M.
0.01MF.
0.0005MF.
400M.
1MEG.
0.006MF.
60M.
8000^
350^
200M.
GREEN
0.4
0.4
0.1
0.4
0.4
0.1
TO 245 FIL. AND 224 HEATERS
BLACK
RED
WHITE
8MF.
8MF.
1000^
2640^
2460^
9040^

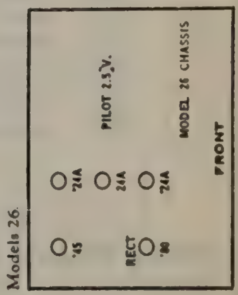
Model 26

Type	Function	A	B	C	Screen	Plate Crnt.	
224	1st RF	2.2	245	2.5	80	2.9 ma	
224	2nd RF	2.2	245	2.5	80	2.9	
224	Det	2.2	130	3.	40	.25	Model 26
245	Audio	2.35	245	50.		28.	
280	Rect.	4.6				25.*	

* Per anode. Line voltage 115 . V.C.Max.

224	1st RF	2.2	250	2.	55."	2.1	
224	2nd RF	2.2	250	2.	55."	2.1	
224	Det.	2.2	130	2.8	40."	.25	Model 26-P
247	Audio	2.3	238	18.**	250	27.	
280	Rect.	4.65				28. *	

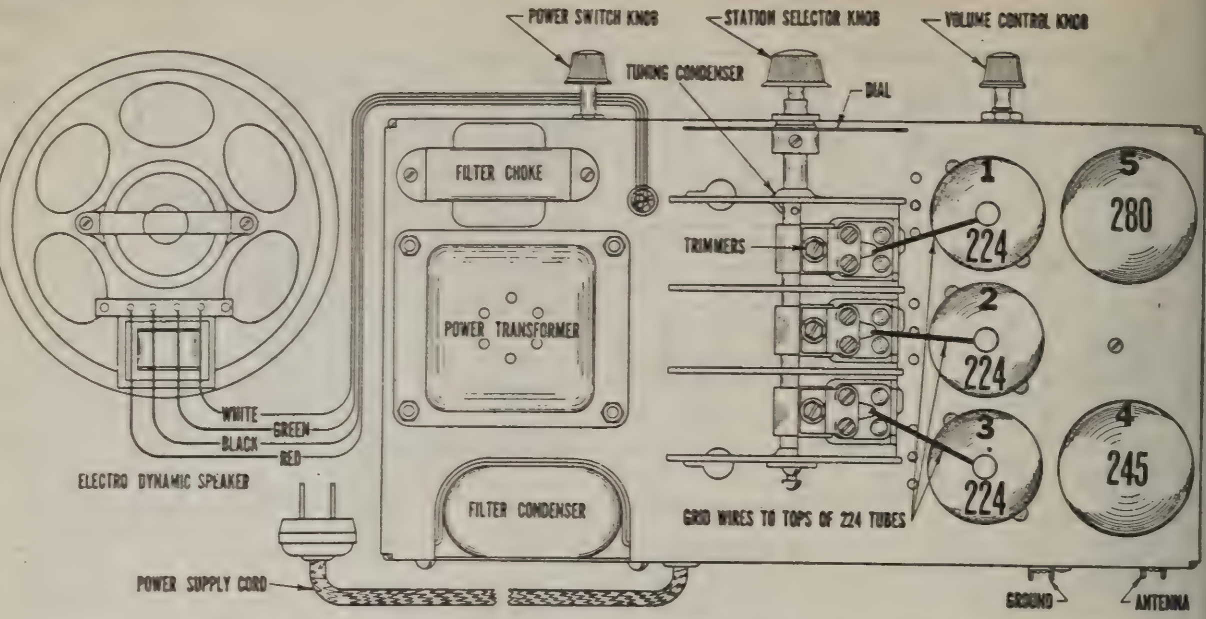
** Read across 360 ohms section of shunt resistor.
" Read with 250,000 ohm meter.


MODEL 26 CHASSIS
PILOT 2.5V.
FRONT
'24A
'24A
'24A
'45
RECT
'80

Models 26.

MODEL 26 Chassis
MODEL 26-P Parts List

U. S. RADIO & TELEVISION CORP.



--*Top View of No. 26 Chassis showing Tube Sequence and Speaker Connections*

No. 26P Chassis Replacement Parts (Supplementing No. 26 List)

The following parts are used in addition to the parts listed for the No. 26 chassis.

Part No.	*Description*	*No. Used in Set*	*List Price Each*
2757	Tube Socket—247	1	.35
705	25,000 ohm Series Resistor, Carbon	1	.50
1358	.04 Mfd. Coupling Condenser	1	.60
1751	200,000 ohm Grid Leak Resistor, Carbon	1	.50
2303A	Shunt Resistor, 640—360—2640 ohms	1	.60
2767	Resistor & Condenser Panel Assembly complete	1	3.00
2678	8 Mfd. Electrolytic Condenser Unit complete, Dry type	2	2.25
2752	Chassis Cover Plate for Electrolytic Condensers	1	.15
2691	Mounting Plate for Electrolytic Condensers	1	.15
2763	Electrolytic Condenser Assembly complete, 2 Units and Mounting Plate	1	4.65
2756	Power Transformer, 115 Volt, 60 Cycles	1	7.50
2768	Chassis Harness	1	1.00
2771	Bottom Plate	1	.40
2758	Baffle Mtg. D.C. Electrodynamic Speaker for No. 26P Chassis	1	8.50
2796	Transformer for Speaker	1	3.50

The following parts listed for the No. 26 Chassis *are not* used in the No. 26P Chassis:

685	Tube Socket—245	1	.35
1612	.006 Mfd. Audio Plate By-pass Condenser	1	.80
2266	.1 Megohm Grid Leak Resistor	1	.45
2303	Shunt Resistor, 1000—2640 ohms	1	.60
2316	Resistor & Condenser Panel Assy. complete	1	3.00
1942	8 Mfd. Electrolytic Condenser Unit	2	2.50
2223	Mounting Clamp for Electrolytic Condensers	1	.20
2328	Metal Cap for Electrolytic Condensers	1	.15
2251	Power Transformer, 115 Volts, 60 Cycles	1	7.50
2238	Cover Plate for Power Transformer	1	.30
2318	Chassis Harness	1	1.20
2467	Baffle Mtg. D.C. Electrodynamic Speaker No. 26 Chassis	1	8.50
2555	Transformer for Speaker	1	3.50

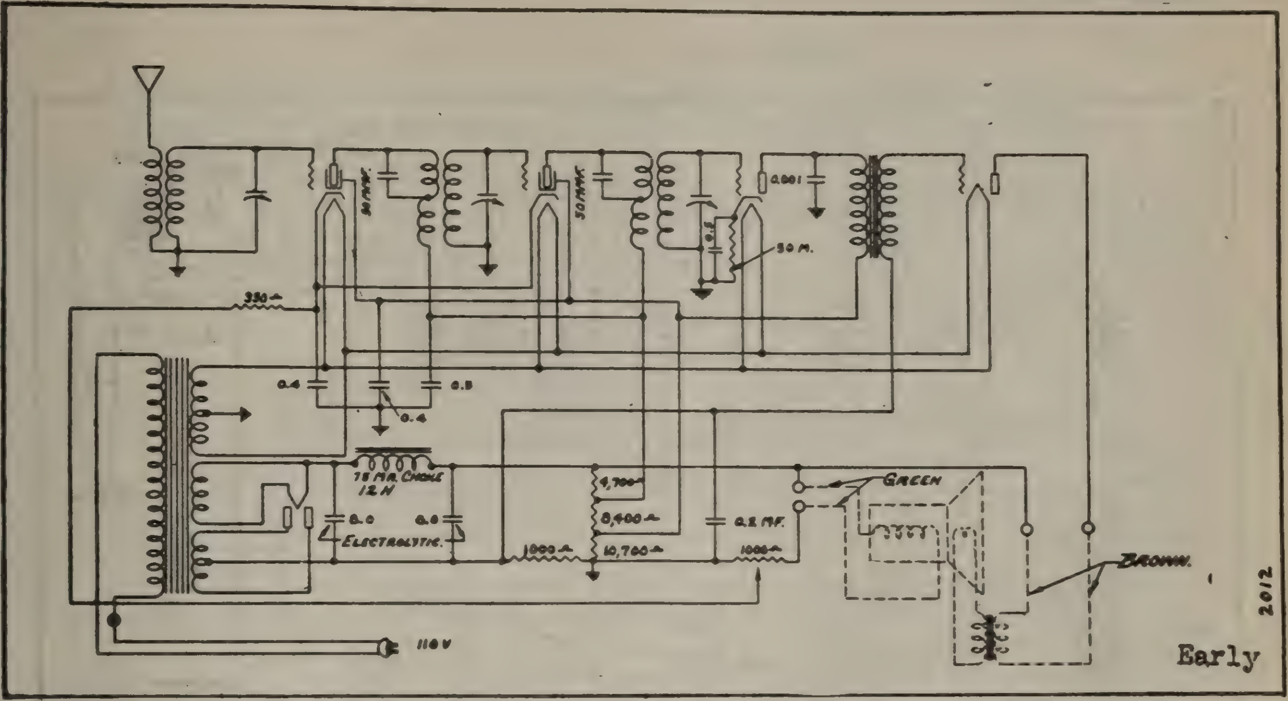
Making Pentode Current and Voltage Readings

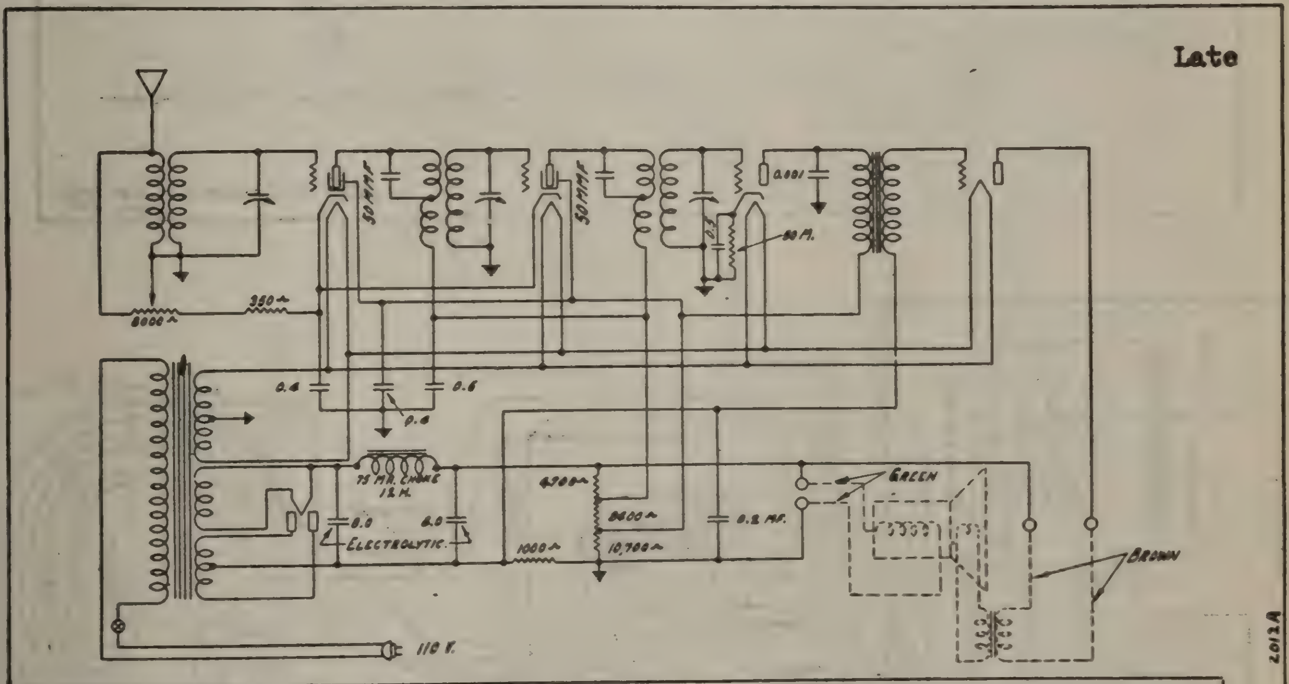
Reading	Terminals	Meter
A Volts	Across filament terminals	0-4 A.C. Voltmeter
B Volts	Plate terminal to subpanel	0-300 D.C. Voltmeter
C Volts	Across 360 ohm resistor	0-50 D.C. Voltmeter
Screen Volts	Screen grid terminal to subpanel	0-300 D.C. Voltmeter
Screen M.A.	Insert milliameter in screen grid line	0-25 D.C. Milliameter
Plate M.A.	Insert milliameter in plate line	0-50 D.C. Milliameter

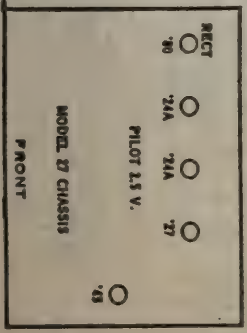
CAUTION:—Never operate the Pentode tube under any circumstances without plate voltage. This condition may arise if one of the speaker leads is disconnected opening the line to the primary of the output transformer. Without plate voltage the screen grid will become white hot due to the excessive current flowing through it and may become distorted or may evolve gas. Care should be taken, therefore, in servicing the No. 26P chassis or conducting experiments with the Pentode never to have this condition arise.

U. S. RADIO & TELEVISION CORP.

MODEL 27 (Early)
Schematic
MODEL 27 (Late)
Schematic


350 Ω
0.4
0.4
0.5
0.001
30 MMF
30 MMF
30 M.
75 MA. CHOKE 12 H
8.0
8.0
ELECTROLYTIC
4,700 Ω
8,400 Ω
10,760 Ω
1000 Ω
0.2 MF.
1000 Ω
GREEN
BROWN
110 V
2012
Early


Late
50 MMF
50 MMF
0.001
30 M.
8000 Ω
350 Ω
0.4
0.6
0.6
75 MA. CHOKE 12 H.
8.0
8.0
ELECTROLYTIC
4700 Ω
8600 Ω
10,700 Ω
1000 Ω
0.2 MF.
GREEN
BROWN
110 V.
2012A


RECT
'80
'24A
'24A
'27
'45
PILOT 2.5 V.
MODEL 27 CHASSIS
FRONT

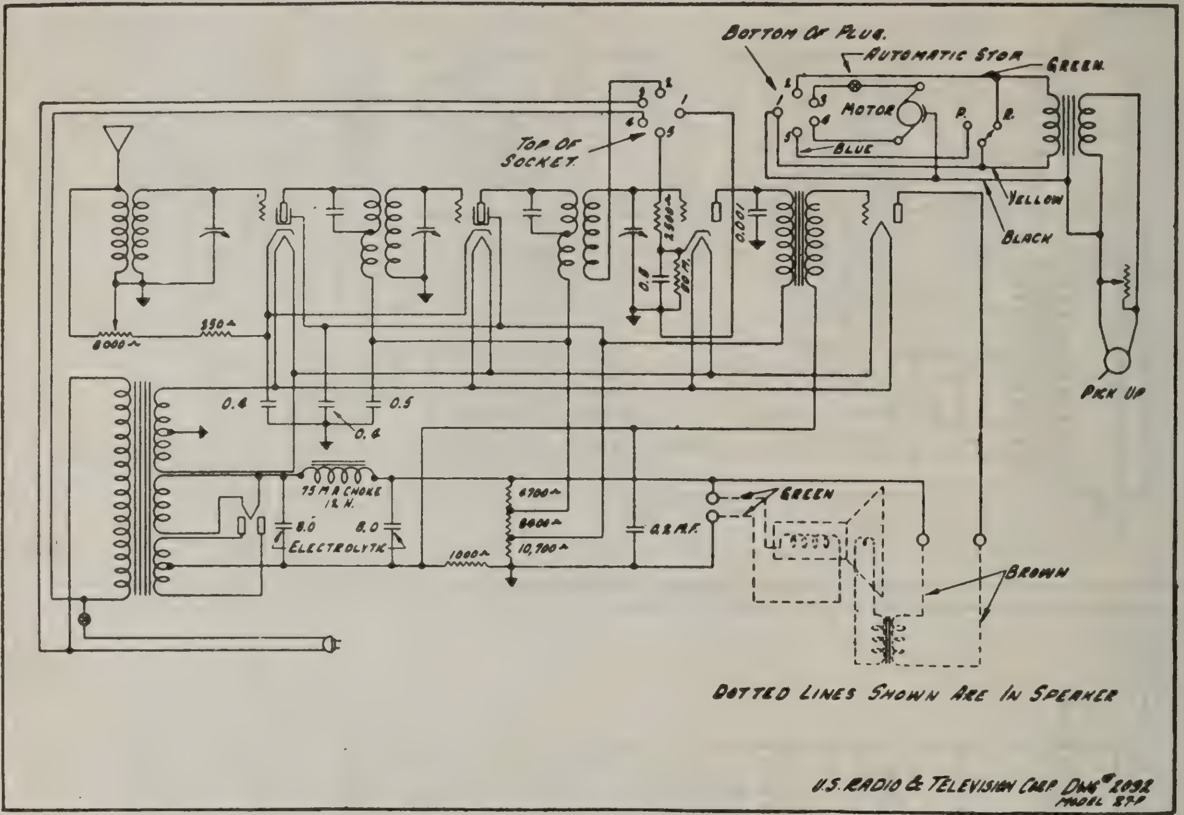
Model Apex 27 Series (1929)

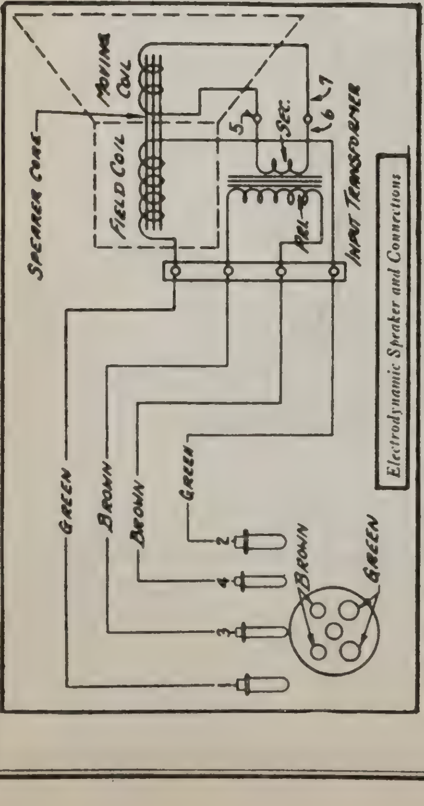
VOLTAGES AT SOCKETS — VOLUME CONTROL AT MAXIMUM — LINE VOLTAGE, 115 — PLUG IN SOCKET OF RECEIVER — TUBE IN TEST SET

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid "C" Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Test MA
224	1	1st Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
224	2	2nd Radio	2.25	160	2.5	80	.6	2.5	3.	5.1
227	3	Detector	2.25	70	8.5			8.5	.1	.2
245	4	Audio	2.35	238	44.				19.	22.
280	5	Rectifier	4.8						26.5 per Plate	

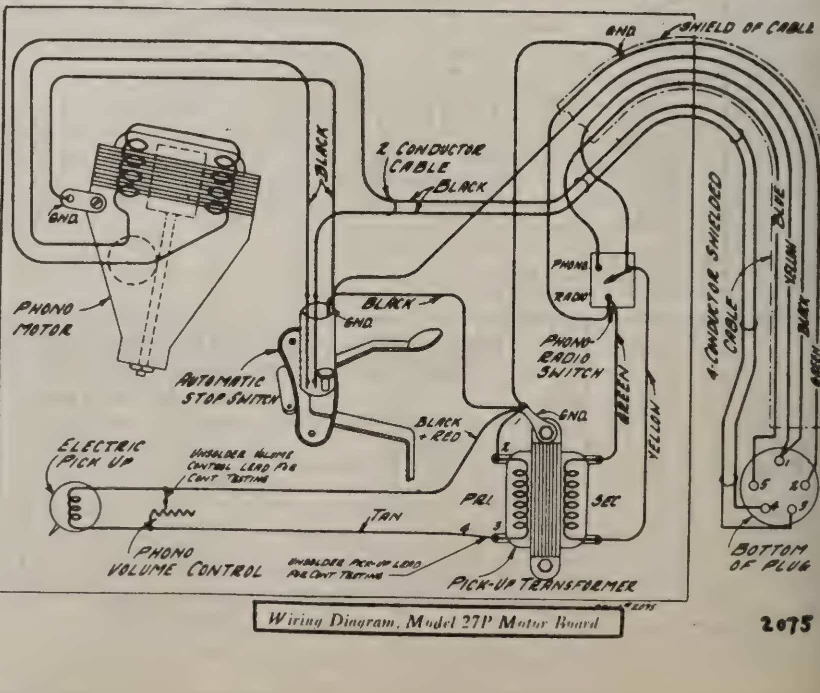
MODEL 27-P
Schematic
Motor Board
Schematic

U. S. RADIO & TELEVISION CORP.


BOTTOM OF PLUG.
AUTOMATIC STOP
GREEN.
MOTOR
BLUE
P.
R.
YELLOW
BLACK
TOP OF SOCKET.
PICK UP
6000~
350~
0.4
0.6
0.5
0.8
2500
0.001
75 M.A CHOKE 12 H.
8.0
8.0
ELECTROLYTIC
6700~
8400~
10,700~
1000~
0.2 M.F.
GREEN
BROWN
DOTTED LINES SHOWN ARE IN SPEAKER
U.S. RADIO & TELEVISION CORP. DWG# 2092 MODEL 27-P


MOVING COIL
FIELD COIL
SPEAKER CONE
SEC.
PRI.
INPUT TRANSFORMER
5
6
7
GREEN
BROWN
BROWN
GREEN
1
2
3
4
BROWN
GREEN

Electrodynamic Speaker and Connections

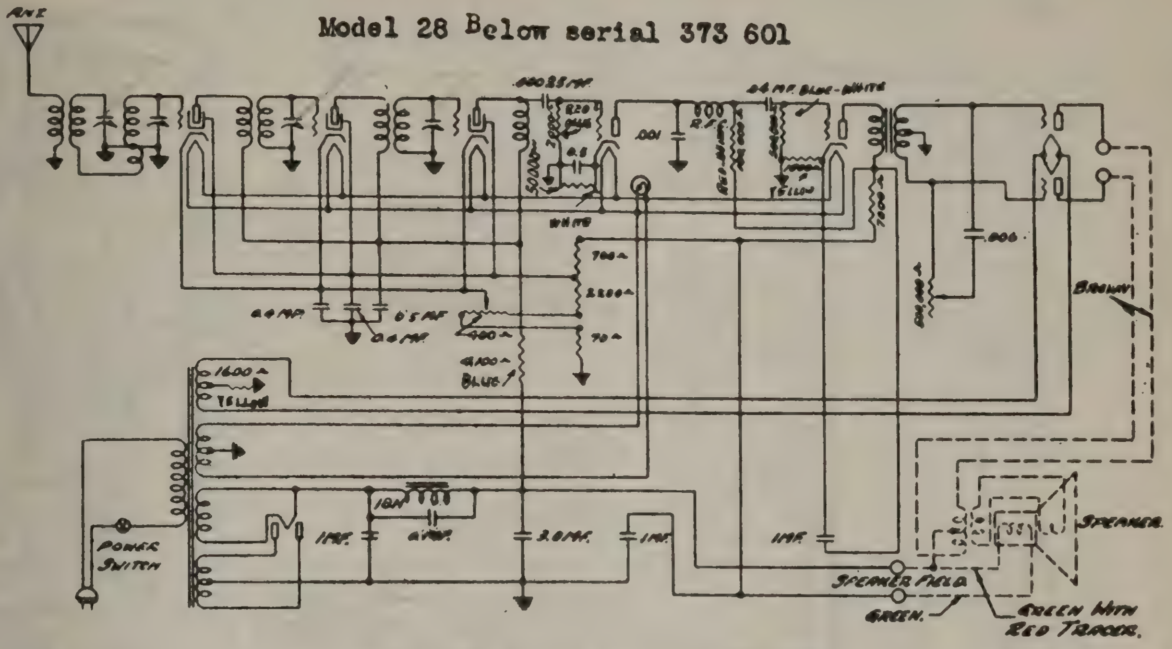

GND.
SHIELD OF CABLE
BLACK
2 CONDUCTOR CABLE
BLACK
GND.
PHONO MOTOR
BLACK
GND.
AUTOMATIC STOP SWITCH
PHONO
RADIO
PHONO-RADIO SWITCH
GREEN
YELLOW
4-CONDUCTOR SHIELDED CABLE
BLUE
YELLOW
BLACK
GREEN
BLACK + RED
GND.
ELECTRIC PICK UP
UNSOLDER VOLUME CONTROL LEAD FOR CONT TESTING
PRI.
SEC.
TAN
PHONO VOLUME CONTROL
UNSOLDER PICK-UP LEAD FOR CONT TESTING
PICK-UP TRANSFORMER
BOTTOM OF PLUG
1
2
3
4
5

Wiring Diagram, Model 27P Motor Board

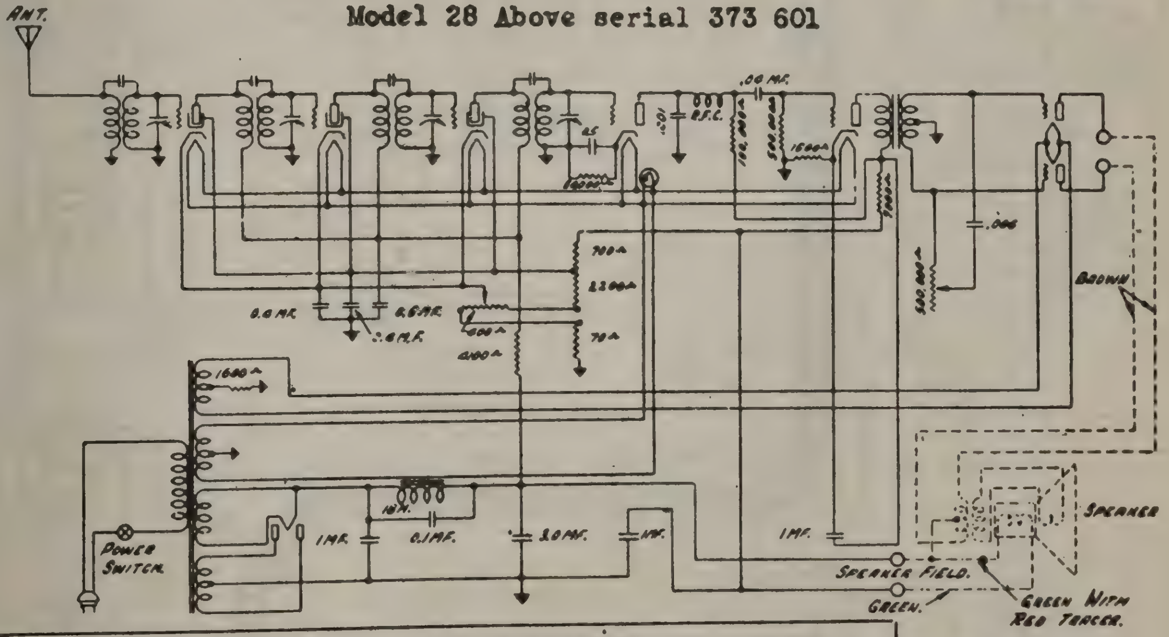
U. S. RADIO & TELEVISION CORP.

MODEL 28 (Early)
MODEL 28 (Late)
Schematics
Voltage

Model 28 Below serial 373 601

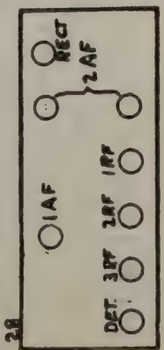

ANT
.00025 MF.
.04 MF. BLUE-WHITE
820 OHMS
2000
.5
50000
.001
R.F.C.
YELLOW
WHITE
7000
.006
500,000
700
2200
70
4100
BLUE
400
.6 MF.
0.5 MF.
0.6 MF.
BROWN
1600
YELLOW
POWER SWITCH
18H
1MF.
0.1MF.
2.0 MF.
1MF.
1MF.
SPEAKER
SPEAKER FIELD
GREEN.
GREEN WITH RED TRACER.

Model 28 Above serial 373 601


ANT.
.00 MF.
R.F.C.
.001
.25
1500
.006
500,000
700
2200
70
400
4100
0.6 MF.
0.6 MF.
0.6 MF.
BROWN
1600
POWER SWITCH
18H.
1MF.
0.1MF.
2.0 MF.
1MF.
1MF.
SPEAKER
SPEAKER FIELD.
GREEN.
GREEN WITH RED TRACER.

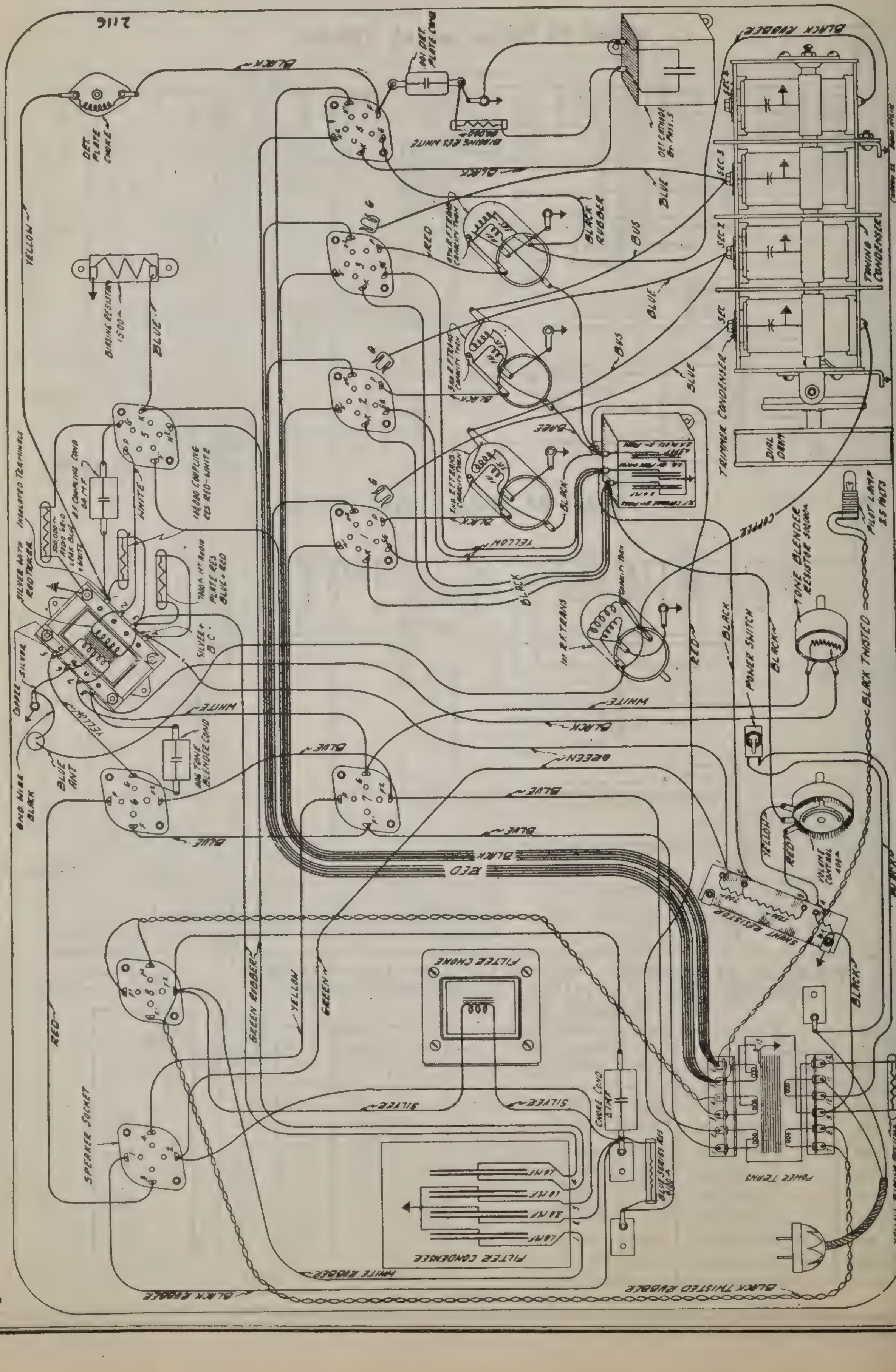
Dotted Lines Shown Are In Speaker.

VOLTAGES AT SOCKETS — VOLUME CONTROL AT MAXIMUM — LINE VOLTAGE, 115 — PLUG IN SOCKET OF RECEIVER — TUBE IN TEST SET										
Type of Tube	*Position of Tube*	*Function*	*"A" Volts*	*"B" Volts*	*Control Grid "C" Volts*	*Screen Volts*	*Screen Current MA*	*Cathode Volts*	*Plate MA*	*Grid Test MA*
224	1	1st Radio	2.25	180	3.0	90	.6	3.0	3.4	5.8
224	2	2nd Radio	2.25	180	3.0	90	.6	3.0	3.4	5.8
224	3	3rd Radio	2.25	180	3.0	90	.6	3.0	3.4	5.8
227	4	Detector	2.25	60	8			8	.2	.3
227	5	1st Audio	2.25	90	6			6	3.5	4.5
245	6	2nd Audio	2.35	185	40				12.5	15.0
245	7	2nd Audio	2.35	185	40				12.5	15.0
280	8	Rectifier	5.0						38 Per Plate	

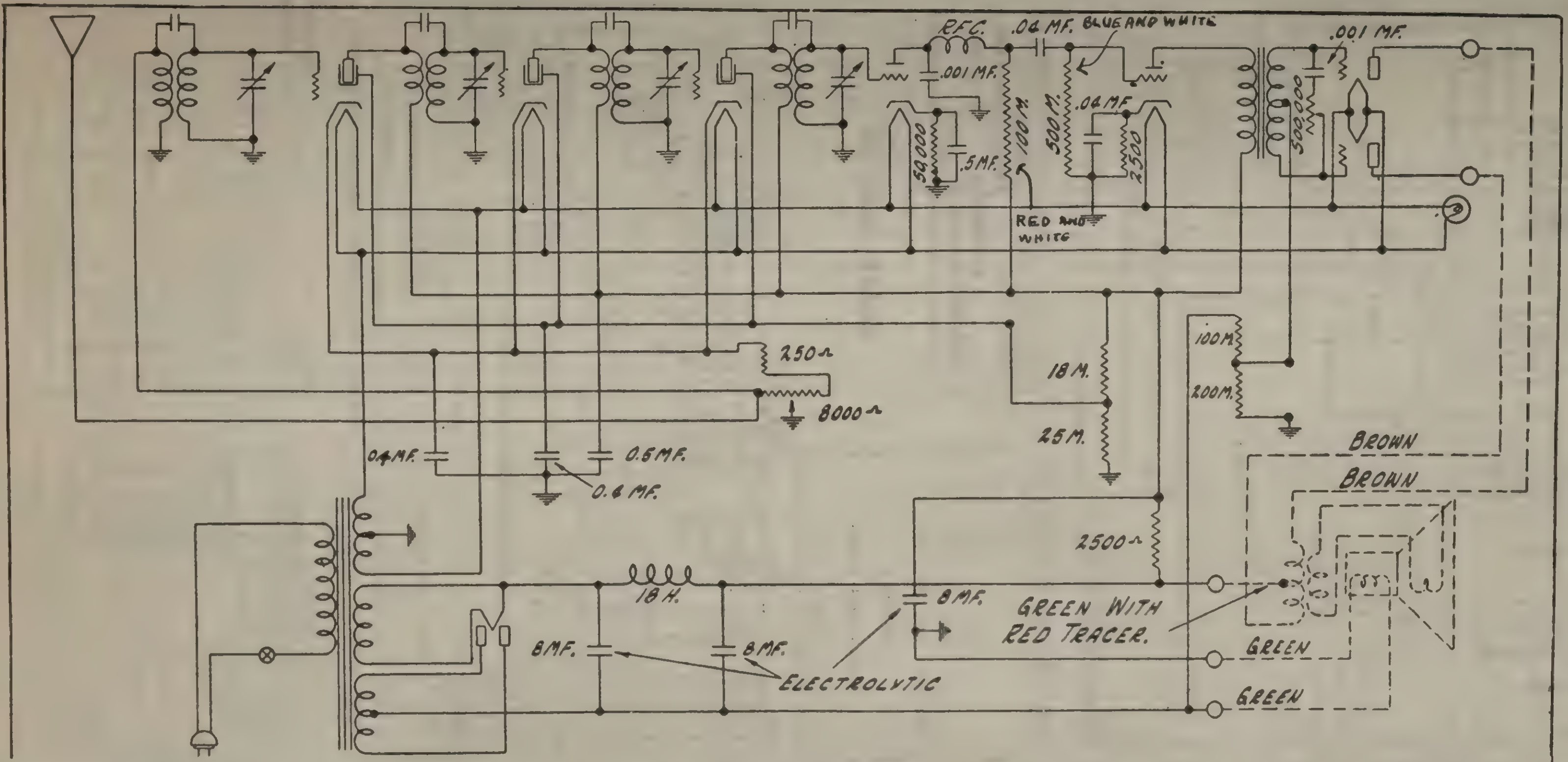

RECT
2 AF
1RF
1AF
2RF
3RF
DET.
28

MODEL 28
Chassis

U. S. RADIO & TELEVISION CORP.


2116
BLACK
DET. PLATE CHOKE
.001 DET. PLATE COND
BIASING RES WHITE
DET. CATHODE BY-PASS
BLACK RUBBER
SEC 4
SEC 3
SEC 2
SEC
TUNING CONDENSER
TRIMMER CONDENSER
DIAL DRUM
PILOT LAMP 2.5 VOLTS
YELLOW
BIASING RESISTOR 1500Ω
BLUE
4TH R.F. TRANS
3RD R.F. TRANS
2ND R.F. TRANS
1ST R.F. TRANS
BUS
BARE
RED
R.F. CATHODE BY-PASS
14,000 COUPLING RES RED-WHITE
WHITE
A.F. COUPLING COND
INSULATED TERMINALS
SILVER WITH REDTRACER
1ST AUDIO PLATE RES BLUE + RED
SILVER + B.C.
COPPER
TONE BLENDER RESISTOR
POWER SWITCH
BLACK TWISTED
GREEN
TONE BLENDER COND
BLUE ANT
GND. WIRE BLACK
COPPER
SILVER
VOLUME CONTROL
SHUNT RESISTOR
FILTER CHOKE
CHOKE COND
BLUE SERIES RES
POWER TRANS
YELLOW BIASING RES
FILTER CONDENSER
WHITE RUBBER
BLACK RUBBER
BLACK TWISTED RUBBER
SPEAKER SOCKET
GREEN RUBBER
SILVER

MODEL 29

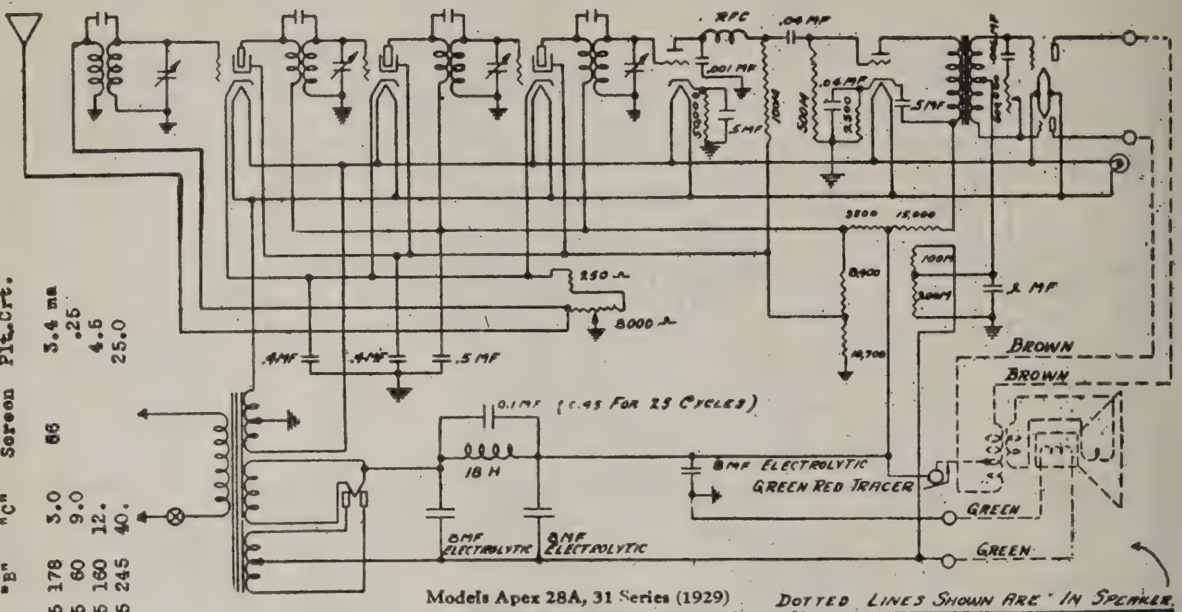

R.F.C.
.04 MF.
BLUE AND WHITE
.001 MF.
.001 MF.
100 M.
500 M.
.04 MF.
2500
50,000
.5 MF.
500,000
RED AND WHITE
250 Ω
8000 Ω
18 M.
25 M.
100 M.
200 M.
0.4 MF.
0.6 MF.
0.4 MF.
2500 Ω
18 H.
8 MF.
8 MF.
8 MF.
ELECTROLYTIC
GREEN WITH RED TRACER.
BROWN
BROWN
GREEN
GREEN

No. 29 CHASSIS—VOLTAGES AT SOCKETS—VOLUME CONTROL AT MAXIMUM LINE VOLTAGE, 115—PLUG IN SOCKET OF RECEIVER—TUBE IN TEST SET

Type of Tube	Position of Tube	Function	"A" Volts	"B" Volts	Control Grid "C" Volts	Screen Volts	Screen Current MA	Cathode Volts	Plate MA	Grid Test MA
224	1	1st Radio	2.25	205	3.	90	.55	3.	3.4	6.3
224	2	2nd Radio	2.25	205	3.	90	.55	3.	3.4	6.3
224	3	3rd Radio	2.25	205	3.	90	.55	3.	3.4	6.3
227	4	Detector	2.25	140	13.			13.	.35	.45
227	5	1st Audio	2.25	190	13.			13.	5.3	6.5
245	6	2nd Audio	2.35	255	43.				26.	31.
245	7	2nd Audio	2.35	255	43.				26.	31.
280	8	Rectifier	4.9						37. Per Plate	

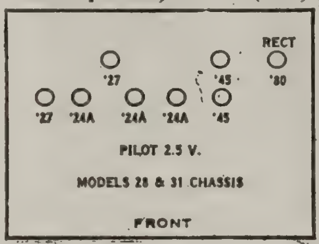
MODEL Apex 31
MODEL 31-R

U. S. RADIO & TELEVISION CORP.

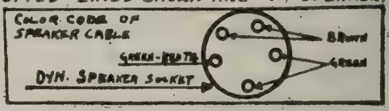

RFC
.04 MF
.001 MF
.5 MF
100M
500M
.06 MF
2500
.5 MF
3500
15,000
8400
10,700
100M
300M
.2 MF
250 ∿
8000 ∿
.4 MF
.4 MF
.5 MF
0.1 MF (0.45 FOR 25 CYCLES)
18 H
8 MF ELECTROLYTIC
8 MF ELECTROLYTIC
8 MF ELECTROLYTIC
GREEN RED TRACER
GREEN
GREEN
BROWN
BROWN

Tube	"A"	"B"	"C"	Screen	Plt.Crt.
All RF	2.25	178	3.0	66	3.4 ma
Det.	2.25	60	9.0		.25
1AF	2.25	160	12.		4.5
PPAF	2.35	245	40.		25.0

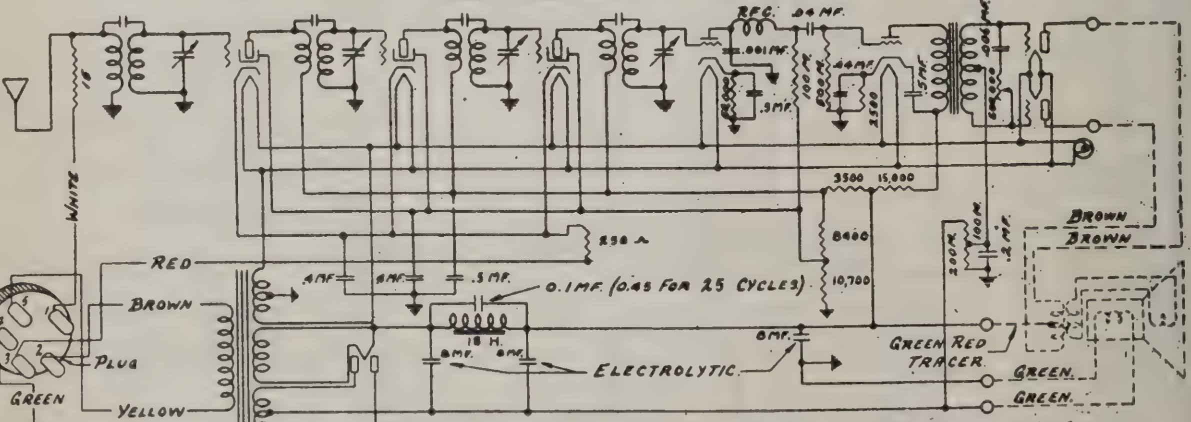
Models Apex 28A, 31 Series (1929)


RECT
'27
'45
'80
'27
'24A
'24A
'24A
'45
PILOT 2.5 V.
MODELS 28 & 31 CHASSIS
FRONT

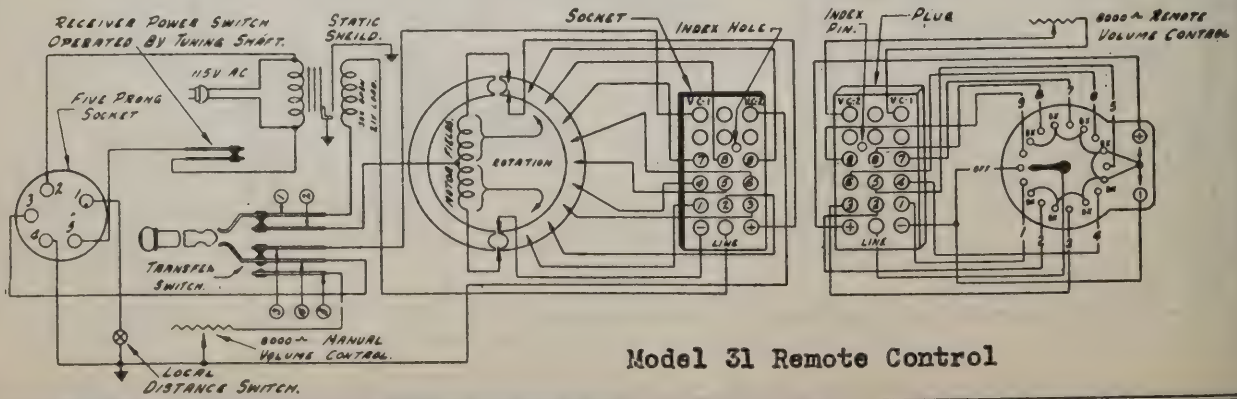
DOTTED LINES SHOWN ARE IN SPEAKER.


COLOR CODE OF SPEAKER CABLE
GREEN-RED TR.
DYN. SPEAKER SOCKET
BROWN
GREEN

Model Apex 31


RFC.
.04 MF.
.001 MF.
.5 MF.
2500
100M
500M
.06 MF
2500
.5 MF
.006 MF
3500
15,000
8400
10,700
200M
100M
.2 MF.
250 ∿
WHITE
RED
BROWN
PLUG
GREEN
YELLOW
.4 MF
.4 MF
.5 MF
0.1 MF. (0.45 FOR 25 CYCLES)
18 H.
8 MF.
8 MF.
ELECTROLYTIC
8 MF.
GREEN RED TRACER
GREEN
GREEN
BROWN
BROWN

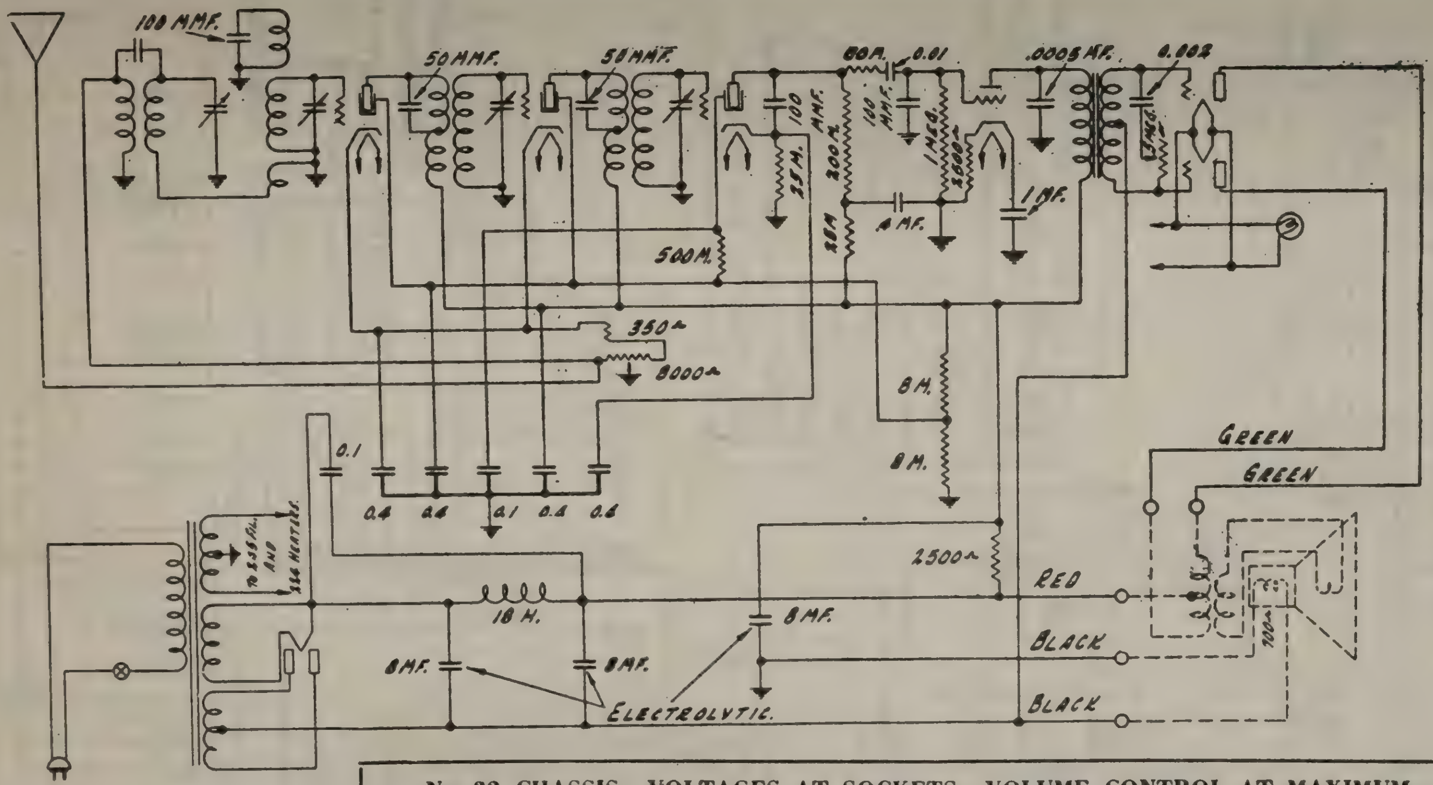
DOTTED LINES SHOWN ARE IN SPEAKER.


RECEIVER POWER SWITCH OPERATED BY TUNING SHAFT.
STATIC SHEILD.
115 V AC
FIVE PRONG SOCKET
TRANSFER SWITCH.
8000 ∿ MANUAL VOLUME CONTROL
LOCAL DISTANCE SWITCH.
SOCKET
INDEX HOLE
MOTOR FIELDS
ROTATION
VC-1
VC-2
LINE
INDEX PIN.
PLUG
8000 ∿ REMOTE VOLUME CONTROL
OFF

Model 31 Remote Control

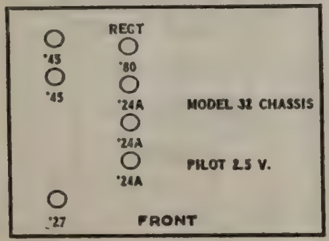
MODEL 32 Series

U. S. RADIO & TELEVISION CORP.

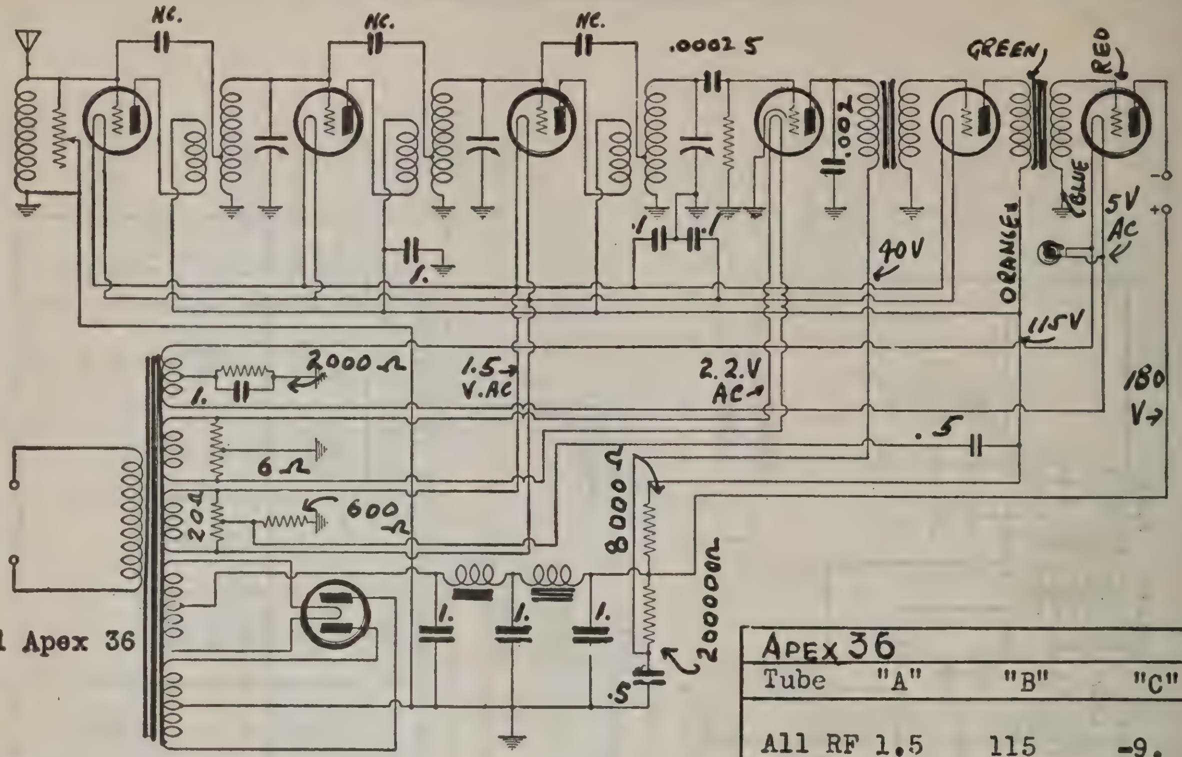

100 MMF.
50 MMF.
50 MMF.
80 A.
0.01
.0005 MF.
0.002
100 MMF.
25 M.
200 M.
1 MEG.
2000
1 MF.
A MF.
28 M
500 M.
350 Ω
8000 Ω
8 M.
8 M.
0.1
0.4
0.4
0.1
0.4
0.6
2500 Ω
GREEN
GREEN
RED
BLACK
BLACK
8 MF.
8 MF.
8 MF.
18 H.
ELECTROLYTIC.
TO 2.5 FIL. AND 224 HEATERS.
700 Ω

No. 32 CHASSIS—VOLTAGES AT SOCKETS—VOLUME CONTROL AT MAXIMUM LINE VOLTAGE, 115—PLUG IN SOCKET OF RECEIVER—TUBE IN TEXT SET										
Type of Tube	*Position of Tube*	*Function*	*"A" Volts*	*"B" Volts*	*Control Grid "C" Volts*	*Screen Volts*	*Screen Current MA*	*Cathode Volts*	*Plate MA*	*Grid Test MA*
224	1	1st Radio	2.3	198	3.	88	.9	3.	3.5	6.
224	2	2nd Radio	2.3	198	3.	88	.9	3.	3.5	6.
224	3	Detector	2.3	150	6.	45	.1	6.	.25	.4
227	4	1st Audio	2.3	180	12.5			12.5	5.	6.1
245	5	2nd Audio	2.4	255	55.				26.	31.
245	6	2nd Audio	2.4	255	55.				26.	31.
280	7	Rectifier	5.						36. Per Plate	

Models 32A, 32B (1930)

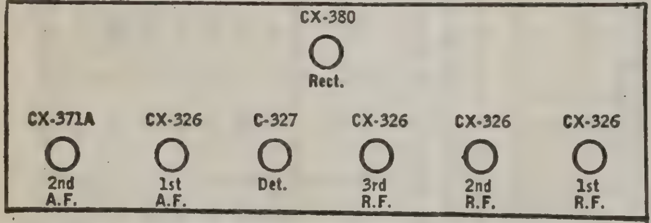

RECT
'80
'45
'45
'24A
'24A
'24A
'27
MODEL 32 CHASSIS
PILOT 2.5 V.
FRONT

U. S. RADIO & TELEVISION CORP.


N.C.
N.C.
N.C.
.0002 5
GREEN
RED
.002
BLUE
ORANGE
5V AC
1.
1
1
40V
115V
180 V
2000 Ω
1.
1.5 V.AC
2.2 V AC
.5
6 Ω
20 Ω
600 Ω
8000 Ω
200000 Ω
1.
1.
1.
.5

Model Apex 36

Apex 36 (AC), 50, 60 (A.C.)


CX-380
Rect.
CX-371A
2nd A.F.
CX-326
1st A.F.
C-327
Det.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.

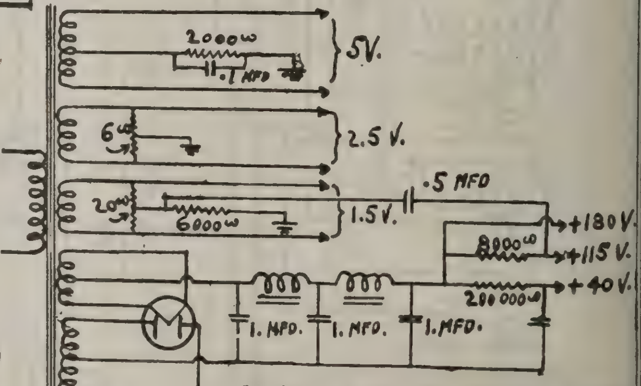
APEX 36

Tube	"A"	"B"	"C"
All RF	1.5	115	-9.
Det	2.2	26	-
1AF	1.5	105	-9.
2AF	4.9	182	-37.
Rect	4.9		

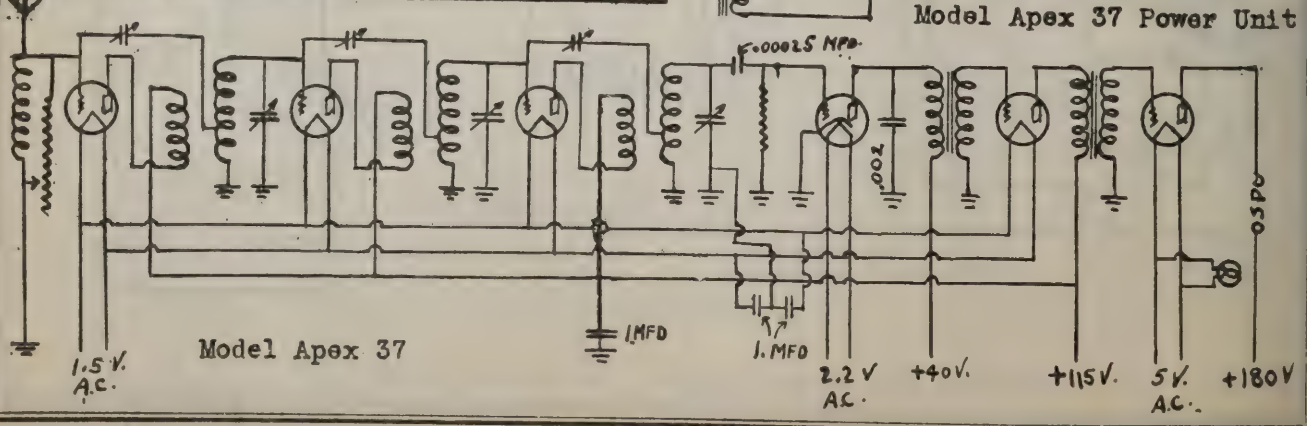
Speaker terminals shorted
Line voltage 115 volts

Model 37. Line-115 V. (L.S.Coil shorted.

Tube Type	Stage	Fil. Volts	Plate Volts	Grid Volts	Plate Ma.
'26	1 RF	1.5	115	9.	5.5
'26	2 RF	1.5	115	9.	5.5
'26	3 RF	1.5	115	9.	5.5
'27	Det.	2.2	25	---	1.5
'26	1 AF	1.49	105	9.	5.
'71-A	2 AF	5.	180	36.	20.
'71-A	2 AF	5.	180	36.	20.
'80	Rect	4.9			


2000ω
.1 MFD
5V.
6ω
2.5 V.
20ω
6000ω
1.5V.
.5 MFD
+180V.
8000ω
+115 V.
200000ω
+40 V.
1. MFD.
1. MFD.
1. MFD.

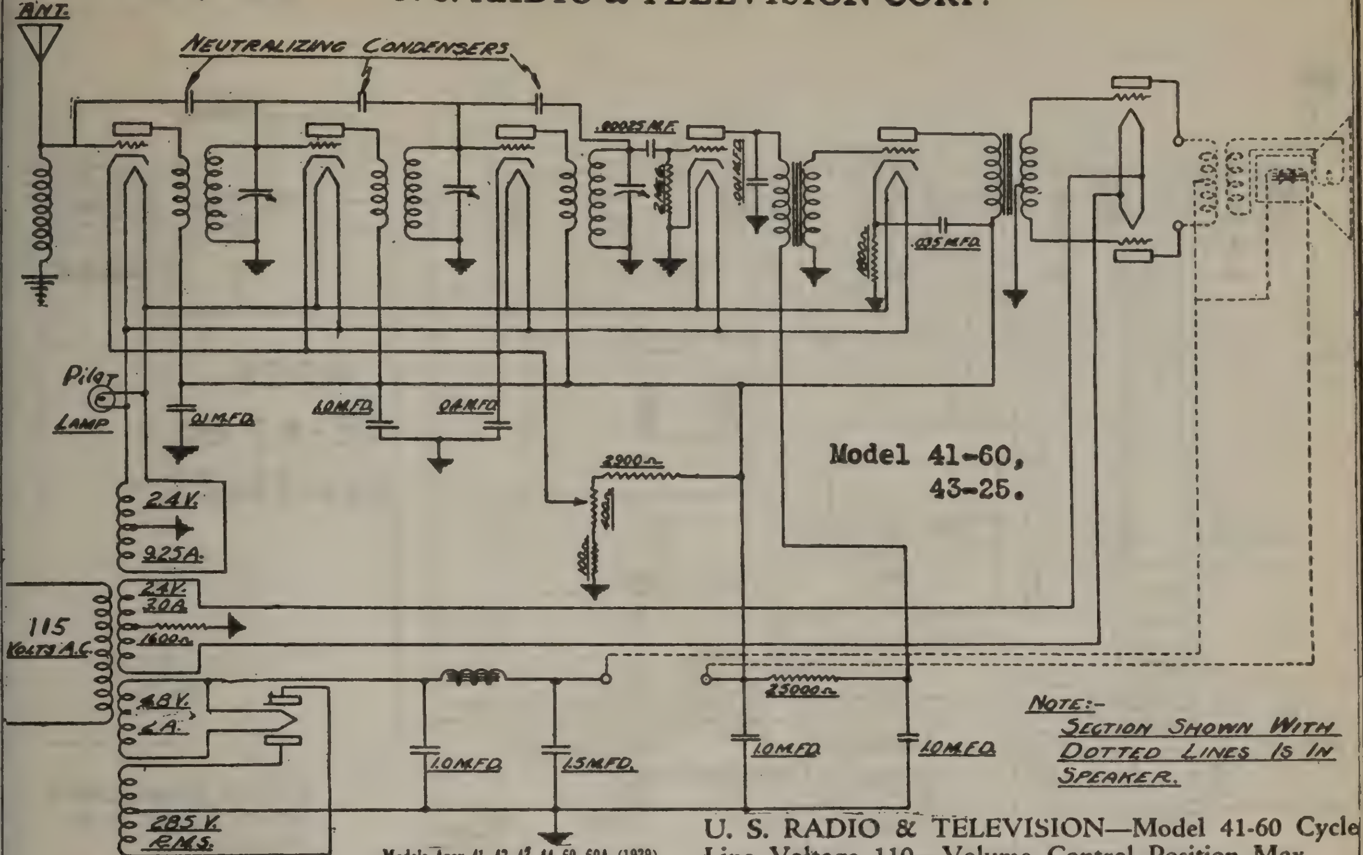
Model Apex 37 Power Unit


.00025 MFD
.002
1 MFD
1. MFD
1.5 V. A.C.
2.2 V AC.
+40 V.
+115V.
5 V. A.C.
+180V

Model Apex 37

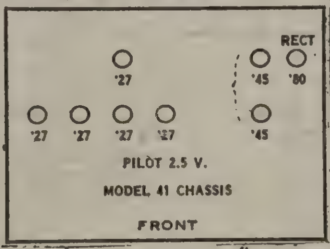
MODEL 41-60, 43-25
MODEL 42-60, 44-25

U. S. RADIO & TELEVISION CORP.


ANT.
NEUTRALIZING CONDENSERS
.00025 M.F.
.0001 M.F.D.
2 MEG.
.035 MFD.
1800~
PILOT LAMP
.01 M.F.D.
1.0 M.F.D.
.04 M.F.D.
2900~
400~
100~
2.4 V.
9.25 A.
115 VOLTS A.C.
2.4 V.
30 A.
1600~
4.8 V.
2 A.
285 V. R.M.S.
25000~
1.0 M.F.D.
1.5 M.F.D.
1.0 M.F.D.
1.0 M.F.D.
Model 41-60, 43-25.

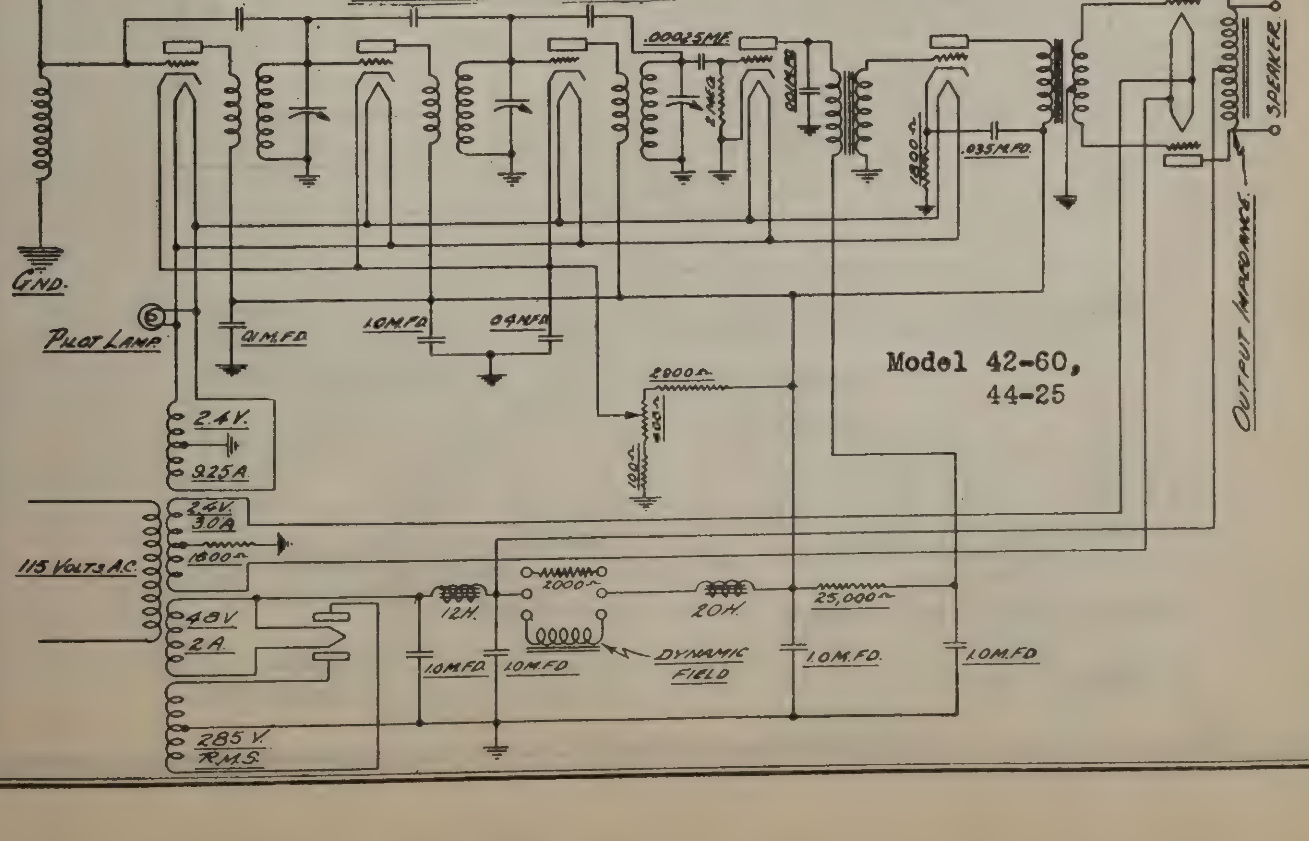
NOTE:- SECTION SHOWN WITH DOTTED LINES IS IN SPEAKER.

Models Apex 41, 42, 43, 44, 60, 60A (1929)


RECT
'27
'45
'80
'27
'27
'27
'27
'45
PILOT 2.5 V.
MODEL 41 CHASSIS
FRONT

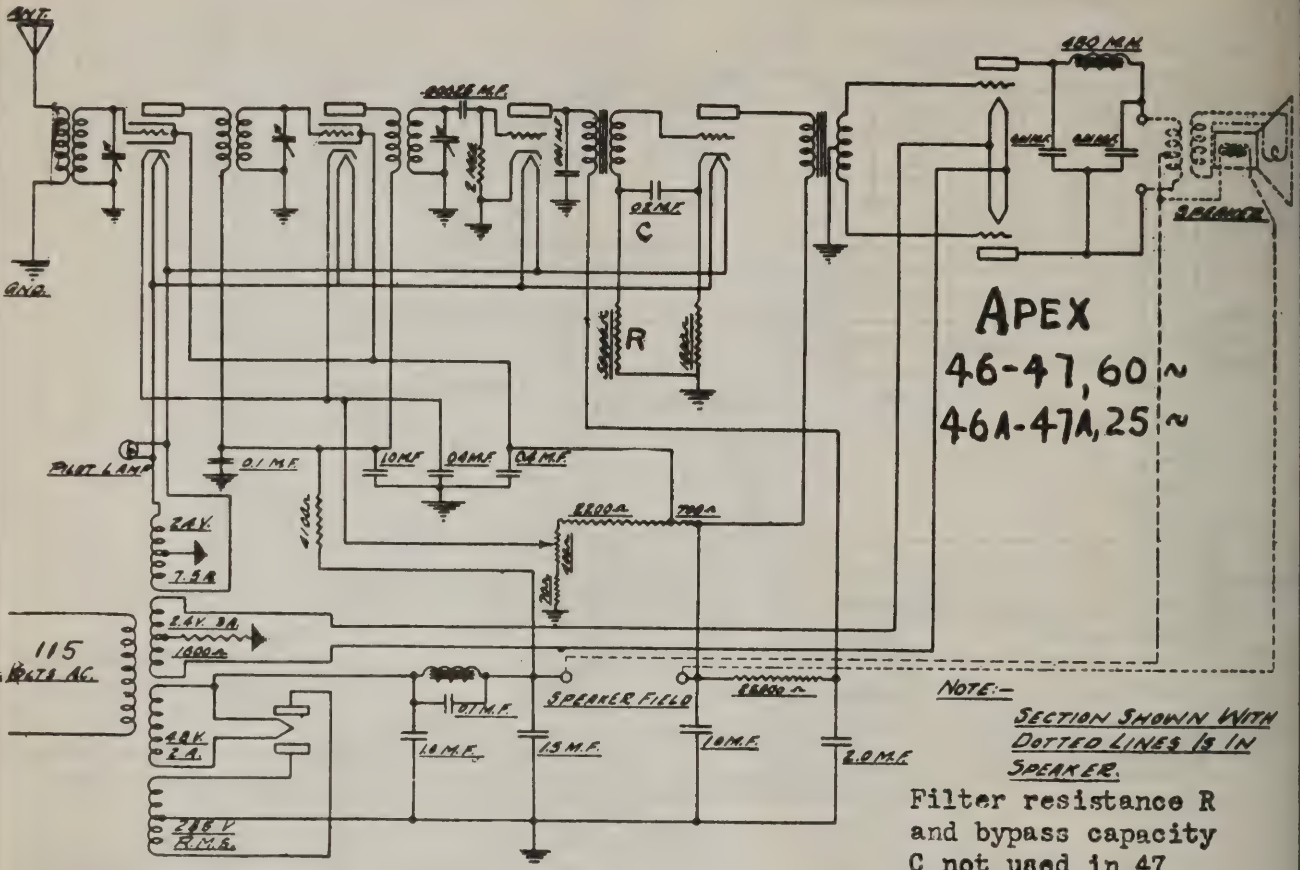
U. S. RADIO & TELEVISION—Model 41-60 Cycle Line Voltage 110—Volume Control Position Max

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS. PLUG IN SOCKET OF SET									
			TUBE OUT		TUBE IN TESTER —							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER VOLTS ⑨	NORMAL PLATE M A ⑩	PLATE M A GRID TEST ⑪	PLATE CHANGE M A ⑫	SCREEN GRID VOLTS ⑬
1	227	1st RF	2.3	100	2.25	100	4	4	4.6	9	4.4	
2	227	2nd RF	2.3	100	2.25	100	4.	4	4.6	9	4.4	
3	227	3rd RF	2.35	100	2.25	100	4	4	4.6	9	4.4	
4	227	Det.	2.35	100	2.25	40	-	-	2.4	-	-	
5	227	1st A	2.35	100	2.25	92	5	5	2.4	4	1.6	
6	245	2nd A	2.3	200	2.25	180	37		11.6	14	2.4	
7	245	2nd A	2.3	200	2.25	180	37		11.6	14	2.4	
8	280	Rect.			4.6				65	-	-	


ANT.
GND.
.00025 M.F.
.0001 M.F.D.
2 MEG.
.035 M.F.D.
1800~
SPEAKER
OUTPUT IMPEDANCE
PILOT LAMP
.01 M.F.D.
1.0 M.F.D.
.04 M.F.D.
2900~
400~
100~
2.4 V.
9.25 A.
115 VOLTS A.C.
2.4 V.
30 A.
1600~
4.8 V.
2 A.
285 V. R.M.S.
12 H.
2000~
20 H.
25,000~
DYNAMIC FIELD
1.0 M.F.D.
1.0 M.F.D.
1.0 M.F.D.
1.0 M.F.D.
Model 42-60, 44-25

MODEL 46,47 Apex
MODEL 46-A,47-A Apex

U. S. RADIO & TELEVISION CORP.


ANT.
GND.
.00025 M.F.
2 MEG.
.001 M.F.
.02 M.F.
C
R
480 M.H.
.001 M.F.
.001 M.F.
SPEAKER
PILOT LAMP
0.1 M.F.
1.0 M.F.
0.4 M.F.
0.4 M.F.
2200Ω
700Ω
1100Ω
2.4 V.
7.5 A.
115
VOLTS AC.
2.4 V. 3A.
1600Ω
4.8 V.
2 A.
286 V
R.M.S.
0.1 M.F.
1.0 M.F.
1.5 M.F.
SPEAKER FIELD
1.0 M.F.
25000Ω
2.0 M.F.

APEX
46-47, 60 ~
46A-47A, 25 ~

NOTE:- SECTION SHOWN WITH DOTTED LINES IS IN SPEAKER.

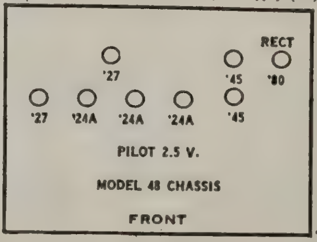
Filter resistance R and bypass capacity C not used in 47 and 47A

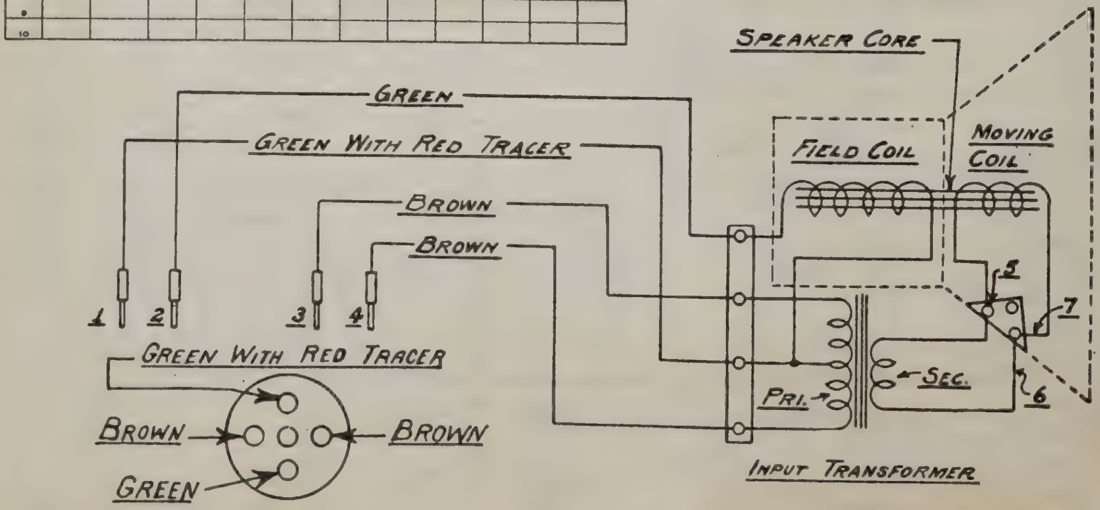
46 and 46-A

U. S. RADIO & TELEVISION—Models 47 and 47A

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET									
			OPERATING VOLTAGES					MILLIAMPERES				
			FILAMENT OR HEATER ④	PLATE OR ANODE ⑤	CONTROL GRID—SPACE GO+ ⑥	NORMAL GRID—SCREEN GO+ ⑦	CATHODE TO HEATER ⑧	SCREEN GD L. H. '80 PLATE ⑨	PLATE R. H. '80 PLATE ⑩	TUBE TEST ⑪	PLATE CURRENT CHANGE ⑫	⑬
1	224	1 R.F.	2.36	173	2.72	66	2.72	.67	3.0			
2	224	2. R.F	2.31	173	2.72	66	2.72	.21	3.0			
3	227	Det.	2.28	35	-	0	-	-	2.8			
4	227	1 A.F.	2.28	100	-	6.1	-	-	3.25			
5	245	2 A.F.	2.29	169	-	38	-	-	11.3			
6	245	2 A.F.	2.29	169	-	38	-	-	11.3			
7	280	Rect.	4.61	-	-	-	-	34.5	34.5			
8												
9												
10												

Models Apex 11,11A,14,14A,46,47 (New Type) ('29)


RECT
'27
'45
'80
'27
'24A
'24A
'24A
'45
PILOT 2.5 V.
MODEL 48 CHASSIS
FRONT

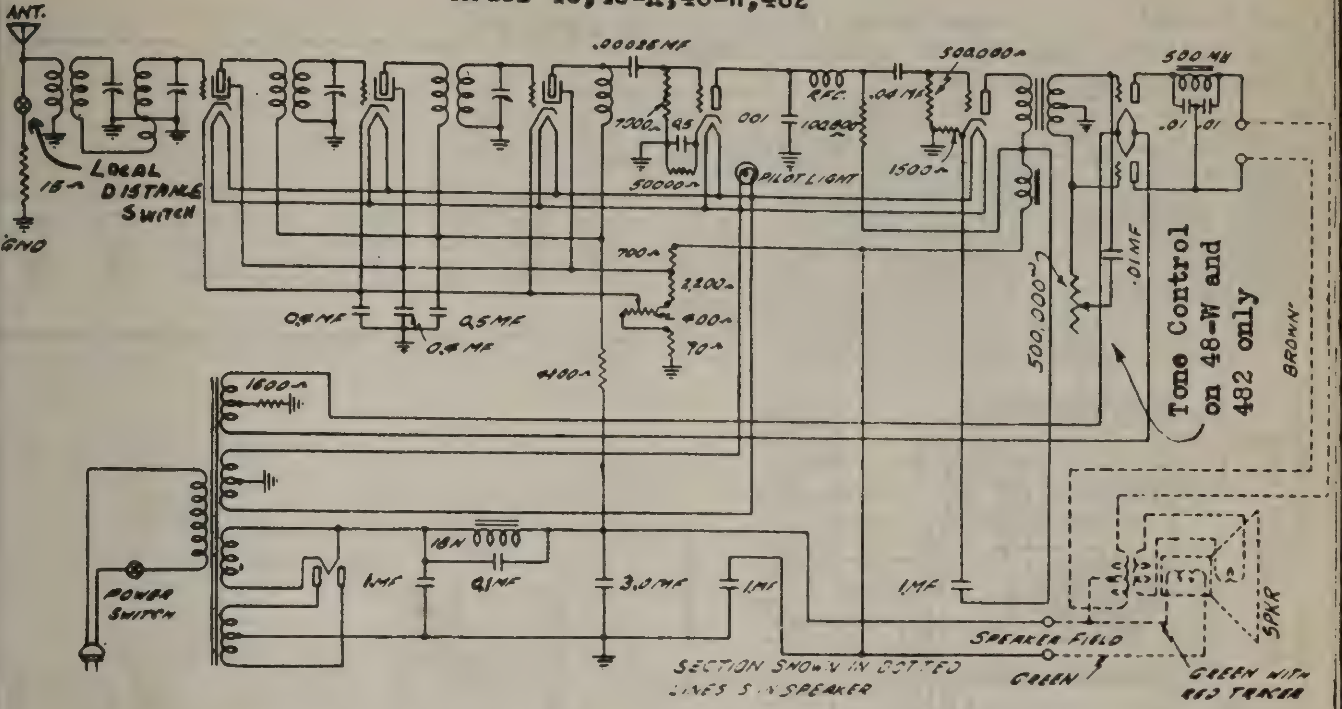

SPEAKER CORE
GREEN
GREEN WITH RED TRACER
BROWN
BROWN
FIELD COIL
MOVING COIL
1
2
3
4
5
6
7
PRI.
SEC.
INPUT TRANSFORMER
GREEN WITH RED TRACER
BROWN
BROWN
GREEN

—Electrodynamic Speaker and Connections

MODEL 48,48-A,48-W,
482.

U. S. RADIO & TELEVISION CORP.

Model 48,48-A,48-W,482


ANT.
GND
LOCAL DISTANCE SWITCH
15Ω
.00025 MF
7000Ω
.05
50000Ω
.001
R.F.C.
100000
PILOT LIGHT
.04 MF
500000Ω
1500Ω
500 MH
.01
.01
.01 MF
500,000Ω
700Ω
2,200Ω
400Ω
70Ω
4400Ω
0.4 MF
0.5 MF
0.4 MF
1600Ω
POWER SWITCH
18H
1 MF
0.1 MF
3.0 MF
1 MF
1 MF
BROWN
SPEAKER FIELD
GREEN
GREEN WITH RED TRACER
SPKR

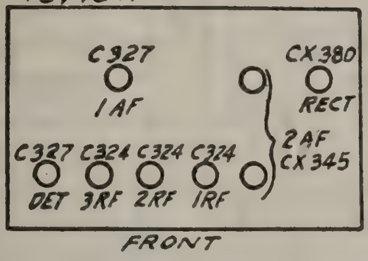
Tone Control on 48-W and 482 only

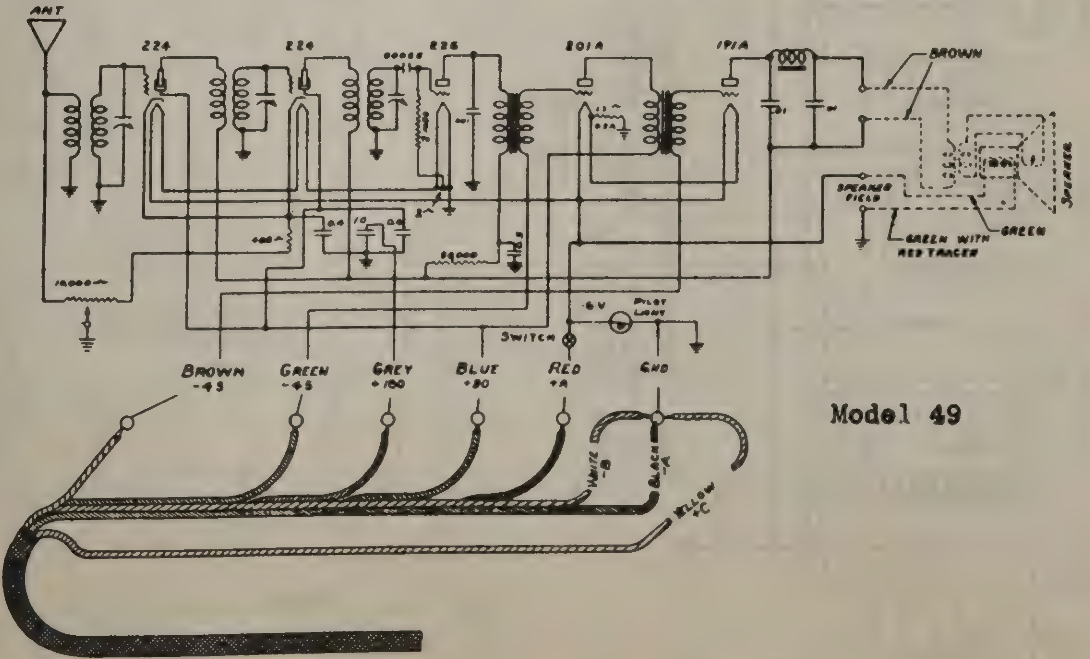
SECTION SHOWN IN DOTTED LINES SHOWS SPEAKER

U. S. RADIO & TELEVISION—Models 48-48A
Line Voltage 115—Volume Control Maximum

Tube No. in Order Tested	Type of Tube	Position of Tube in Set	Meter Readings with Jewell Test Plug in Socket of Set								
			Operating Voltages					Milliamperes			
			Filament or Heater	Plate or Anode	Control Grid—Space Bias	Screen Grid—Screen	Cathode to Heater	Screen Grid or Plate	Plate	Tube Test	Plate Current Change
1	224	1 R.F.	2.4	181	3.4	90	3.4	.25	4		
2	224	2 R.F.	2.4	181	3.4	90	3.4	.25	4		
3	224	3 R.F.	2.4	181	3.4	90	3.4	.25	4		
4	227	Det.	2.38	75	-	9.0	9.0	-	.2		
5	227	1 A.F.	2.39	105	-	6.0	6.0	-	4.3		
6	245	2 A.F.	2.45	187	-	41	-	-	12		
7	245	2 A.F.	2.45	187	-	41	-	-	18		
8	280	Rect.	5	-	-	-	-	38	38		

48,48-A


C327
1AF
CX380
RECT
2AF
CX345
C327
DET
C324
3RF
C324
2RF
C324
1RF
FRONT


ANT
224
224
.00025
226
201A
171A
BROWN
SPEAKER FIELD
GREEN
GREEN WITH RED TRACER
SPEAKER
10000Ω
6V
PILOT LIGHT
SWITCH
BROWN -4.5
GREEN -4.5
GREY +180
BLUE +90
RED +A
GND
WHITE -B
BLACK -A
YELLOW +C

Model 49

U. S. RADIO & TELEVISION CORP.

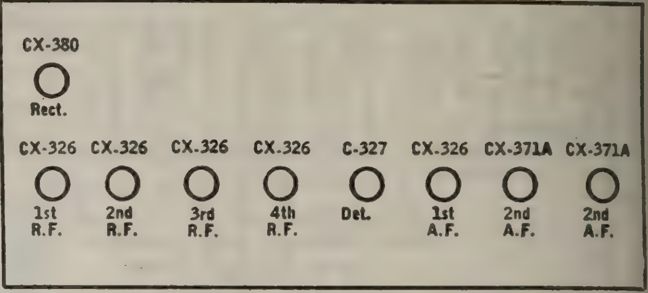
CASE 80-81 —Line Voltage 115

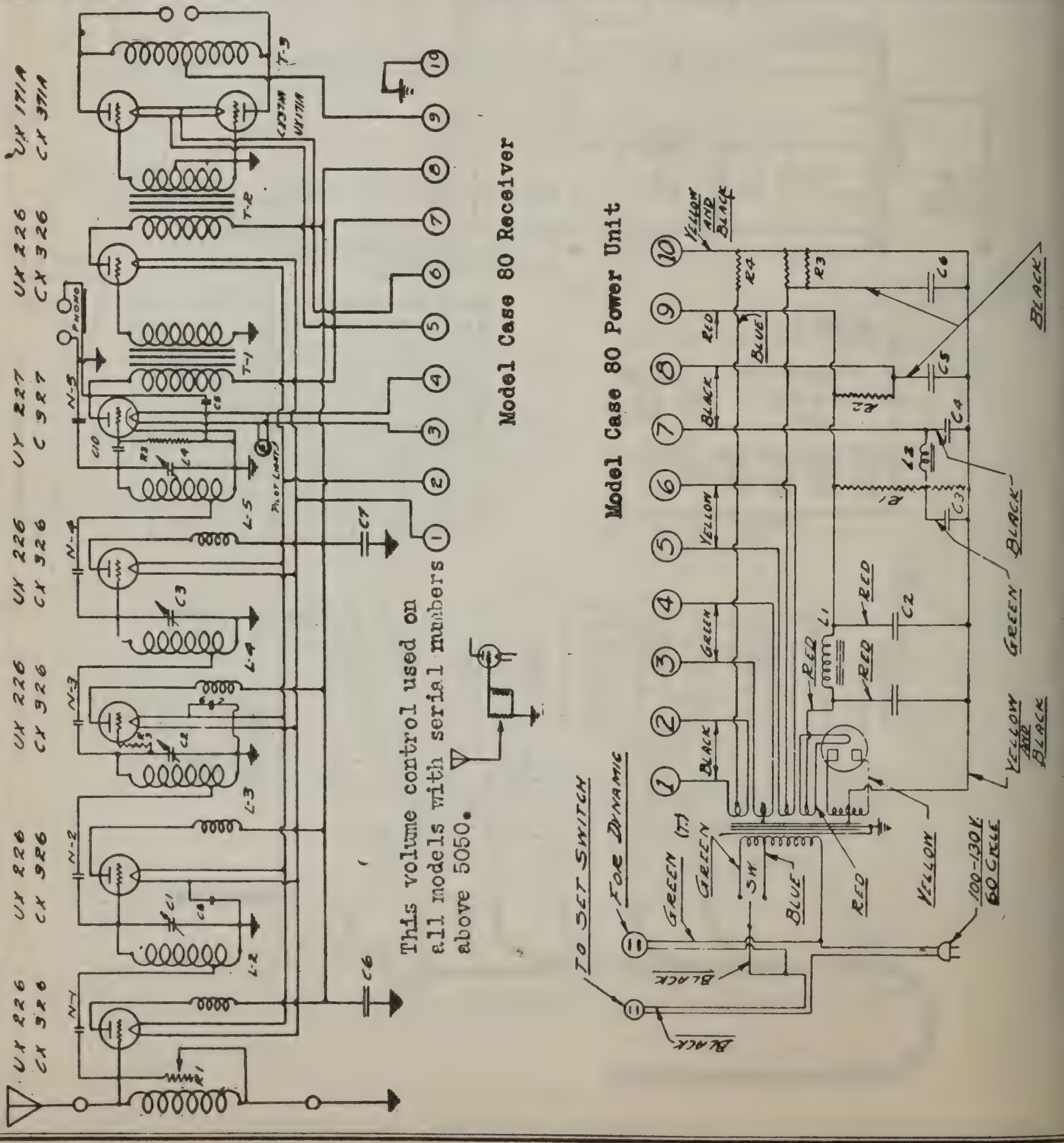
On Some Models There Will Be a Cathode Voltage of Approximately 27 Volts—Others 0

Tube No. in Order	Type of Tube	Position of Tube 1st R.F., Det., etc.	Readings Plug in Socket of Set: Tube Out: A Volts	B Volts	Tube in Tester: A Volts	B Volts	C Volts	Cathode Volts	Normal Plate M.A.	Plate M.A. Grid Test	Plate M.A. Change
1	226	1st.R.F.			1.25	110	8.5	-	3.3	6.3	3.0
2	226	2nd.R.F.			1.25	110	8.5	-	3.3	6.3	3.0
3	226	3rd.R.F.			1.25	110	8.5	-	3.3	6.3	3.0
4	226	4th.R.F.			1.25	110	8.5	-	3.3	6.3	3.0
5	227	Detector			2.00	27	0.0	0.0	1.4	1.4	0.0
6	226	1st.A.F.			1.27	110	7.8	-	2.7	5.7	3.0
7	171A	2nd.A.F.			4.80	165	37.0	-	17.0	19.5	2.5
8	280	Rectifier			4.90	-	-	-	24.0	-	-
9											
10											

Case 81B, 81C

(A.C.)


CX-380
Rect.
CX-326
1st
R.F.
CX-326
2nd
R.F.
CX-326
3rd
R.F.
CX-326
4th
R.F.
C-327
Det.
CX-326
1st
A.F.
CX-371A
2nd
A.F.
CX-371A
2nd
A.F.


UX 171A
CX 371A
UX 226
CX 326
UY 227
C 327
UX 226
CX 326
UX 226
CX 326
UX 226
CX 326
UX 226
CX 326
T-3
T-2
T-1
N-5
N-4
N-3
N-2
N-1
L-5
L-4
L-3
L-2
PHONO
PILOT LAMP
C1
C2
C3
C4
C6
C7
C8
C9
C10
R1
R2
R3
1
2
3
4
5
6
7
8
9
10
YELLOW AND BLACK
RED
BLUE
BLACK
YELLOW
GREEN
R1
R2
R3
R4
C2
C3
C4
C5
C6
L1
L2
SW
100-130V.
60 CYCLE
FOR DYNAMIC
TO SET SWITCH

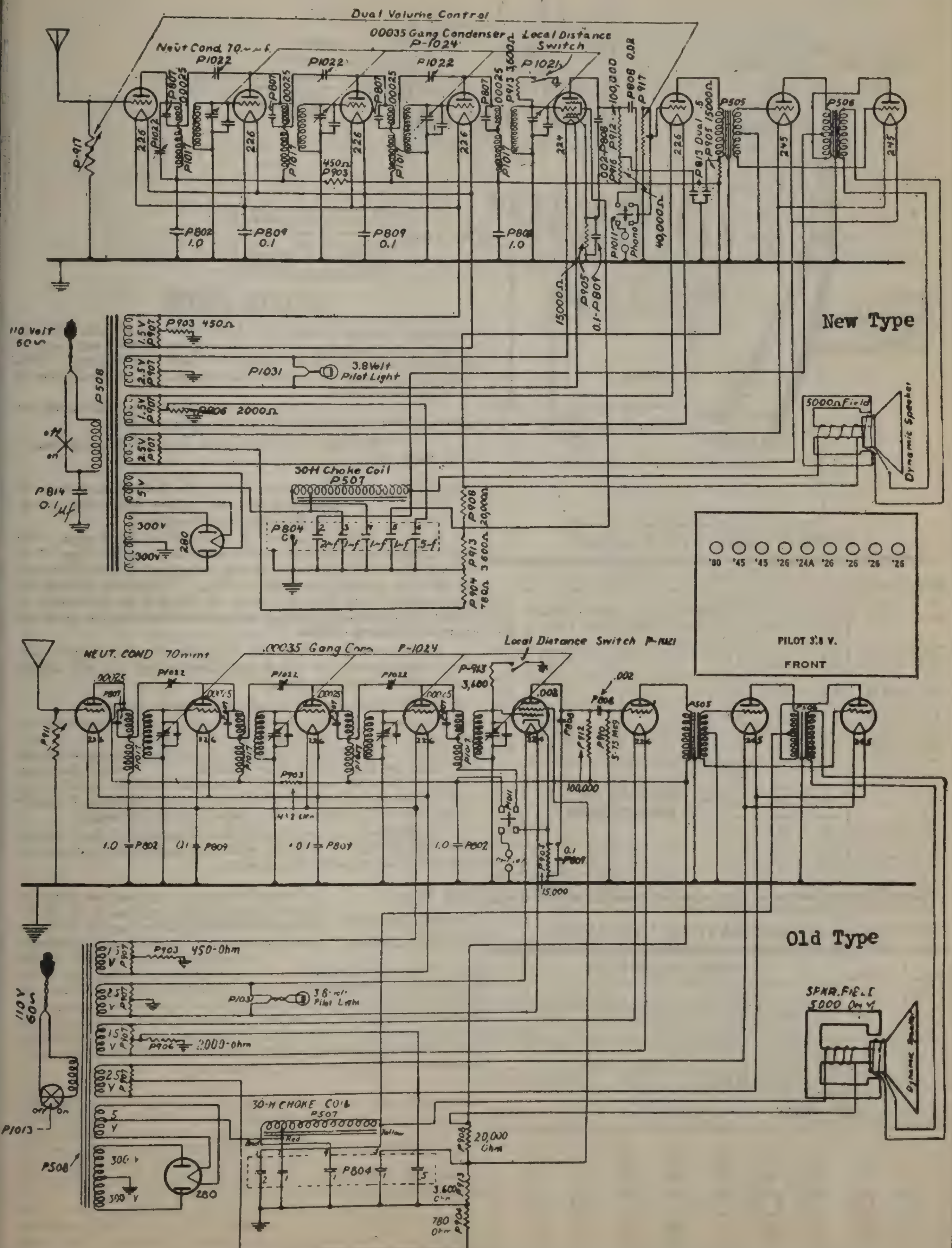
Model Case 80 Receiver

Model Case 80 Power Unit

This volume control used on all models with serial numbers above 5050.

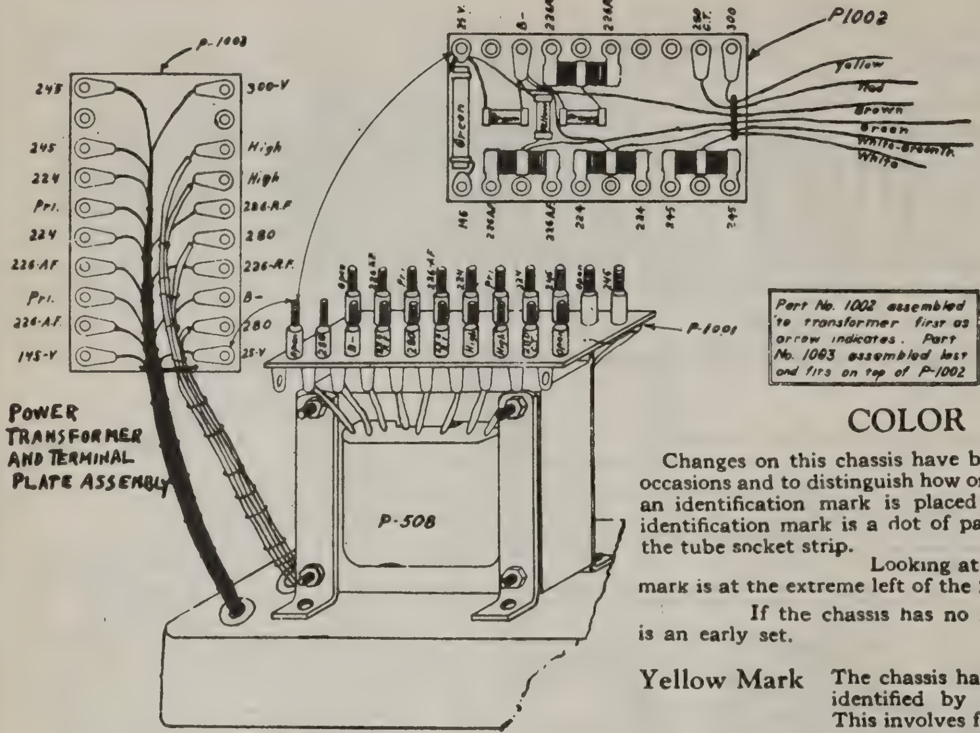
WELLS-GARDNER & CO.

MODEL C,CG
Schematic
1st & 2nd Types


Dual Volume Control
00035 Gang Condenser P-1024
Local Distance Switch
Neut Cond 70 ~~ f
P1022
P1022
P1022
P1021
P913 3600Ω
P807
.00025
226
226
226
226
224
226
245
245
P917
P1017
450Ω P903
P802 1.0
P809 0.1
P809 0.1
P802 1.0
100,000
P808 0.02
P917
.002 P808
P916 P912
P913 Dual 5
P905 15000Ω
P505
P506
P1011
Phono
40,000Ω
15000Ω
P905
0.1-P809
New Type
110 Volt 60~
P508
off
on
P814 0.1 µf
1.5V P907
P903 450Ω
2.5V P907
P1031
3.8 Volt Pilot Light
1.5V P907
P906 2000Ω
2.5V P907
5V
300V
300V
280
30H Choke Coil P507
P804
2-f 1-f 1-f 1-f .5-f
P908 20,000Ω
P913 3600Ω
P904 780Ω
5000Ω Field
Dynamic Speaker
'80 '45 '45 '26 '24A '26 '26 '26 '26
PILOT 3.8 V.
FRONT
NEUT. COND 70 mmf
.00035 Gang Cond P-1024
Local Distance Switch P-1021
P-913 3,600
.002
.008
P806
.00025
P1022
P1022
P1022
P911
P1017
P903
P912
P910 5-75 Meg
100,000
P505
P506
226
226
226
226
224
226
245
245
1.0 P802
.01 P809
.01 P809
1.0 P802
P1011
0.1 P809
P905
15,000
Old Type
110 V 60~
1.5 V P907
P903 450-Ohm
2.5 V P907
P1031
3.8 volt Pilot Light
1.5 V P907
P906 2000-ohm
2.5 V P907
5 V
300 V
300 V
280
P1013
P508
off
on
30-H CHOKE COIL P507
Red
Yellow
P804
P908 20,000 Ohm
P913 3,600 Ohm
P904 780 Ohm
SPKR. FIELD 5000 OHM
Dynamic Speaker

MODEL C,CG
Voltage - Data
1st & 2nd Types

WELLS - GARDNER & CO.


P1002
2½ V.
B-
226 AF.
226 R.F.
280 C.T.
300
Green
Yellow
Red
Brown
Green
White-Greenth
White
M6
226 AF
226 R.F.
224
224
245
245
P-1003
245
245
224
Pri.
224
226-AF
Pri.
226-A.F.
145-V
300-V
High
High
226-R.F
280
226-R.F.
B-
280
25-V
Open
226 A.F.
Pri.
226 R.F.
224
Pri.
224
245
Open
245
P-1001
Part No. 1002 assembled to transformer first as arrow indicates. Part No. 1003 assembled last and fits on top of P-1002
POWER TRANSFORMER AND TERMINAL PLATE ASSEMBLY
P-508

OPERATING VOLTAGES

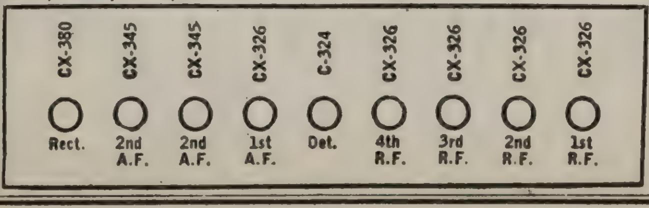
Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
226	1st R.F.	1.35	116	8.5				4.7	8.7
226	2nd R.F.	1.35	116	8.5				4.7	8.7
226	3rd R.F.	1.35	116	8.5				4.7	8.7
226	4th R.F.	1.35	116	8.5				4.7	8.7
224	Det.	2.2	80	1.3	15		—	—	—
226	1st A.F.	1.4	110	1.0 ← READING LOW DUE TO RESISTANCE COUPLING				4.0	5.0
245	2nd A.F.	2.2	232	42				27	32
245	2nd A.F.	2.2	232	42				27	32
280	Rect.	4.6						84	

Line Voltage During Test—115 Volts.

REVISION OF OPERATING VOLTAGES

Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
224	Det.	2.2	75	1.3	15				
226	1st A.F.	1.4	77	1.0				4	5

200, 291, 292, 9950 (A.C.)


CX-380
Rect.
CX-345
2nd A.F.
CX-345
2nd A.F.
CX-326
1st A.F.
C-324
Det.
CX-326
4th R.F.
CX-326
3rd R.F.
CX-326
2nd R.F.
CX-326
1st R.F.

COLOR CODE

Changes on this chassis have been made on several different occasions and to distinguish how one chassis differs from another, an identification mark is placed on each one changed. This identification mark is a dot of paint found on the end rivet of the tube socket strip.

Looking at the chassis from the back the mark is at the extreme left of the 226 tube socket

If the chassis has no mark it is understood that it is an early set.

Yellow Mark The chassis having the first changes may be identified by the yellow indicating mark. This involves four changes.

1. A "dual volume control" in place of the single type. The new volume control is made in two sections, with five lugs. The section nearest the chassis, having two lugs, operates exactly the same as the single volume control. The section behind the first, having three lugs, is placed in the first audio circuit to reduce the audio amplification and operates in tandem with the antenna volume control.

2. An interchange of position of the two audio transformers The re-arrangement of the audio transformers has not altered their connections in the circuit.

3. An addition of a "dual half microfarad condenser" and two carbon resistors in the "B" circuit of the detector and first audio tubes. The 40,000 ohm black resistor with one section of the dual condenser is placed in the detector circuit (224) and the 15,000 ohm blue resistor with the other section of the dual condenser is placed in the first audio circuit (226). You will note that the yellow and blue leads in the cable connecting to the terminal strip have been interchanged.

4. A change in the location of the grounding of No. 1 lug on the condenser block. This lug is now grounded to the condenser case with a short piece of bare wire.

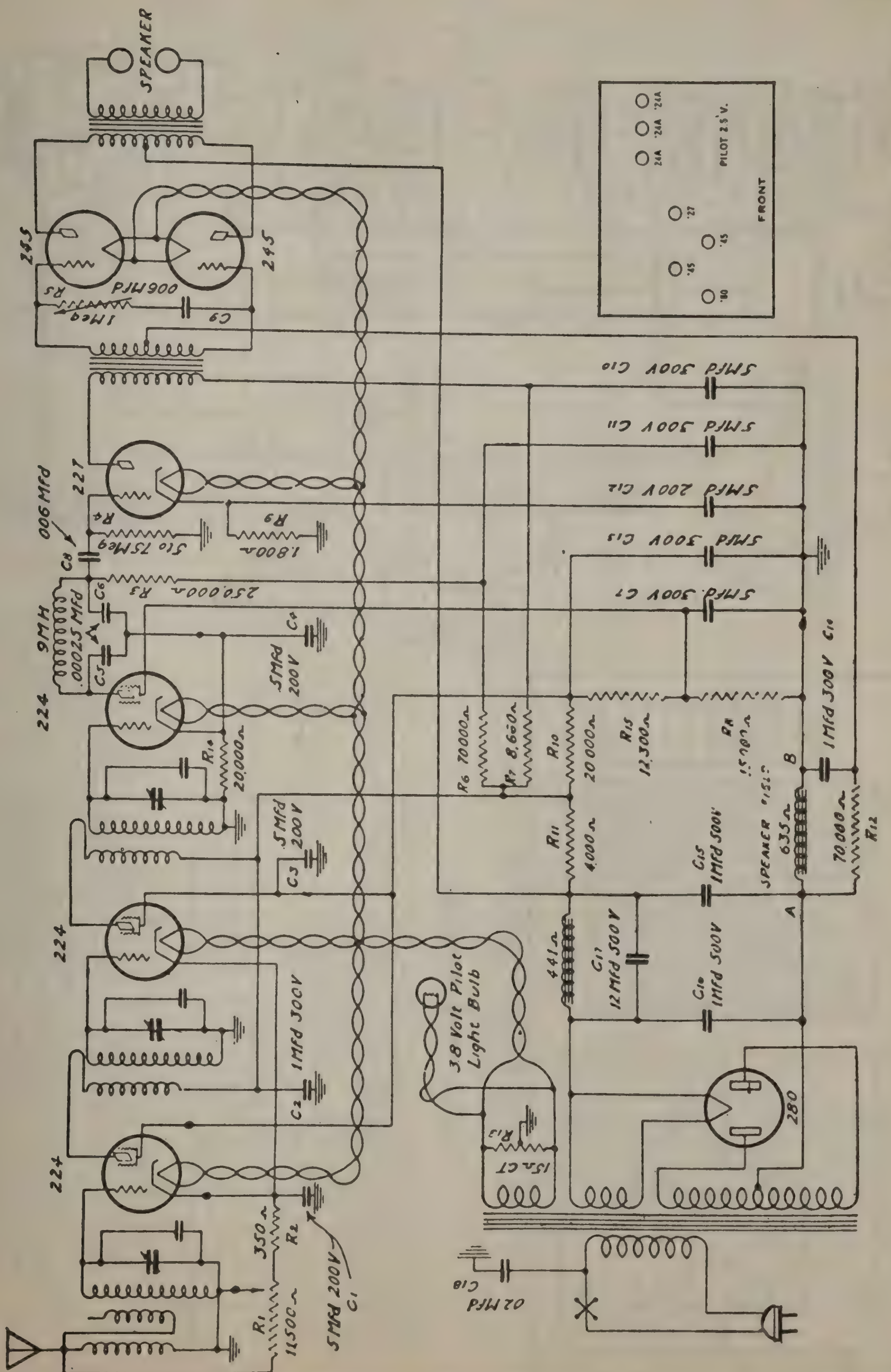
Red Mark (Serial Number 39,000-42,999) All chassis having a red mark on the rivet of the tube socket strip have all of the changes mentioned above and in addition, have a one-tenth microfarad condenser connected from ground to one side of the 110 volt line A peculiarity that may be experienced by the addition of this condenser is a loud hum on every station tuned in only when the antenna wire coming from the set is connected to ground. This can be eliminated by reversing the plug in the socket. Also be sure your antenna is not grounded, either by some other set being connected to your aerial or through any other means.

Green Mark (Serial Number 43,000 and up) All Chassis with a green mark on the rivet of the tube socket strip contain the above changes and in addition have a change in the "combination phonograph switch" circuit. This changed circuit makes use of only the audio system of the set for phonograph reproduction, whereas the original circuit included the detector tube

The Phonograph, Radio, On, and Off positions of the switch are the same as in the early sets. To obtain maximum volume and best tone quality a pick-up coupling transformer should be used to match the pick-up used.

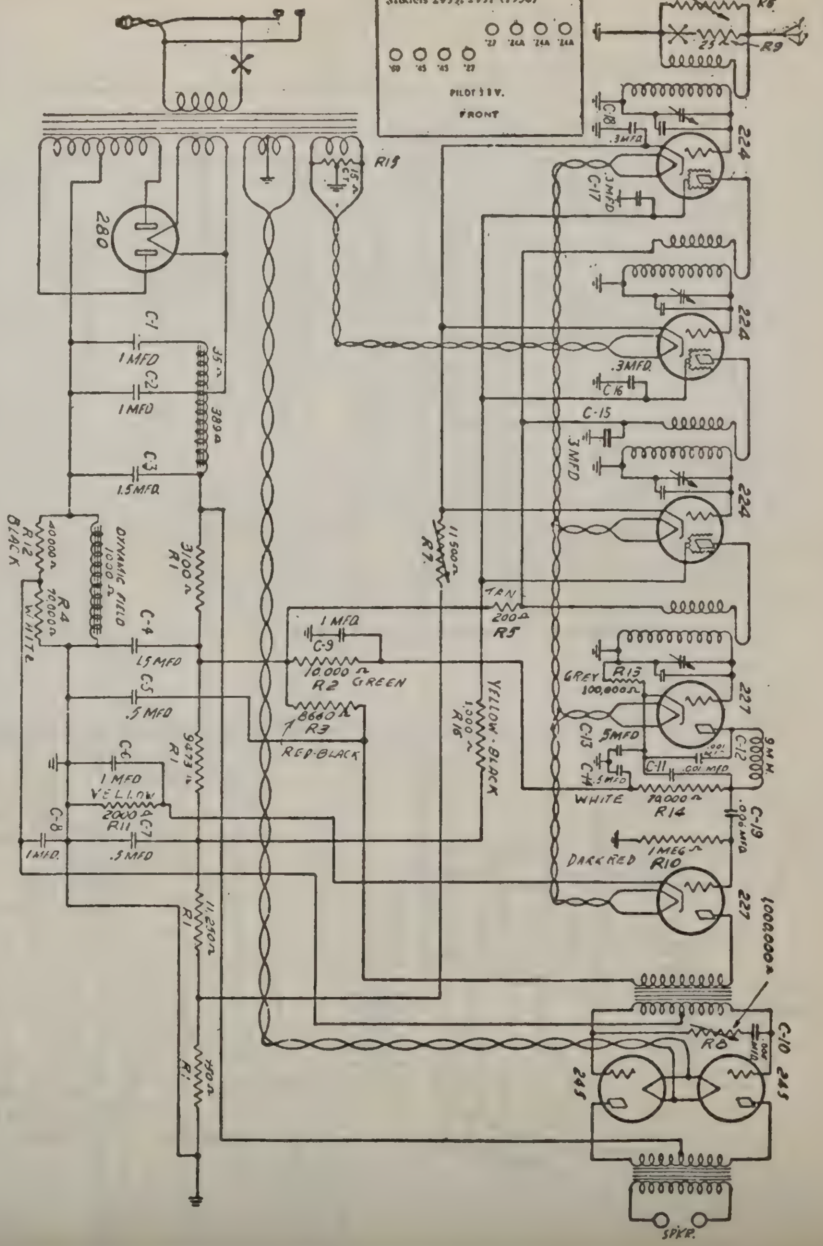
MODEL 72
Schematic

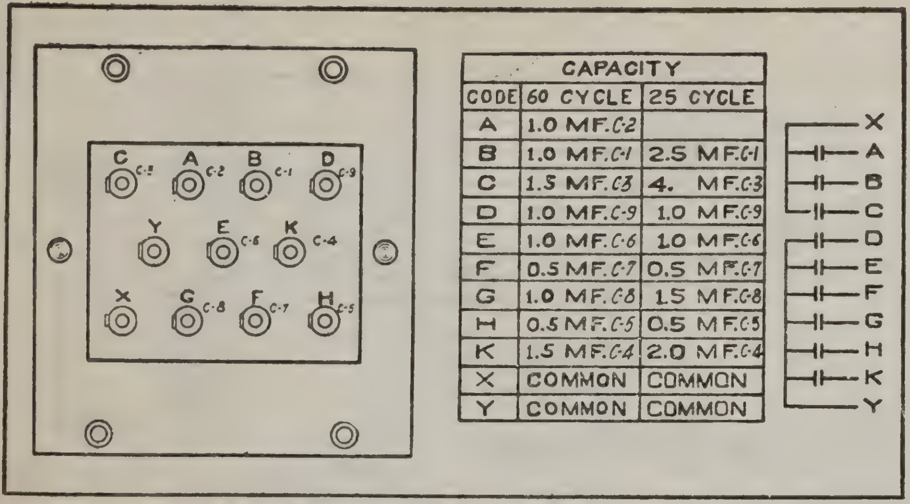
WELLS - GARDNER & CO.


SPEAKER
245
245
.006 Mfd
1 Meg R5
C9
227
.006 Mfd
C8
R4
5 to .75 Meg
R9
1,800 Ω
250,000 Ω R3
9MH
.00025 Mfd
C6
C5
224
C4
.5 Mfd 200V
R14
20,000 Ω
.5 Mfd 200V
C3
224
1 Mfd 300V
C2
224
350 Ω
R2
R1
11,500 Ω
.5 Mfd 200V
C1
.5 Mfd 300V C10
.5 Mfd 300V C11
.5 Mfd 200V C12
.5 Mfd 300V C13
.5 Mfd 300V C7
R6 70000 Ω
R7 8,660 Ω
R10
20,000 Ω
R15
12,300 Ω
R8
1 Mfd 300V C14
B
SPEAKER
635 Ω
70,000 Ω
R12
R11
4,000 Ω
C15
1 Mfd 500V
A
441 Ω
C17
12 Mfd 500V
C16
1 Mfd 500V
280
3.8 Volt Pilot Light Bulb
R13
15 Ω CT
.02 Mfd
C18
24A
24A
24A
PILOT 2.5 V.
FRONT
27
45
45
80

MODEL 80,82 AC
60 cycle
Schematic
Data

WELLS - GARDNER & CO.


Models 2955, 2957 (1930)
PILOT 3 V.
FRONT
224
224
224
227
227
245
245
280
13000 Ω R8
R9
C-18
.3 MFD
C-17
C-16
C-15
.3 MFD
R15
15 Ω C.T.
35 Ω
389 Ω
C-1 1 MFD
C-2 1 MFD
C-3 1.5 MFD
DYNAMIC FIELD 1000 Ω
40000 Ω R12 BLACK
R4 70000 Ω WHITE
3100 Ω R1
C-4 1.5 MFD
C-5 .5 MFD
9473 Ω R1
C-6 1 MFD
YELLOW 2000 Ω R11
C-7 .5 MFD
C-8 1 MFD
11,250 Ω R1
450 Ω R1
11500 Ω R7
TAN 200 Ω R5
1 MFD C-9
10,000 Ω R2 GREEN
8660 Ω R3
RED-BLACK
YELLOW-BLACK 1,000 Ω R16
GREY R13 100,000 Ω
C-13 .5 MFD
C-14 .5 MFD
C-11 .001 MFD
C-12 .001
9 M.H.
WHITE 70000 Ω R14
C-19 .006 MFD
DARK RED 1 MEG Ω R10
1,000,000 Ω
R6
C-10 .006 MFD
SPKR.


C C-3
A C-2
B C-1
D C-9
Y
E C-6
K C-4
X
G C-8
F C-7
H C-5
X
A
B
C
D
E
F
G
H
K
Y

CAPACITY		
CODE	60 CYCLE	25 CYCLE
A	1.0 MF. C-2	
B	1.0 MF. C-1	2.5 MF. C-1
C	1.5 MF. C-3	4. MF. C-3
D	1.0 MF. C-9	1.0 MF. C-9
E	1.0 MF. C-6	1.0 MF. C-6
F	0.5 MF. C-7	0.5 MF. C-7
G	1.0 MF. C-8	1.5 MF. C-8
H	0.5 MF. C-5	0.5 MF. C-5
K	1.5 MF. C-4	2.0 MF. C-4
X	COMMON	COMMON
Y	COMMON	COMMON

Filter Condenser (60 and 25 cycle receivers).

FIXED CONDENSERS

Condensers C1 to C9 inclusive are in the filter block. C1, C2, C3, C4, and C7 are in the main filter circuits. C5 bypasses R3, which is the 8,660 ohm resistor in the first audio plate circuit. C6 by-passes R11, the cathode bias resistor on the first audio stage. C8 by-passes the grid bias on the 245 tubes, (obtained through R4 and R12) and C9 bypasses the 10,000 ohm resistor R2 in the detector plate circuit.

C10 and C19 are located on the resistor-condenser terminal strip (See Fig. 4) and are both .006 mfd. moulded condensers. C10 is in the tone control circuit, while C19 is the coupling condenser in the resistance coupled amplifier.

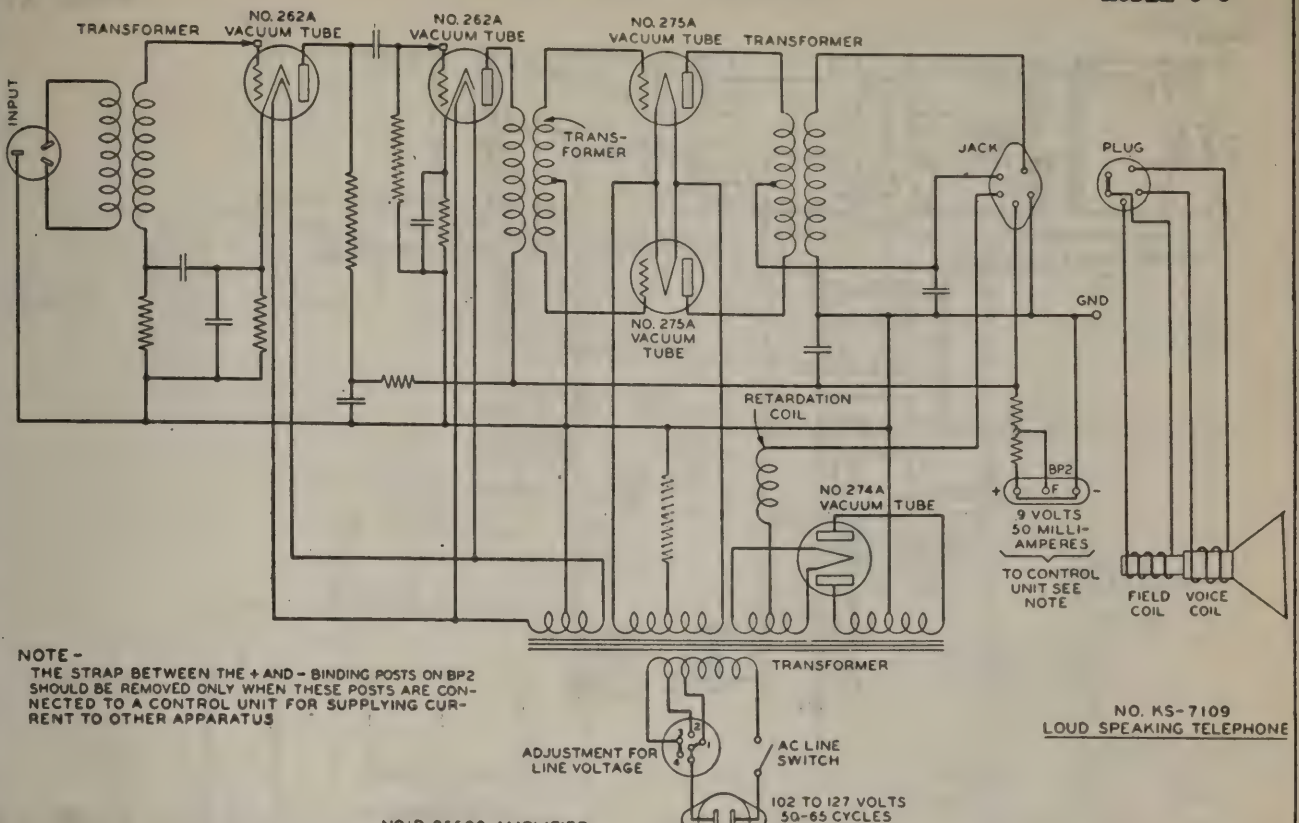
C11 and C12 are .001 mfd. moulded condensers, and are used in the detector plate circuit filter. C13 and C14 are the two units in the dual ½ mfd. by-pass condenser.

C15, C16 and C18 are located in the triple 3 mfd. condenser case. C17 is a single .3 mfd. condenser, and is mounted alongside of the triple .3 mfd. condenser case.

Code Fig. 1	*Stock No.*	*Capacity*
C1 to C9 inclusive	80S18	9 Mfds. total. Filter block.
C10 and C19	80S22	.006 Mfd. White paint spot.
C11 and C12	80S21	.001 Mfd. Grey paint spot.
C13 and C14	80S26	Dual .5 Mfd. Metal case.
C15, C16, C18	80S17	Triple .3 Mfd. Metal case.
C17	80S20	.3 Mfd. Metal case.

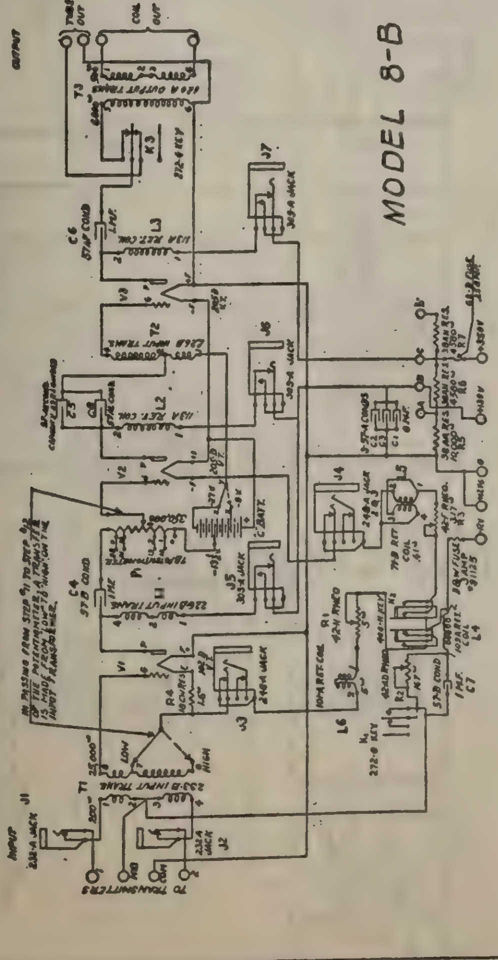
MODEL D-95508
MODEL 8-B
MODEL 8-C

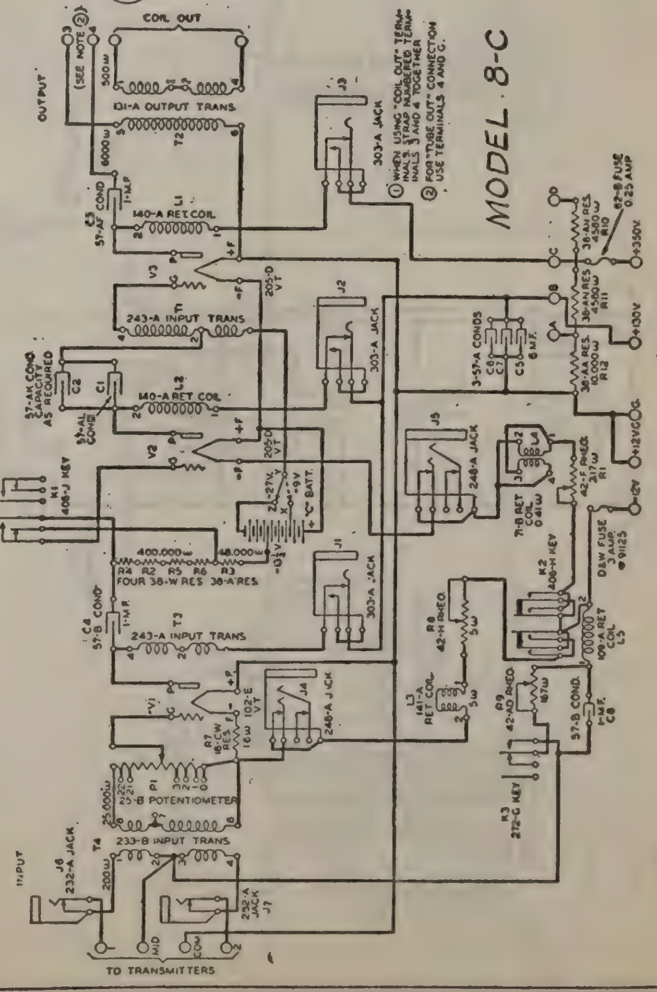
WESTERN ELECTRIC CO.


TRANSFORMER
NO. 262A VACUUM TUBE
NO. 262A VACUUM TUBE
NO. 275A VACUUM TUBE
TRANSFORMER
INPUT
TRANS-FORMER
JACK
PLUG
NO. 275A VACUUM TUBE
GND
RETARDATION COIL
NO 274A VACUUM TUBE
BP2
+
F
-
9 VOLTS 50 MILLI-AMPERES
TO CONTROL UNIT SEE NOTE
FIELD COIL
VOICE COIL
TRANSFORMER
NO. KS-7109 LOUD SPEAKING TELEPHONE
ADJUSTMENT FOR LINE VOLTAGE
AC LINE SWITCH
102 TO 127 VOLTS 50-65 CYCLES AC SUPPLY

NOTE -
THE STRAP BETWEEN THE + AND - BINDING POSTS ON BP2 SHOULD BE REMOVED ONLY WHEN THESE POSTS ARE CONNECTED TO A CONTROL UNIT FOR SUPPLYING CURRENT TO OTHER APPARATUS

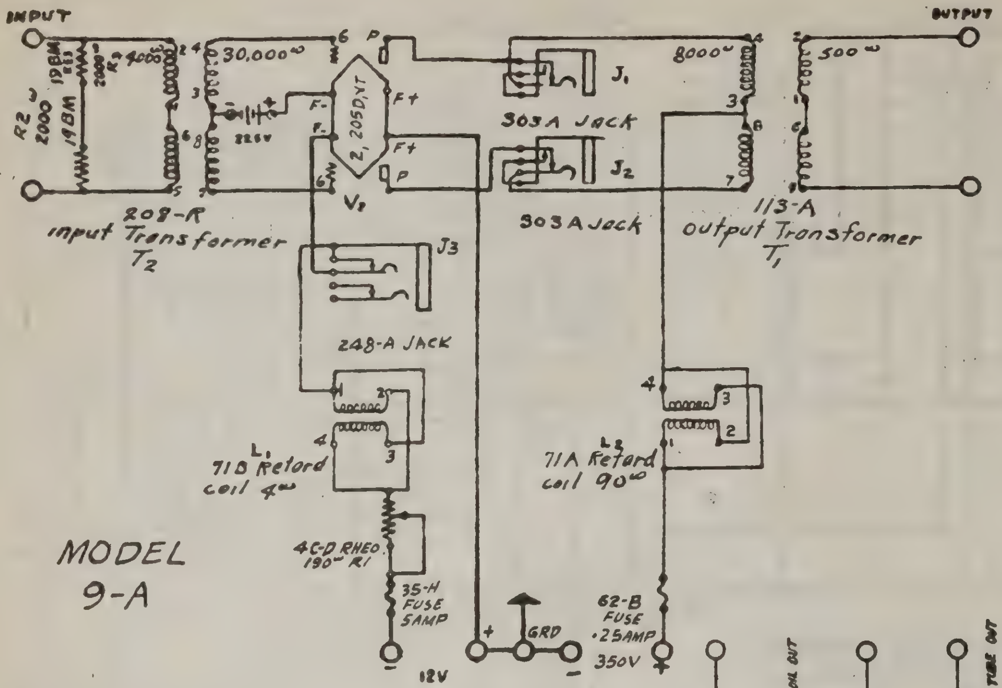
NO. D-95508 AMPLIFIER


MODEL 8-B
OUTPUT
TUBE OUT
COIL OUT
T3
K3
J7
303-A JACK
L3
V3
T2
J6
L2
V2
J5
J4
248-A JACK
V1
J3
LOW
HIGH
T1
233-B INPUT TRANS
J1
J2
INPUT
TO TRANSMITTERS

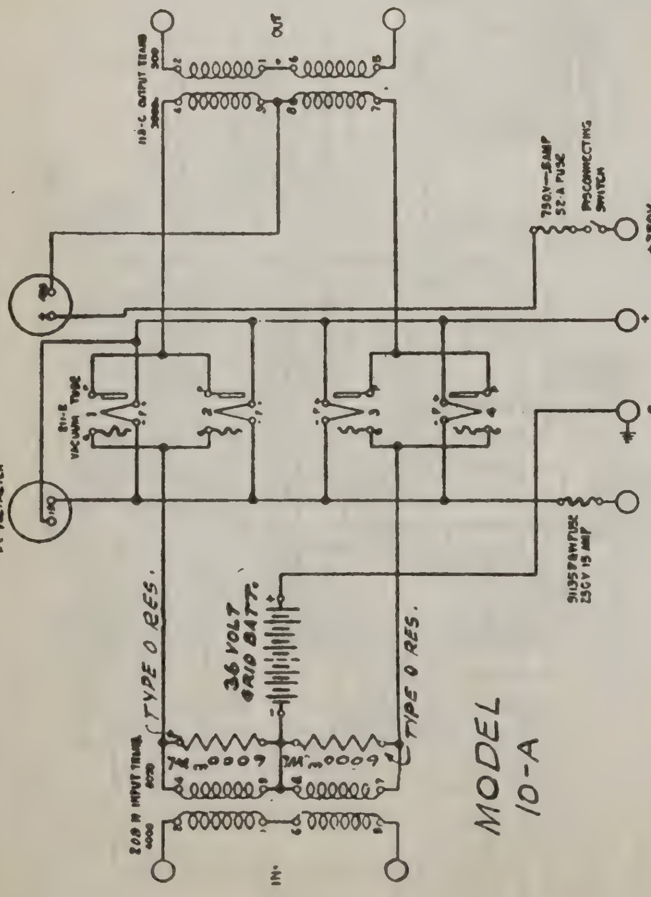

MODEL 8-C
OUTPUT
(SEE NOTE ②)
COIL OUT
500w
131-A OUTPUT TRANS
T2
6000w
1-M.F.
57-AF COND
C3
L1
140-A RET COIL
J3
303-A JACK
① WHEN USING "COIL OUT" TERMINALS, STRAP NUMBERED TERMINALS 3 AND 4 TOGETHER
② FOR "TUBE OUT" CONNECTION USE TERMINALS 4 AND G.
V3
205-D VT
+F
-F
243-A INPUT TRANS
J2
303-A JACK
C
B
A
36-AN RES 4500w R10
62-B FUSE 0.25 AMP
+350V
36-AN RES 4500w R11
+130V
3-57-A CONDS
C6
C7
C5
6 M.F.
36-AA RES 10,000w R12
57-AK COND CAPACITY AS REQUIRED
C2
C1
57-AL COND
L2
140-A RET COIL
V2
205-D VT
G
+12V
-12V
J5
248-A JACK
L4
42-F RHEO. 217w R1
71-B RET COIL 041w
K1
406-J KEY
-27V
-9V
"C" BATT.
-13½V
400,000w
48,000w
R4 R2 R5 R6 R3
FOUR 38-W RES 38-A RES
J1
303-A JACK
D&W FUSE 3 AMP. #91125
K2
406-H KEY
C4
57-B COND
1-M.F.
T3
243-A INPUT TRANS
R8
42-H RHEO.
5w
109-A RET COIL L5
V1
102-E VT
R7
18-CW RES
16w
J4
248-A JACK
L3
141-A RET COIL
5w
R9
42-AD RHEO
167w
57-B COND.
1-M.F.
C8
P1
25-B POTENTIOMETER
25,000w
K3
272-G KEY
T4
233-B INPUT TRANS
INPUT
J6
232-A JACK
200w
232-A JACK
J7
MID
COM
TO TRANSMITTERS

WESTERN ELECTRIC CO.

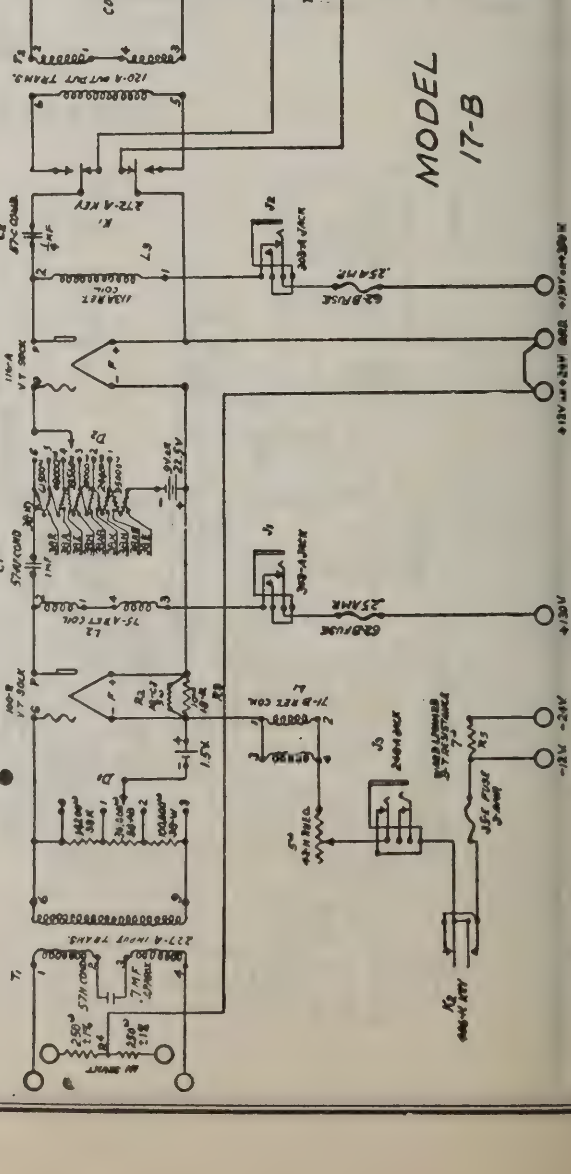
MODEL 9-A
MODEL 10-A
MODEL 17-B


INPUT
R2 2000
19BM
2000 R3
4000
30,000
22.5V
2, 205D VT
F+
F-
P
V1
J1
J2
J3
303A JACK
303A Jack
8000
500
OUTPUT
208-R input Transformer T2
113-A output Transformer T1
248-A JACK
L1 71B Retard coil 4
L2 71A Retard coil 90
4C-D RHEO. 190 R1
35-H FUSE 5AMP
62-B FUSE .25AMP
12V
GRD
+
-
350V

MODEL 9-A


OUT
119-C OUTPUT TRANS
DC MILLIAMMETER
DC VOLTMETER
211-E VACUUM TUBE
750V—5AMP 52-A FUSE
DISCONNECTING SWITCH
+750V
+
G
36 VOLT GRID BATT.
TYPE O RES.
TYPE O RES.
208-N INPUT TRANS
IN

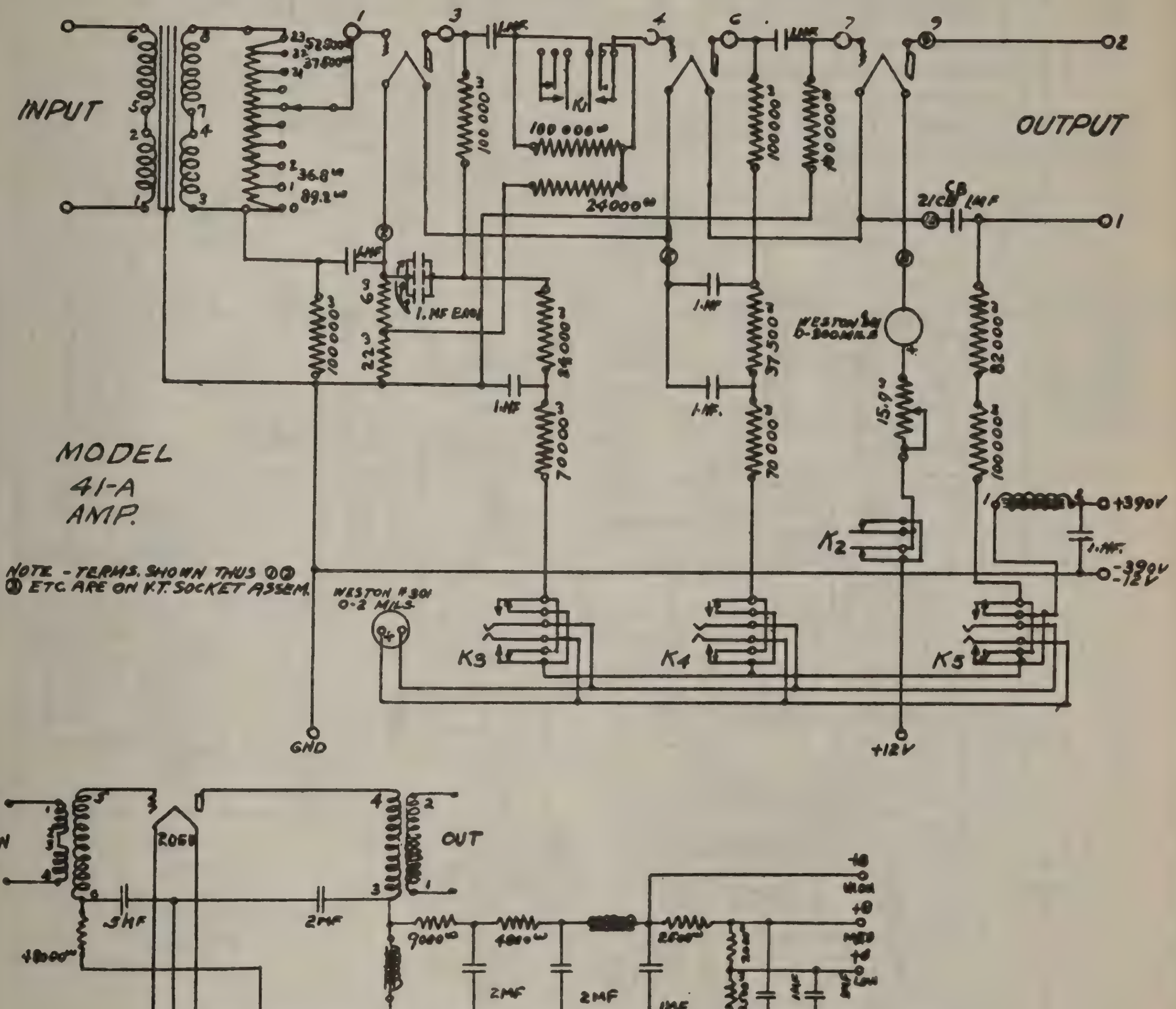
MODEL 10-A


COIL OUT
TUBE OUT
120-A OUTPUT TRANS.
272-A KEY
205-D VT
102-D VT
62-B FUSE
.25AMP
+130V
GRD
+12V
-24V
-12V
227-A INPUT TRANS.

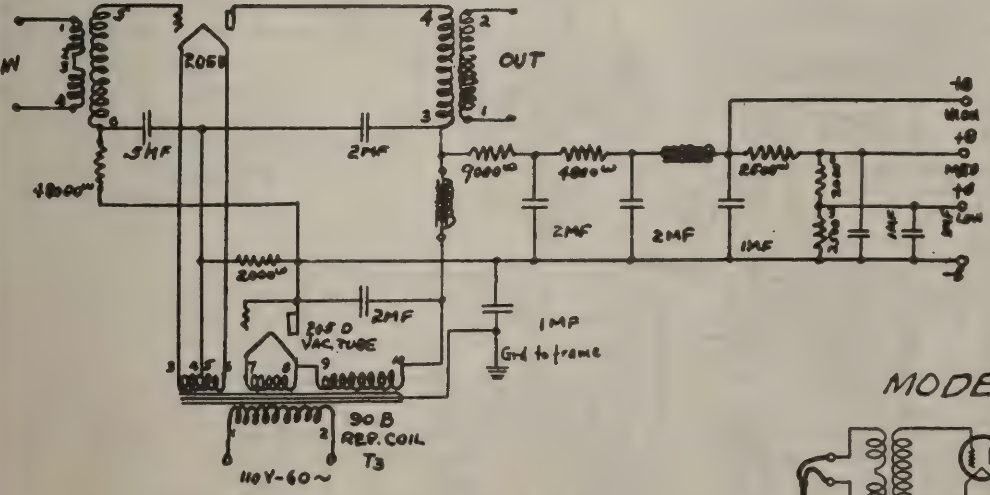
MODEL 17-B

WESTERN ELECTRIC CO.

MODEL 41-A
MODEL 45-A
MODEL 25-B

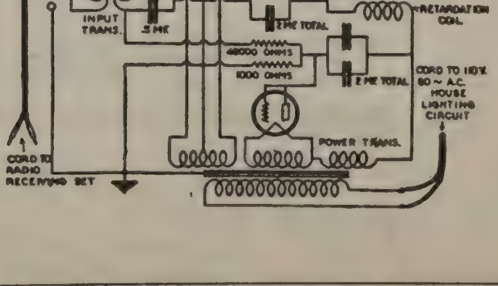

INPUT
OUTPUT
52,500 Ω
37,500 Ω
36.8 Ω
89.2 Ω
1 MF
100 000 Ω
100 000 Ω
K1
24000 Ω
1.MF EACH
1 MF
70000 Ω
37300 Ω
100000 Ω
WESTON 0-300 MILS
15.9 Ω
82000 Ω
21CB 1MF
+390V
-390V
-12V
K2
K3
K4
K5
WESTON #301 0-2 MILS
GND
+12V
NOTE - TERMS. SHOWN THUS ①② ③ ETC. ARE ON V.T. SOCKET ASSEM.

MODEL
41-A
AMP.


IN
OUT
205D
.5MF
2MF
40000 Ω
9000 Ω
4000 Ω
2500 Ω
2MF
2MF
1MF
2000 Ω
2MF
205 D VAC. TUBE
1MF
Grd to frame
90 B REP. COIL T3
110V-60~
+B HIGH
+B MED
+B LOW

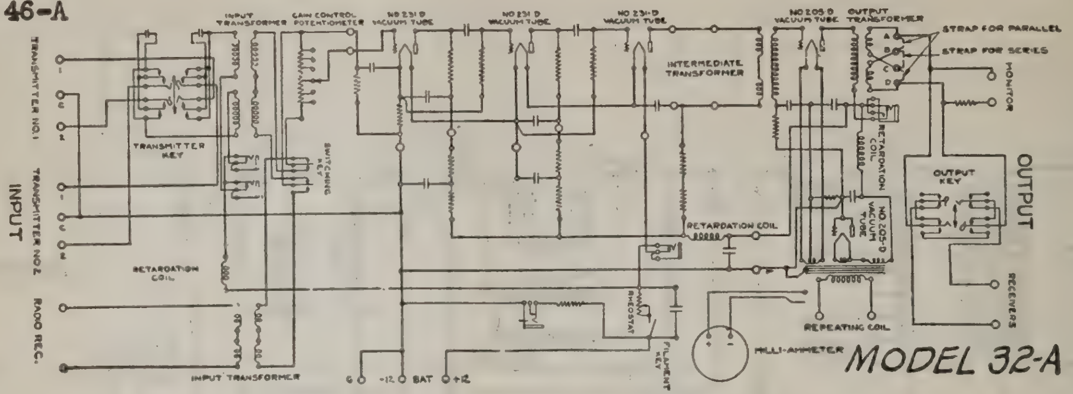
MODEL 45-A

MODEL 25-B

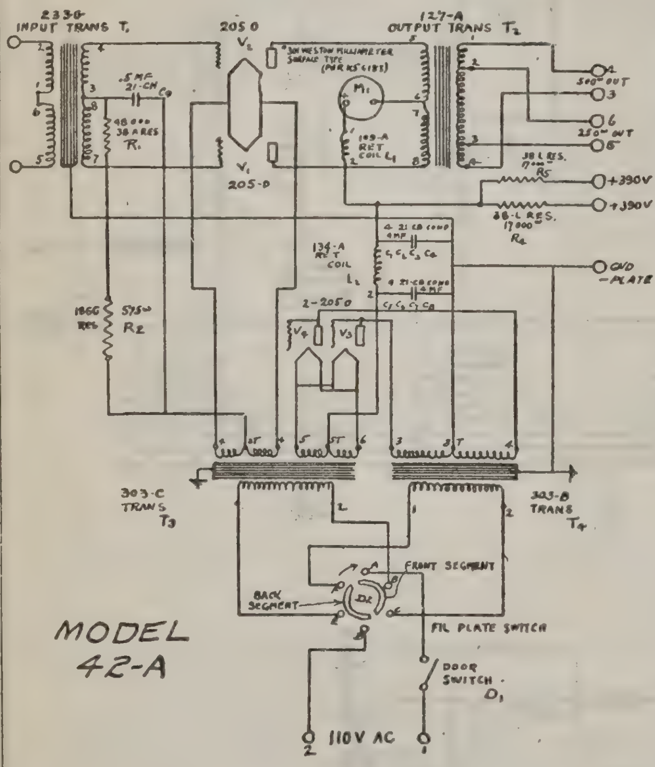

OUTPUT TRANS
TO LOUD SPEAKING TELEPHONE
RETARDATION COIL
INPUT TRANS.
.5 MF
2 MF TOTAL
40000 OHMS
1000 OHMS
2 MF TOTAL
CORD TO 110V. 60 ~ A.C. HOUSE LIGHTING CIRCUIT
POWER TRANS.
CORD TO RADIO RECEIVING SET

MODEL 32-A
MODEL 42-A
MODEL 43-A
MODEL 46-A

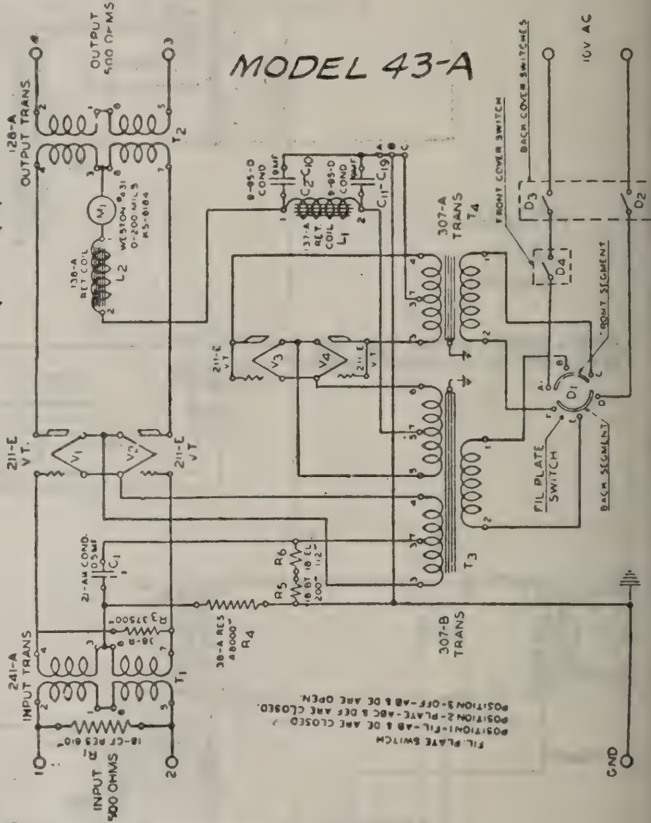
WESTERN ELECTRIC CO.


INPUT
TRANSMITTER NO. 1
TRANSMITTER NO. 2
RADIO REC.
TRANSMITTER KEY
RETARDATION COIL
INPUT TRANSFORMER
GAIN CONTROL POTENTIOMETER
SWITCHING KEY
NO 231-D VACUUM TUBE
INTERMEDIATE TRANSFORMER
RETARDATION COIL
NO 205-D VACUUM TUBE
OUTPUT TRANSFORMER
STRAP FOR PARALLEL
STRAP FOR SERIES
MONITOR
OUTPUT
OUTPUT KEY
RECEIVERS
REPEATING COIL
RHEOSTAT
FILAMENT KEY
MILLI-AMMETER
G -12 BAT +12

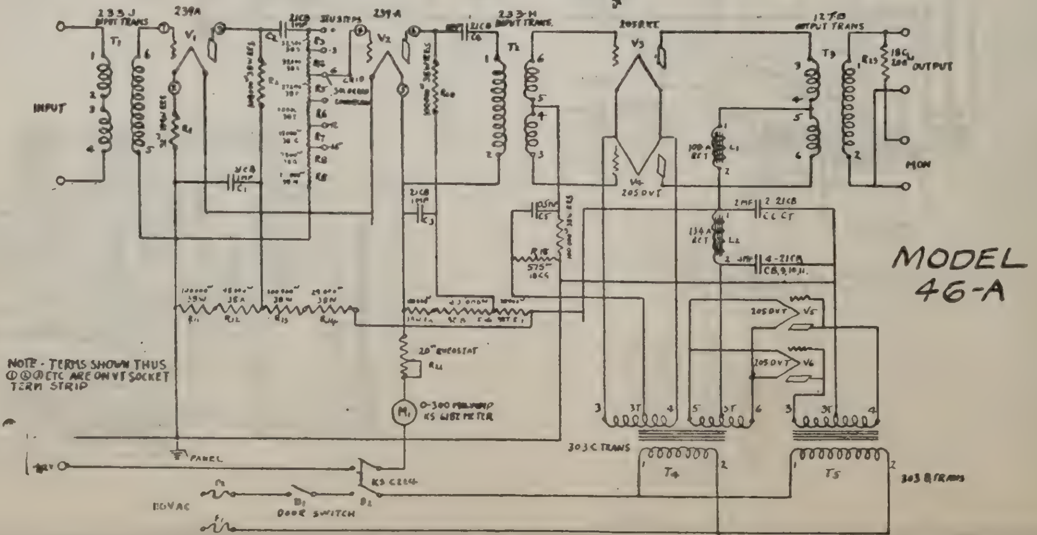
MODEL 32-A


233-B INPUT TRANS T1
205-D V2
127-A OUTPUT TRANS T2
.5 MF 21-CN C9
48000 38-A RES R1
301 WESTON MILLIAMETER SURFACE TYPE
109-A RET COIL L1
205-D V1
500Ω OUT
250Ω OUT
38 L RES. 17000 R5
+390V
38-L RES. 17000 R4
134-A RET COIL L2
GND -PLATE
1866 RES.
575Ω R2
2-205D
V4 V3
303-C TRANS T3
303-B TRANS T4
FRONT SEGMENT
BACK SEGMENT
FIL PLATE SWITCH
DOOR SWITCH D1
110V AC

MODEL 42-A


OUTPUT 500 OHMS
128-A OUTPUT TRANS T2
WESTON 0-200 MILS KS-8184
136-A RET COIL L2
137-A RET. COIL L1
307-A TRANS T4
FRONT COVER SWITCH
BACK COVER SWITCHES
110V AC
FRONT SEGMENT
BACK SEGMENT
FIL PLATE SWITCH
211-E V.T.
21-AH COND.
38-A RES 48000Ω R4
307-B TRANS
T3
241-A INPUT TRANS T1
INPUT 500 OHMS
GND
FIL PLATE SWITCH
POSITION 1-FIL-AB & DE ARE CLOSED
POSITION 2-PLATE-ABC & DEF ARE CLOSED
POSITION 3-OFF-AB & DE ARE OPEN.

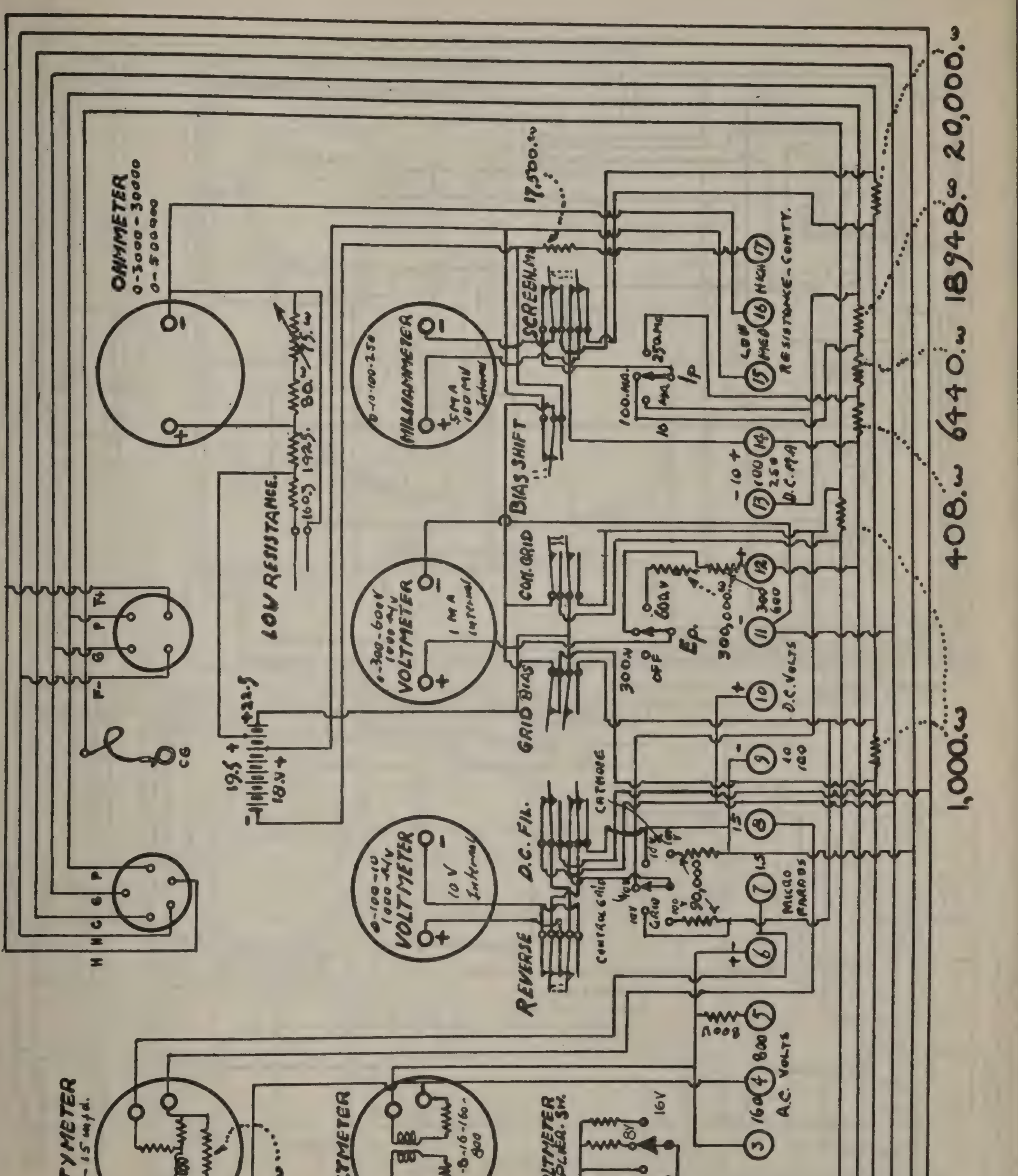
MODEL 43-A


233-J INPUT TRANS
239A
239-A
233-H INPUT TRANS
205 D VT
127-B OUTPUT TRANS
INPUT
OUTPUT
MON
205 D VT
303 C TRANS
303 B TRANS
20Ω RHEOSTAT
0-300 MILLIAMP KS 6182 METER
PANEL
DOOR SWITCH
110 VAC
NOTE - TERMS SHOWN THUS ①②③ ETC ARE ON VT SOCKET TERM STRIP

MODEL 46-A

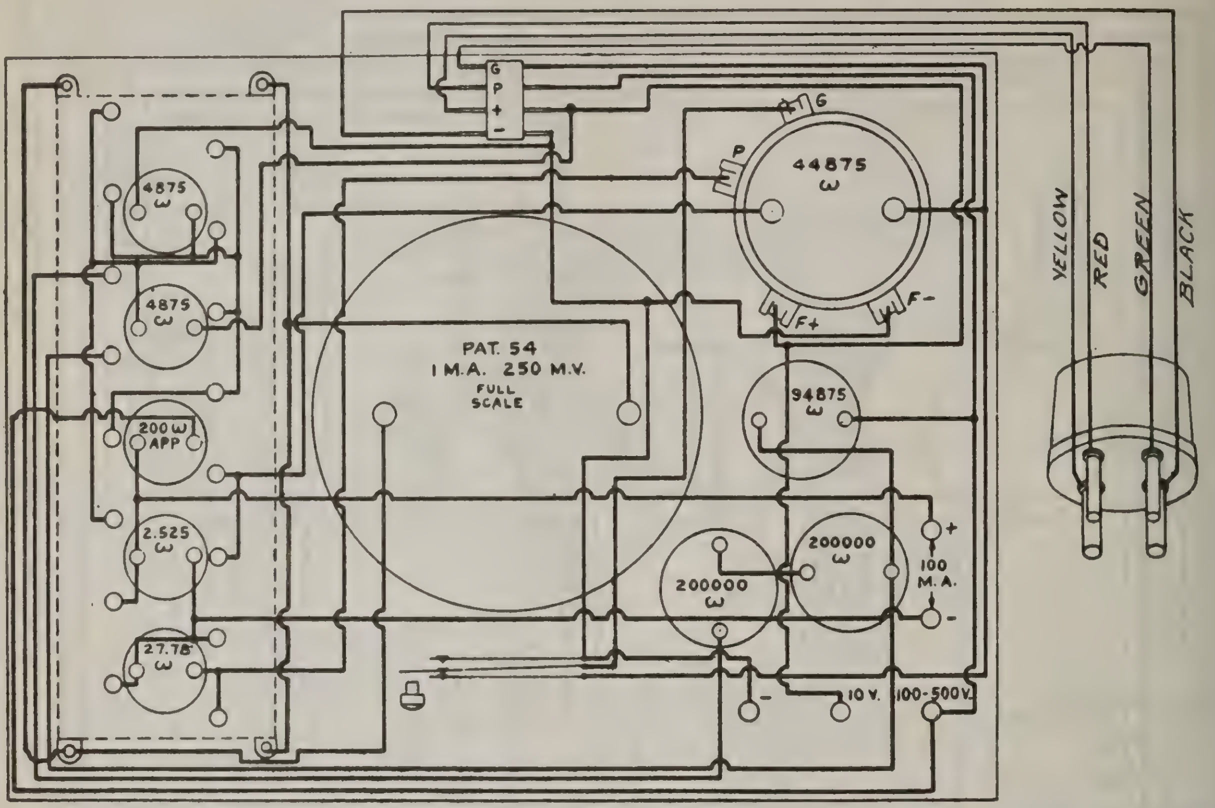
WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell
Test Panel

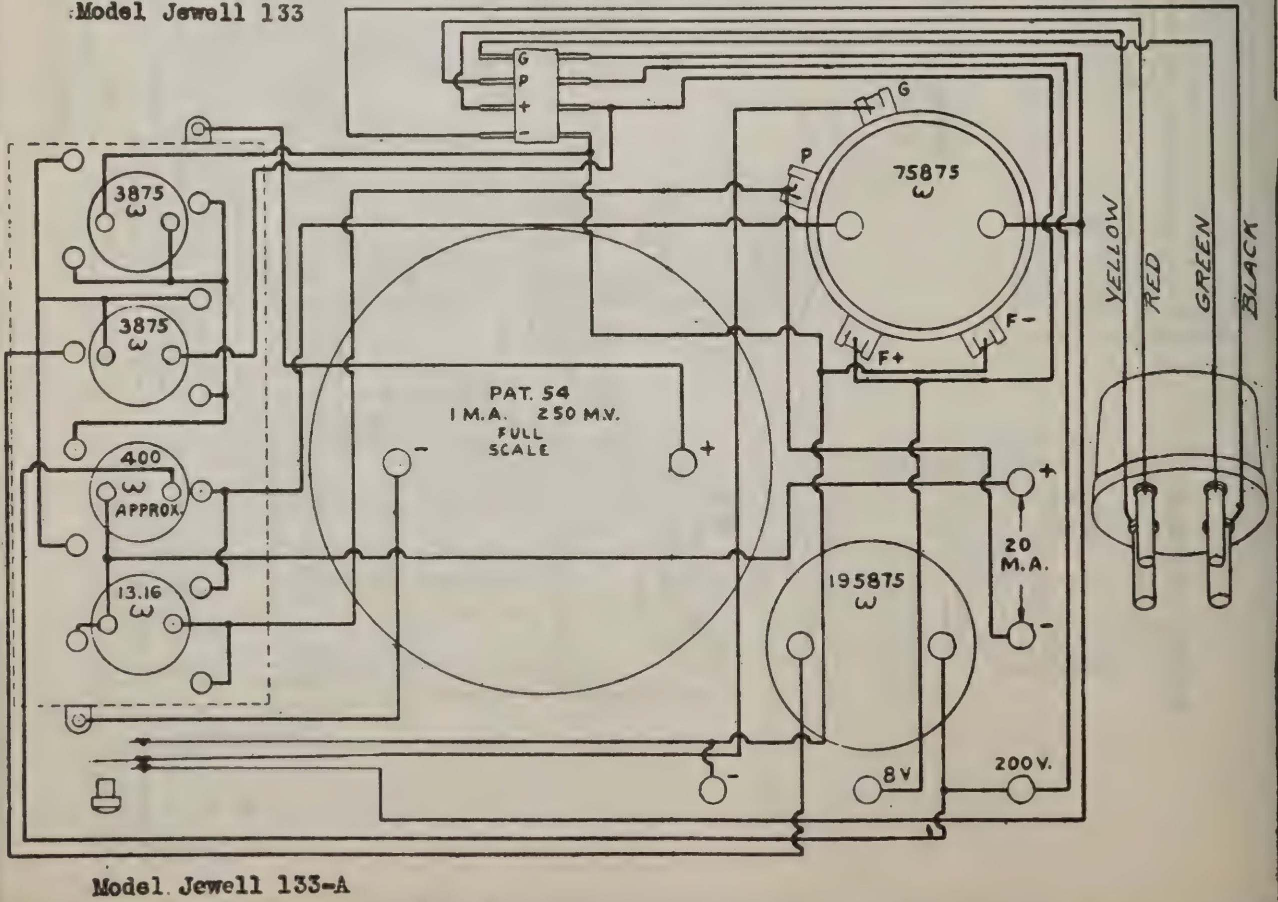

OHMMETER
0-3000-30000
0-500000
LOW RESISTANCE
160.5
192.5
80 ω
75 ω
17,500 ω
SCREEN MA
MILLIAMMETER
0-10-100-250
5 MA
100 MV
Internal
BIAS SHIFT
VOLTMETER
0-300-600 V
1000 Ω/V
1 MA
Internal
COM. GRID
GRID BIAS
300 V
OFF
600 V
Ep
300,000 ω
100 MA
250 MA
Ip
VOLTMETER
0-100-10
1000 Ω/V
10 V
Internal
D.C. FIL.
REVERSE
CATHODE
CONTROL GRID
90,000
CAPACITY METER
0-1.5-15 mfd.
300 ω
A.C. VOLTMETER
0-4-8-16-160-800
A.C. VOLTMETER MULTIPLIER SW.
16 V
8 V
4 V
1
4
8
16
A.C.
2
3
160
4
800
A.C. VOLTS
5
800 ω
6
+
-
7
1.5
MICRO FARADS
8
15
9
10
100
10
D.C. VOLTS
11
300
600
12
13
100
14
250
D.C. M.A.
-10 +
15
LOW
16
MED
17
HIGH
RESISTANCE-CONTY.
PLUG
C.G.
P
G
G
F-
F+
19.5 +
18 V +
22.5 +
CG
H
H
C
G
P
F-
F+
1,000 ω
408 ω
6440 ω
18948 ω
20,000 ω

MODEL Jewell 133
MODEL Jewell 133-A

WESTON ELECTRICAL INSTRUM'T CORP.


G
P
+
-
G
P
44875 ω
F+
F-
YELLOW
RED
GREEN
BLACK
4875 ω
4875 ω
200 ω APP
2.525 ω
27.78 ω
PAT. 54
1 M.A. 250 M.V.
FULL SCALE
94875 ω
200000 ω
200000 ω
+
100 M.A.
-
-
10 V.
100-500V.

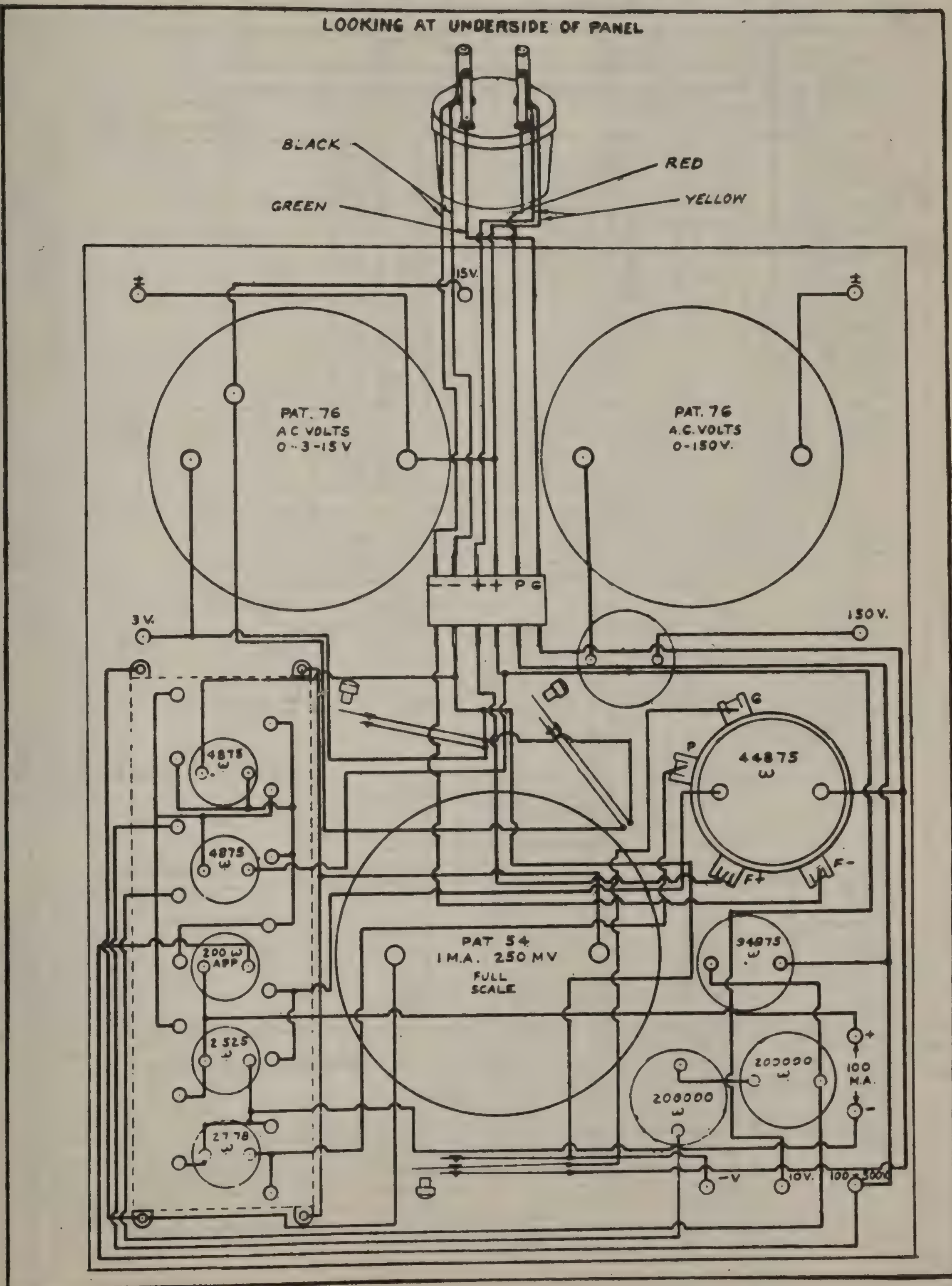
Model Jewell 133


G
P
+
-
G
P
75875 ω
F-
F+
YELLOW
RED
GREEN
BLACK
3875 ω
3875 ω
400 ω APPROX.
13.16 ω
PAT. 54
1 M.A. 250 M.V.
FULL SCALE
-
+
+
20 M.A.
-
195875 ω
-
8V
200V.

Model Jewell 133-A

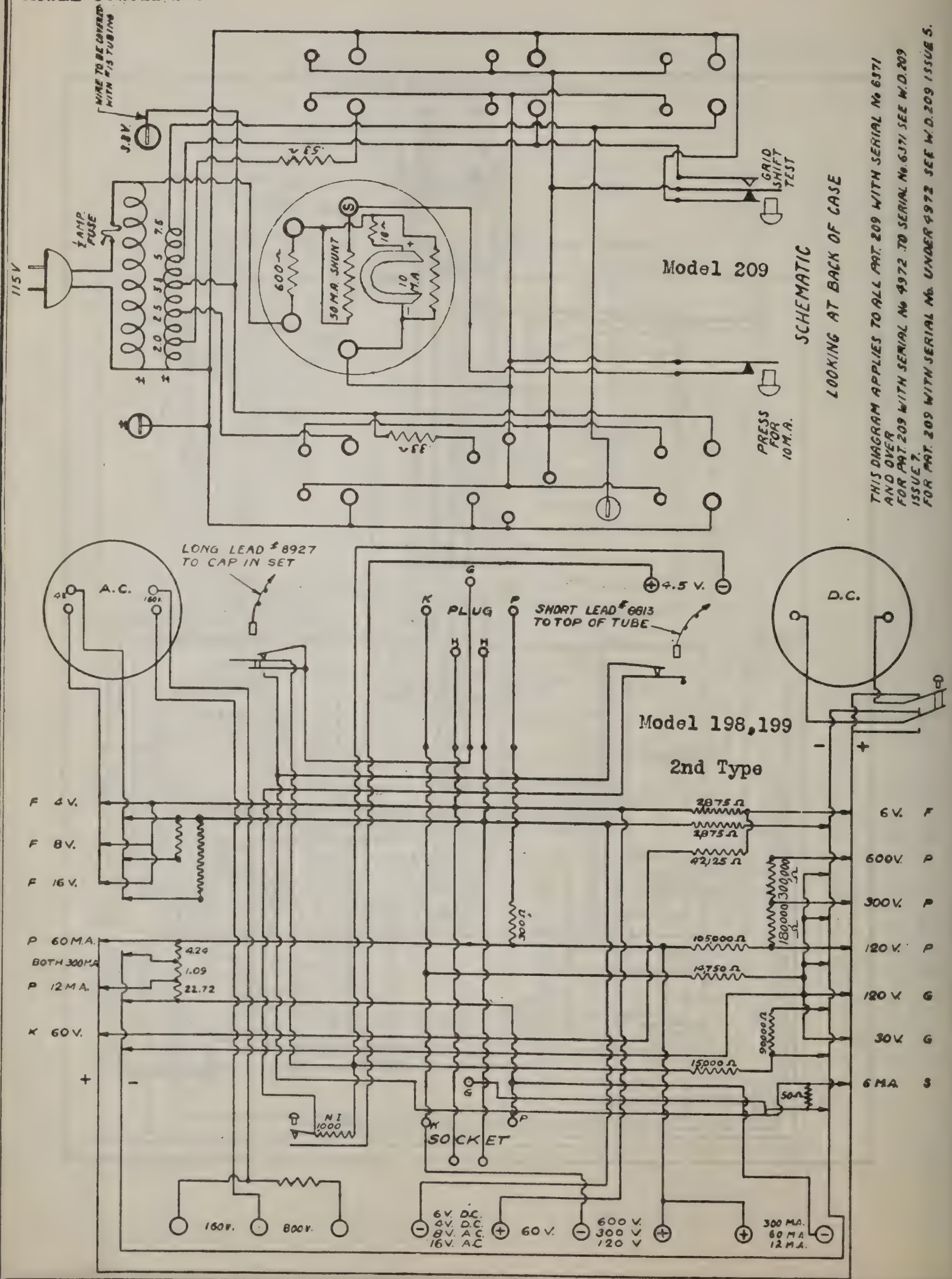
MODEL Jewell 137

WESTON ELECTRICAL INSTRUM'T CORP.


LOOKING AT UNDERSIDE OF PANEL
BLACK
RED
GREEN
YELLOW
15V.
±
±
PAT. 76
A C VOLTS
0-3-15 V
PAT. 76
A.C. VOLTS
0-150V.
- - + + P G
3V.
150V.
G
P
44875 ω
F+
F-
4875 ω
4875 ω
200 ω APP
2525 ω
2778 ω
PAT 54
1 M.A. 250 MV
FULL SCALE
34875 ω
200000 ω
200000 ω
+
100 M.A.
-
-V
10V.
100-300V.

MODEL Jewell
198,199
2nd Type
MODEL Jewell 209

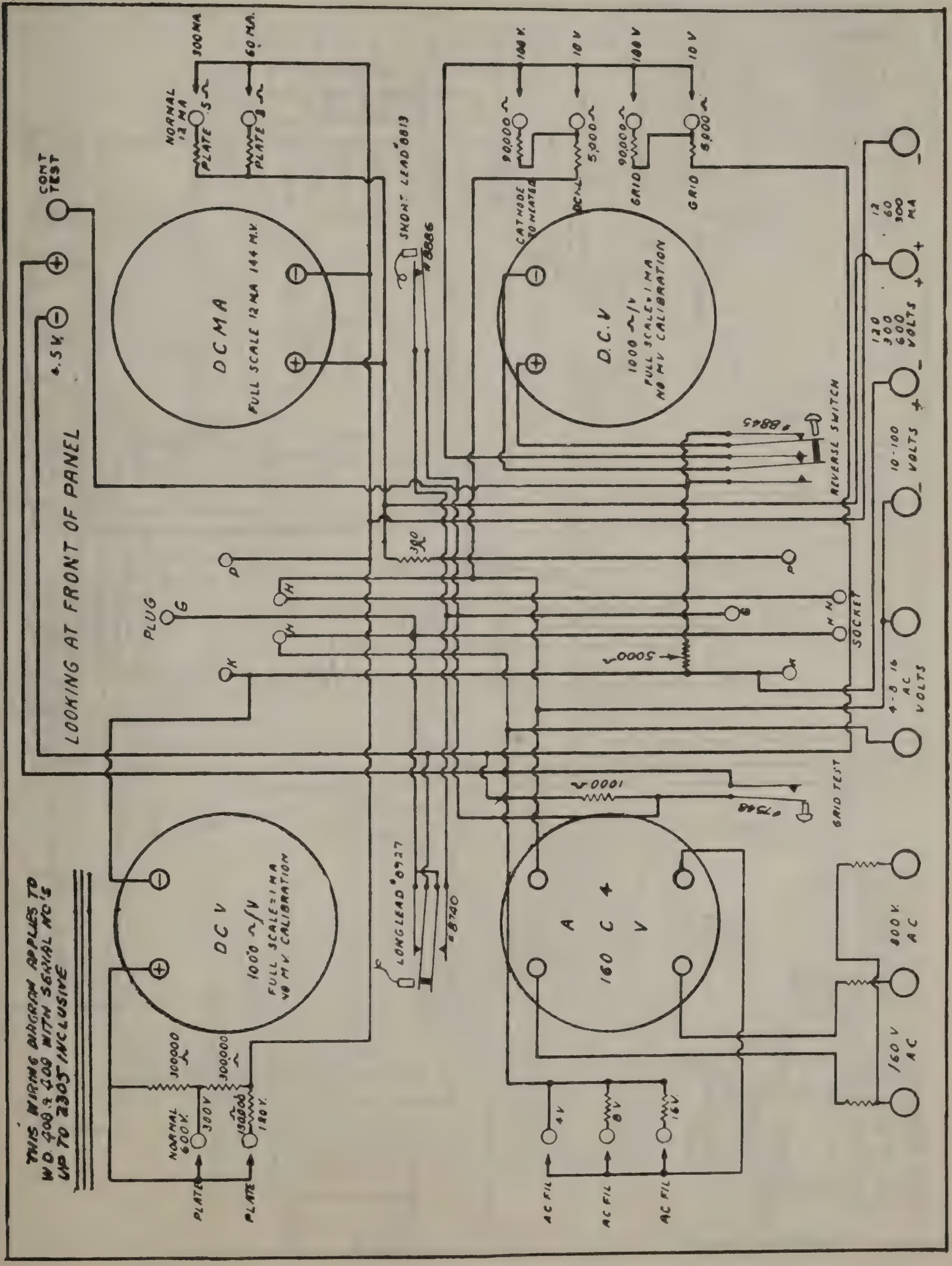
WESTON ELECTRICAL INSTRUM'T CORP.


WIRE TO BE COVERED WITH #15 TUBING
3.8V.
115V
1 AMP. FUSE
7.5
5
3.3
2.5
2.0
600∼
50 M.A. SHUNT
S
10 M.A.
GRID SHIFT TEST
Model 209
SCHEMATIC
LOOKING AT BACK OF CASE
PRESS FOR 10 M.A.
LONG LEAD # 8927 TO CAP IN SET
A.C.
D.C.
4.5 V.
K
G
P
PLUG
H
H
SHORT LEAD # 6813 TO TOP OF TUBE
Model 198,199
2nd Type
F 4V.
F 8V.
F 16 V.
P 60 M.A.
BOTH 300 M.A.
P 12 M.A.
K 60 V.
4.24
1.09
21.72
300Ω
2875 Ω
2875 Ω
42125 Ω
300000 Ω
180000 Ω
105000 Ω
14750 Ω
90000 Ω
15000 Ω
50 Ω
6 V. F
600V. P
300 V. P
120 V. P
120 V. G
30 V. G
6 MA S
NI 1000
SOCKET
160V.
800V.
6 V. DC.
4 V. DC.
8 V. AC.
16 V. AC.
60 V.
600 V
300 V
120 V
300 MA.
60 MA
12 MA.

THIS DIAGRAM APPLIES TO ALL PAT. 209 WITH SERIAL No 6371 AND OVER
FOR PAT. 209 WITH SERIAL No 4972 TO SERIAL No. 6371 SEE W.D. 209 ISSUE 7.
FOR PAT. 209 WITH SERIAL No. UNDER 4972 SEE W.D. 209 ISSUE 5.

WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell
408,409
1st Type


THIS WIRING DIAGRAM APPLIES TO W.D. 408 & 409 WITH SERIAL NO'S UP TO 2305 INCLUSIVE

LOOKING AT FRONT OF PANEL

300 MA
60 MA.
NORMAL 12 MA
PLATE 5 Ω
PLATE 3 Ω
CONT TEST
4.5 V
DCMA
FULL SCALE 12 MA 144 M.V.
SHORT LEAD 8813
#8886
390
100 V.
10 V
100 V
10 V
90,000 Ω
5,000 Ω
90,000 Ω
5,000 Ω
CATHODE TO HEATER
HEATER
GRID
GRID
D.C.V
1000 Ω/V
FULL SCALE = 1 MA
40 MV CALIBRATION
12 60 300 MA
120 300 600 VOLTS
10-100 VOLTS
#8845
REVERSE SWITCH
PLUG
P
G
H
H
K
SOCKET
P
G
H
H
K
5000 Ω
4-8-16 AC VOLTS
GRID TEST
1000 Ω
#7548
DC V
1000 Ω/V
FULL SCALE = 1 MA
40 MV CALIBRATION
LONG LEAD 8727
#8740
A
160 C +
V
800 V. AC
160 V AC
300000 Ω
300000 Ω
NORMAL 600 V.
300 V
150000 Ω
180 V.
PLATE
PLATE
4 V
8 V
16 V
AC FIL
AC FIL
AC FIL

MODEL Jewell
408,409
2nd Type

WESTON ELECTRICAL INSTRUM'T CORP.

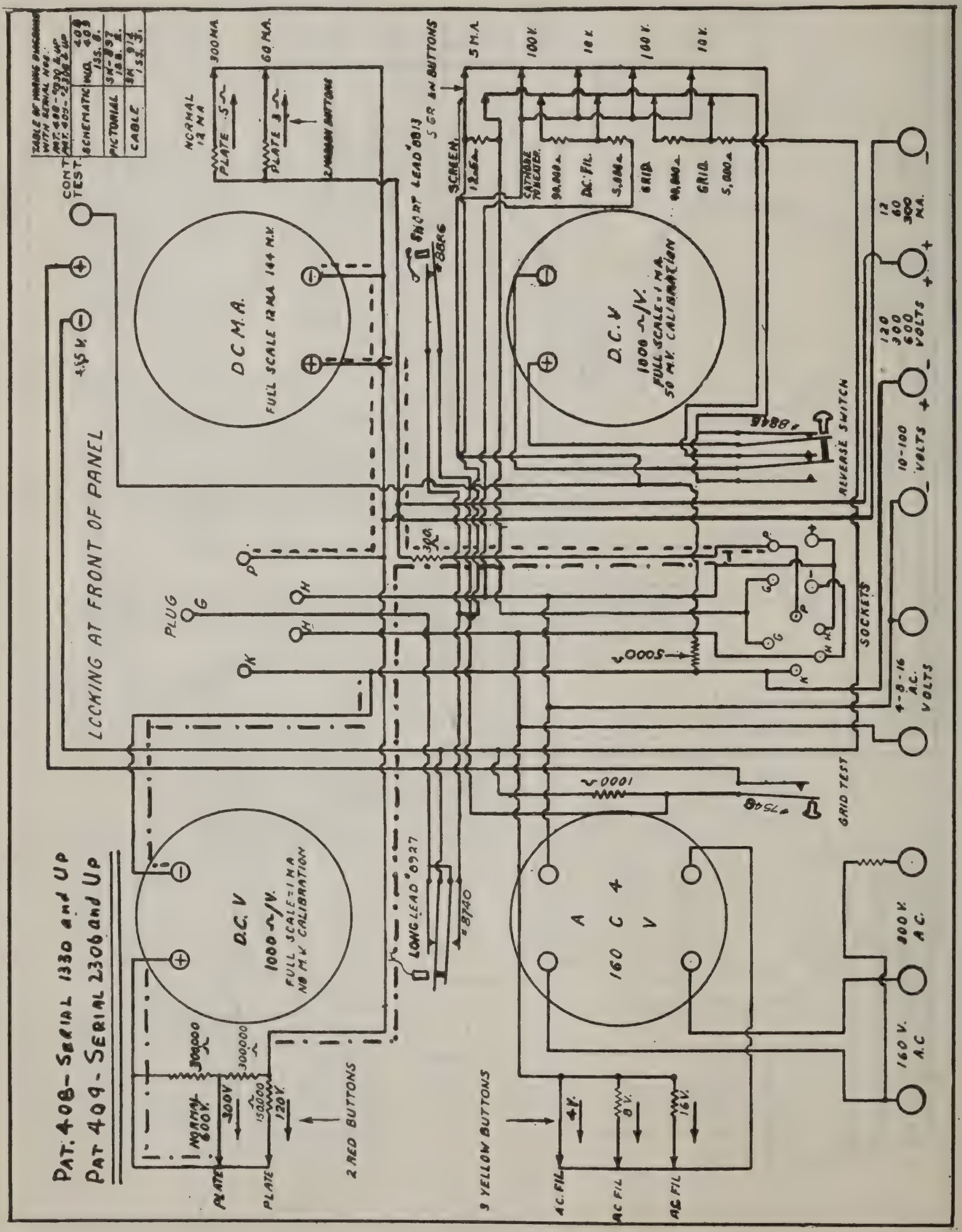
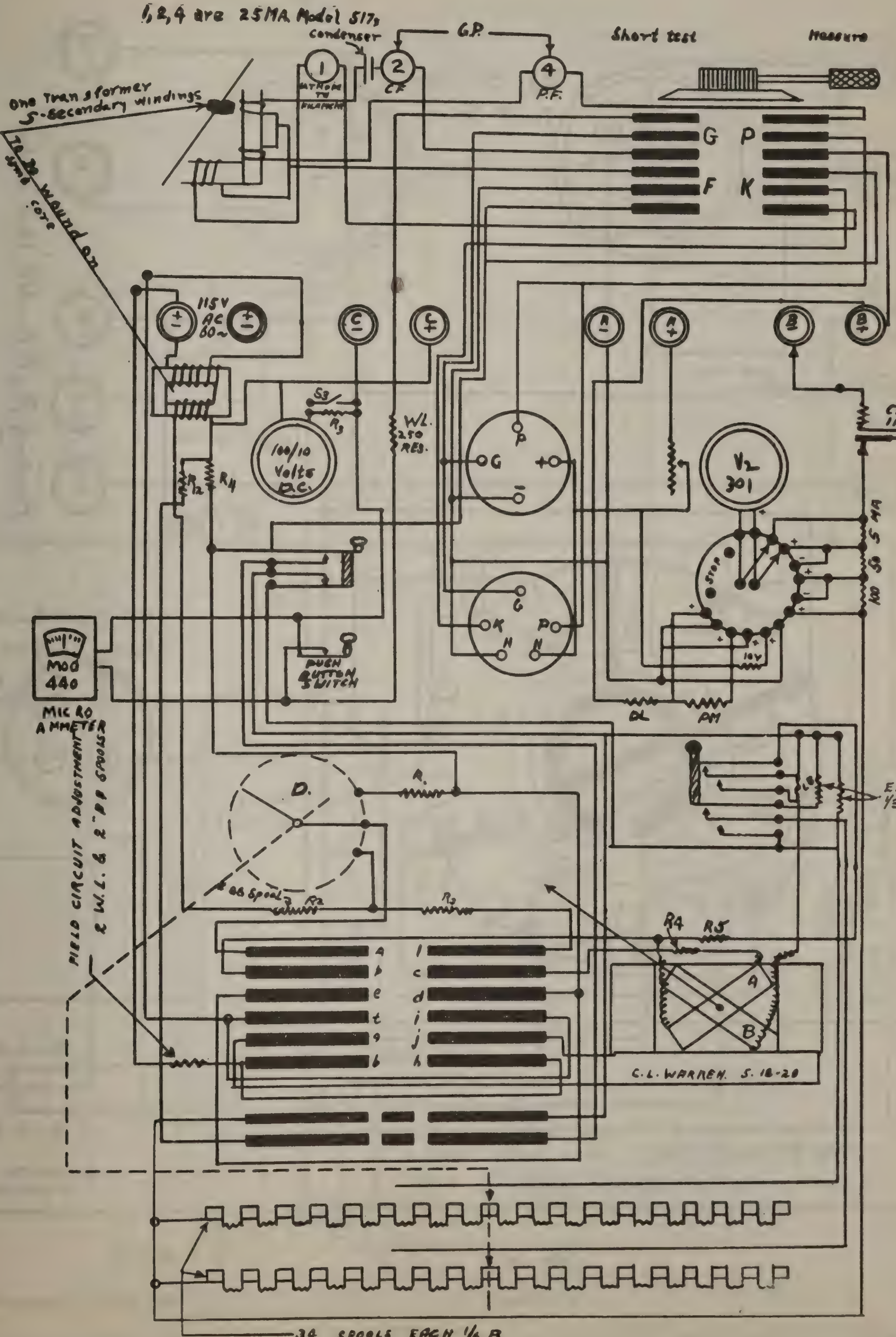


TABLE OF WIRING DIAGRAMS WITH SERIAL NOS.
MT. 408 - 1330 & UP
MT. 409 - 2306 & UP
SCHEMATIC
PICTORIAL
CABLE
CONT. TEST
NORMAL 12 MA
PLATE 5
PLATE 3
300 MA.
60 M.A.
2 GREEN BUTTONS
SHORT LEAD #0813
#8826
5 GR. EN BUTTONS
5 M.A.
100 V.
10 V.
SCREEN
CATHODE TO HEATER
D.C. FIL
GRID
90,000 Ω
5,000 Ω
4.5 V.
D.C.M.A.
FULL SCALE 12 MA. 144 M.V.
D.C.V.
1000 Ω/V.
FULL SCALE = 1 MA.
50 M.V. CALIBRATION
LOOKING AT FRONT OF PANEL
PLUG
P
G
H
K
300 Ω
5000 Ω
1000 Ω
#8848
REVERSE SWITCH
SOCKETS
GRID TEST
#7548
12
60
300
M.A.
120
300
600
VOLTS
10-100 VOLTS
4-8-16 A.C. VOLTS
800 V. A.C.
160 V. A.C.
A
C
V
160
LONG LEAD #0927
#8740
D.C. V
1000 Ω/V.
FULL SCALE = 1 MA.
50 M.V. CALIBRATION
300,000
150,000
NORMAL 600 V.
300 V.
120 V.
PLATE
2 RED BUTTONS
3 YELLOW BUTTONS
4 V.
8 V.
16 V.
A.C. FIL
PAT. 408 - SERIAL 1330 and UP
PAT. 409 - SERIAL 2306 and UP

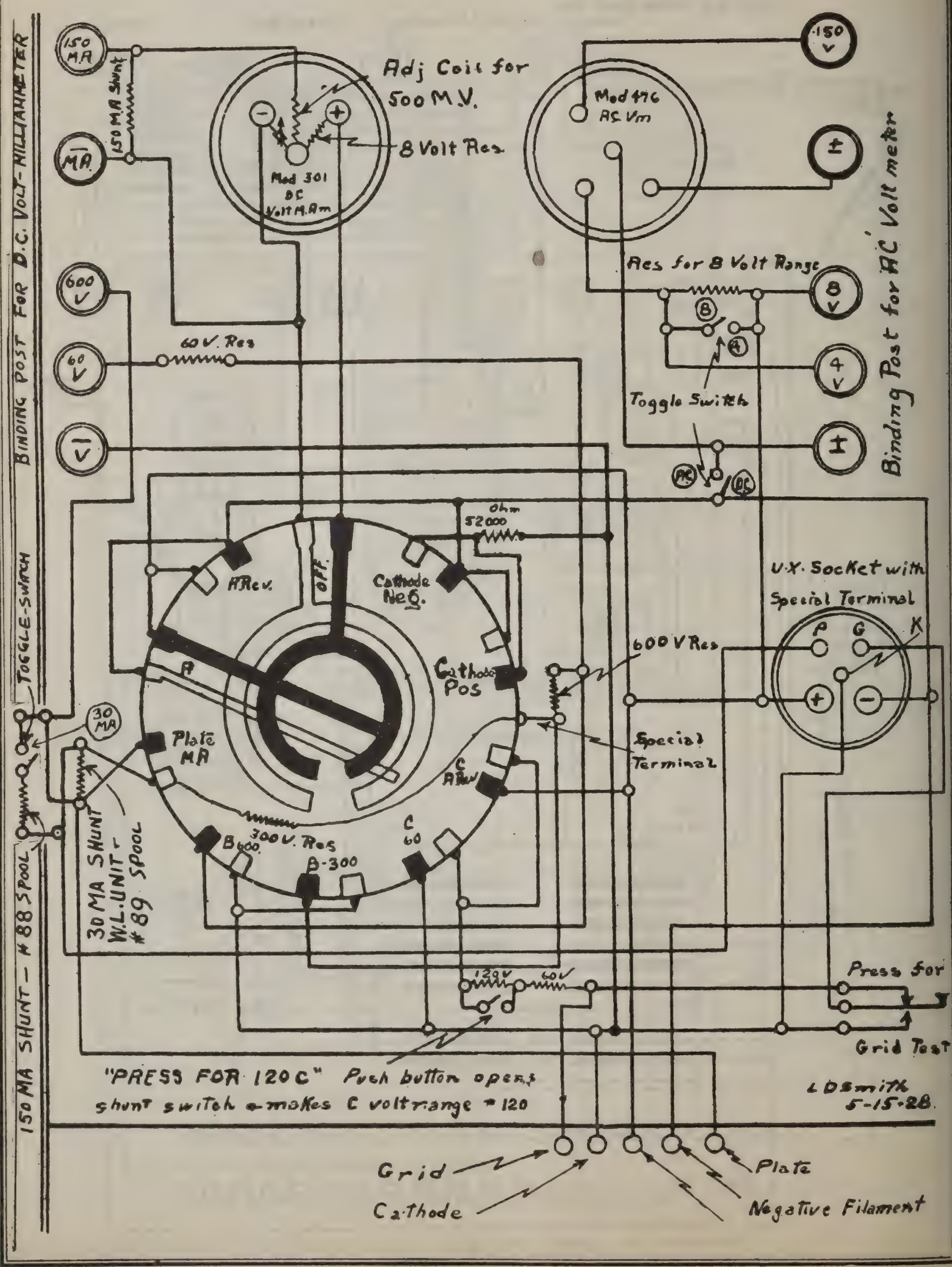
MODEL Weston.
526 Type 7

WESTON ELECTRICAL INSTRUM'T CORP.


1,2,4 are 25MA Model 517s
condenser
G.P.
Short test
Measure
One Transformer 5-secondary windings
1
CATHODE TO FILAMENT
2
C.F.
4
P.F.
G
P
F
K
10-20 wound on same core
115V AC 60~
C
C
A
A
B
B
S3
R3
100/10 Volts D.C.
W.L. 250 RES.
R12
R4
P
G
+
−
G
K
P
H
H
V2 301
Circuit Breaker
5 MA
50
100
STOP
10V
DL
PM
Mod 440
MICRO AMMETER
PUSH BUTTON SWITCH
D.
R1
EACH 1/3 B
FIELD CIRCUIT ADJUSTMENT
2 W.L. & 2" DD SPOOLS
# 66 Spool
R2
R3
R4
R5
a
b
e
t
g
b
l
c
d
i
j
h
A
B
C. L. WARREN. 5-18-28
34 SPOOLS EACH 1/6 B

MODEL Weston
537

WESTON ELECTRICAL INSTRUM'T CORP.

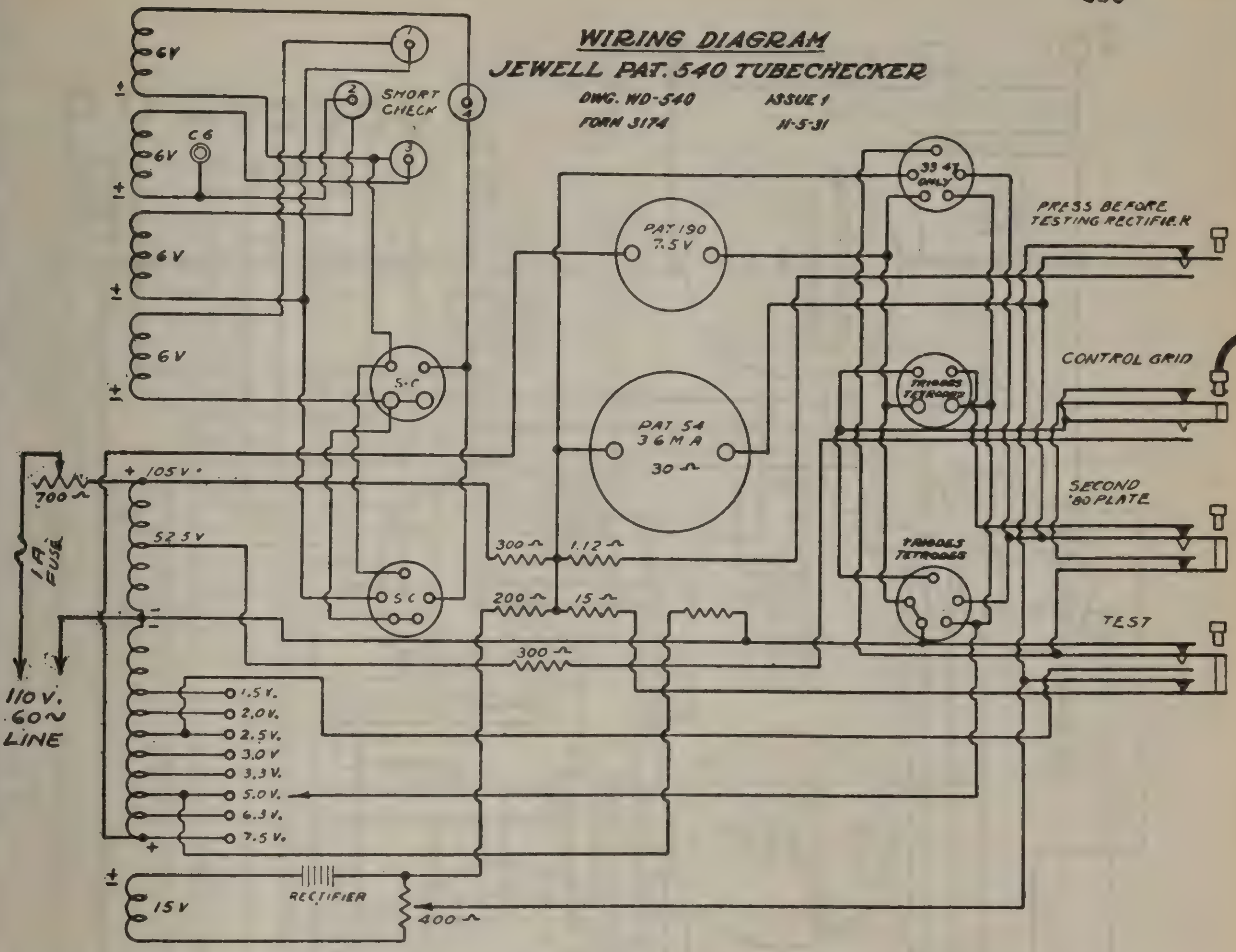

Binding Post for D.C. Volt-Milliammeter
150 M.A.
M.A.
150 M.A. Shunt
Adj Coil for 500 M.V.
8 Volt Res.
Mod 301 DC Volt M.A.m
Mod 476 AC Vm
150 V
±
Res for 8 Volt Range
8 V
4 V
Toggle Switch
AC
DC
±
Binding Post for AC Volt meter
600 V
60 V
60 V. Res
V
Toggle-Switch
Ohm 52000
A Rev.
Off
Cathode Neg.
Cathode Pos
600 V Res
U.X. Socket with Special Terminal
P
G
K
+
−
Special Terminal
A
Plate MA
30 MA
C A Rev
C 60
300 V. Res
B 600.
B-300
30 MA Shunt W.L. Unit #89 Spool
150 MA Shunt — #88 Spool
120 V
60 V
Press for Grid Test
Grid
Cathode
Plate
Negative Filament

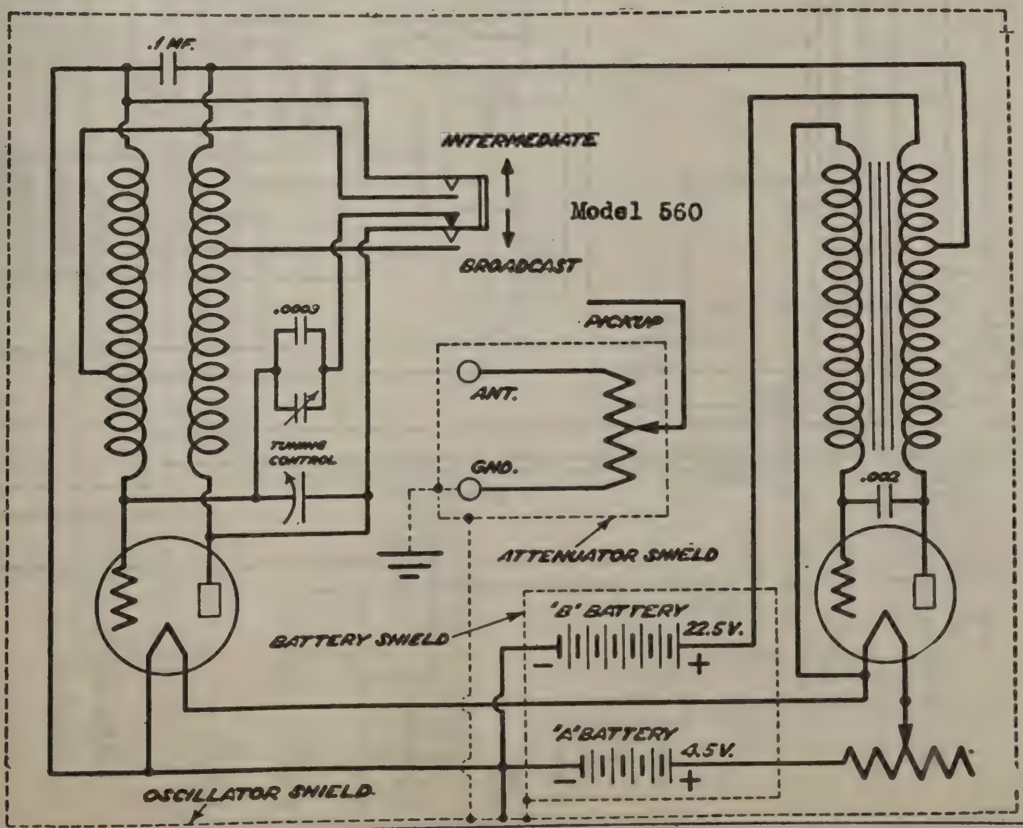
"PRESS FOR 120 C" Push button opens shunt switch & makes C volt range = 120

L D Smith
5-15-28

WESTON ELECTRICAL INSTRUM'T CORP.

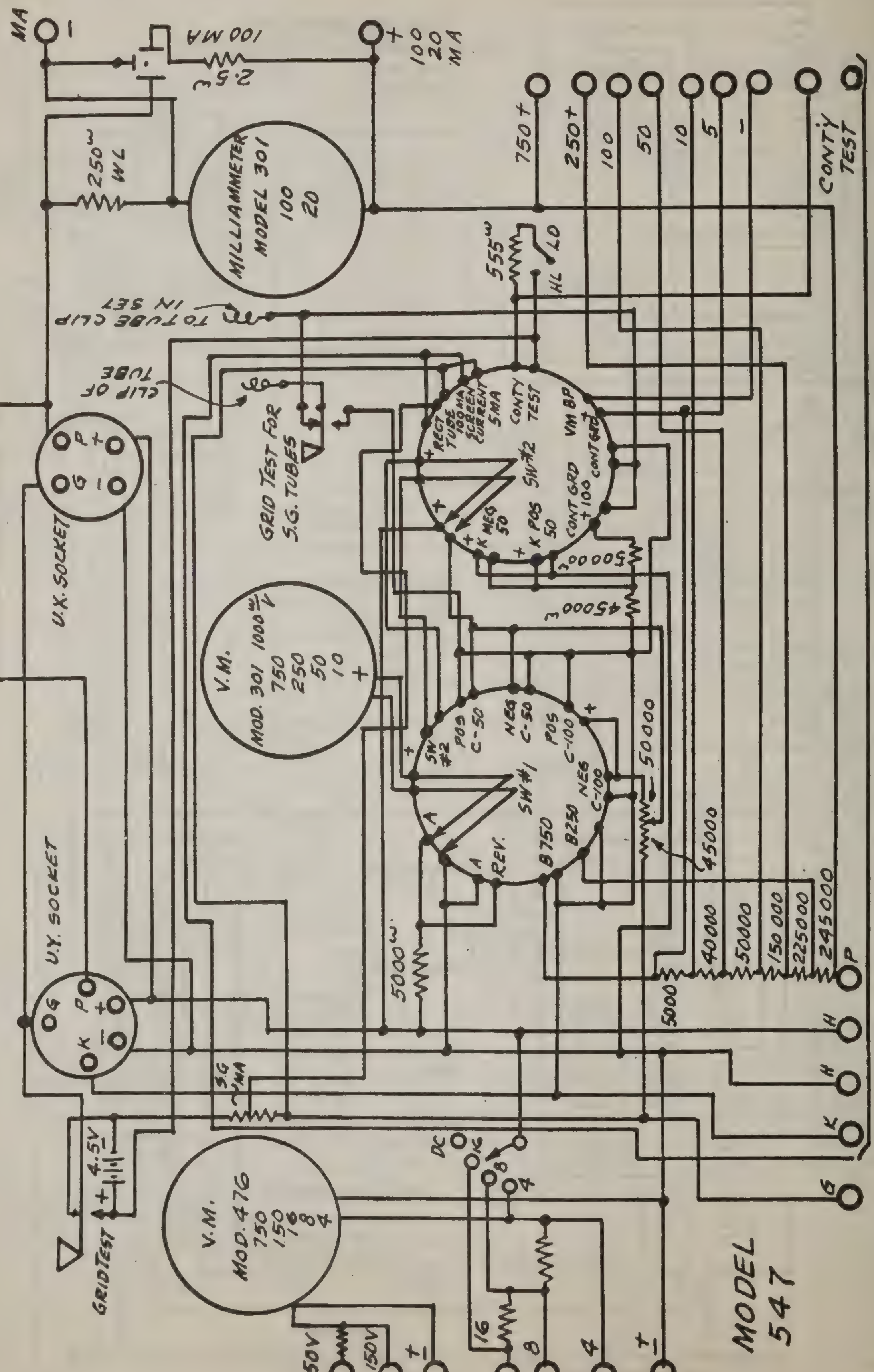
MODEL Jewell 540
MODEL Jewell 560


WIRING DIAGRAM
JEWELL PAT. 540 TUBECHECKER
DWG. WD-540
ISSUE 1
FORM 3174
11-5-31
6V
6V
6V
6V
C6
SHORT CHECK
1
2
3
4
S-C
SC
PAT 190
7.5 V
PAT 54
36 MA
30 Ω
33 47 ONLY
TRIODES TETRODES
TRIODES TETRODES
PRESS BEFORE TESTING RECTIFIER
CONTROL GRID
SECOND '80 PLATE
TEST
+ 105 V
700 Ω
1 A FUSE
52.5 V
110 V. 60~ LINE
300 Ω
1.12 Ω
200 Ω
15 Ω
300 Ω
1.5 V.
2.0 V.
2.5 V.
3.0 V
3.3 V.
5.0 V.
6.3 V.
7.5 V.
15 V
RECTIFIER
400 Ω

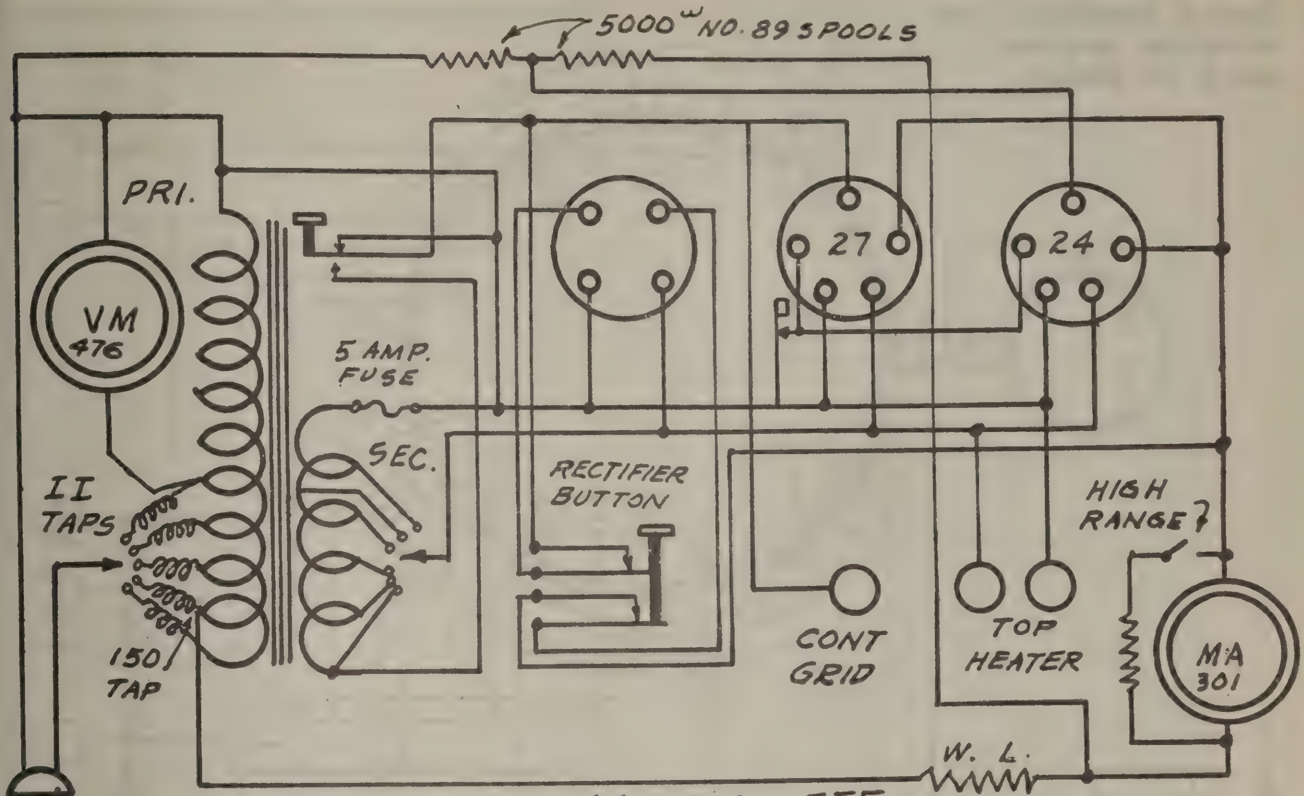

.1 MF.
INTERMEDIATE
BROADCAST
Model 560
.0003
TUNING CONTROL
PICKUP
ANT.
GND.
ATTENUATOR SHIELD
.002
'B' BATTERY
22.5V.
BATTERY SHIELD
'A' BATTERY
4.5V.
OSCILLATOR SHIELD

MODEL Weston
547

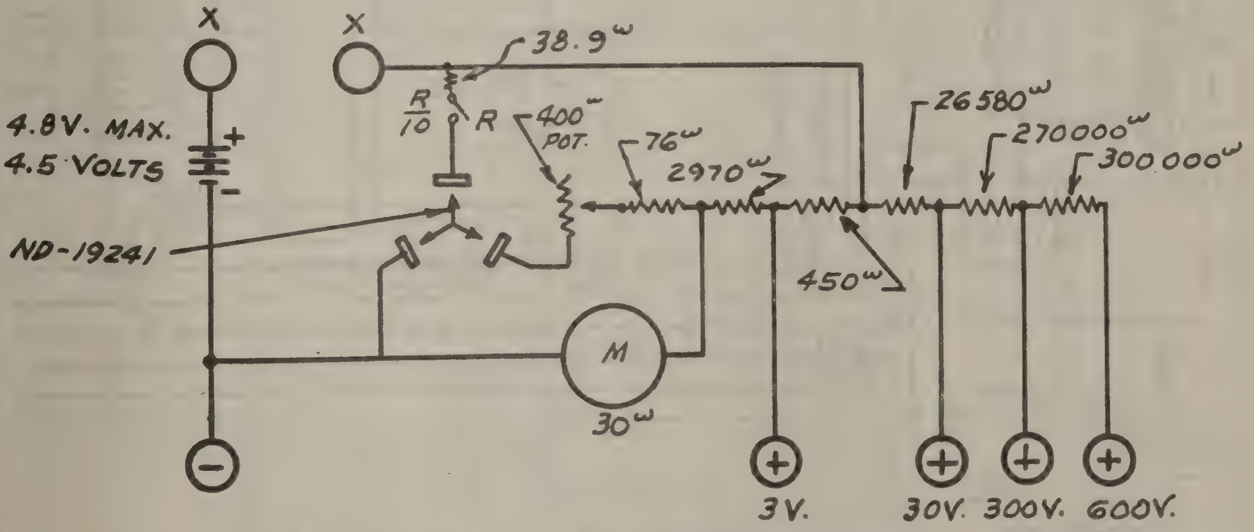
WESTON ELECTRICAL INSTRUM'T CORP.


MA
100 MA
2.5 ω
100
20
MA
250 ω
WL
MILLIAMMETER
MODEL 301
100
20
750+
250+
100
50
10
5
−
CONT'Y
TEST
555 ω
LO
HL
TO TUBE CLIP
IN SET
CLIP OF
TUBE
GRID TEST FOR
S.G. TUBES
RECT TUBE 100MA
SCREEN CURRENT 5MA
CONTY TEST
VM BP
CONT GRD
CONT GRD +100
K POS 50
K NEG 50
SW #2
50000 ω
45000 ω
U.X. SOCKET
P
G
+
−
V.M.
MOD. 301 1000 ω/V
750
250
50
10
+
SW #2
POS C-50
NEG C-50
POS C-100
NEG C-100
SW #1
A
REV.
B750
B250
50000
45000
U.Y. SOCKET
G
P
K
+
−
5000 ω
5000
40000
50000
150 000
225000
245000
P
H
H
K
G
S.G.
MA
4.5V
GRIDTEST
V.M.
MOD. 476
750
150
16
8
4
DC
16
8
4
750V
150V
+
−
16
8
4
+
−
MODEL
547

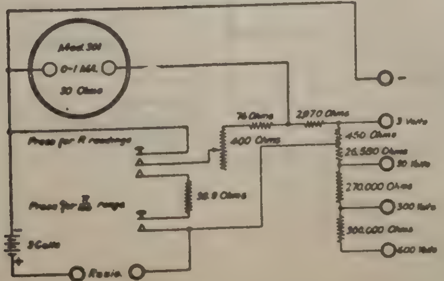
MODEL Weston 555
MODEL Weston 564 WESTON ELECTRICAL INSTRUM'T CORP.


5000ω NO. 89 SPOOLS
PRI.
VM 476
5 AMP. FUSE
SEC.
II TAPS
150 TAP
27
24
RECTIFIER BUTTON
CONT GRID
TOP HEATER
HIGH RANGE
MA 301
W. L.

MODEL 555


X
X
38.9ω
R/10
R
400ω POT.
76ω
2970ω
26580ω
270000ω
300000ω
4.8V. MAX.
4.5 VOLTS
+
-
ND-19241
450ω
M
30ω
+
-
3V.
30V.
300V.
600V.

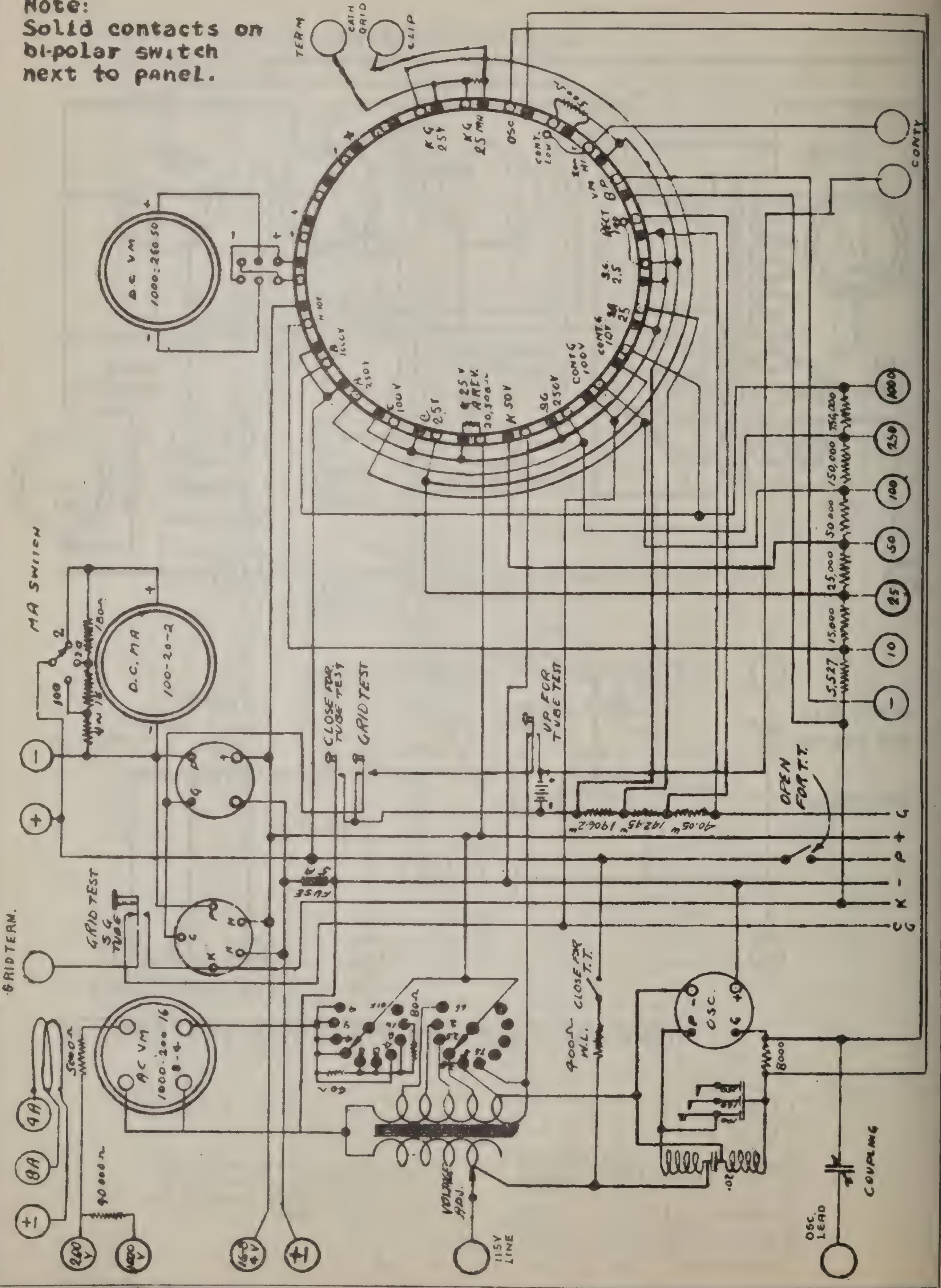
MODEL 564 OHMMETER & VOLTMETER


Model 301
0-1 MA.
30 Ohms
-
76 Ohms
2970 Ohms
3 Volts
400 Ohms
450 Ohms
26,580 Ohms
30 Volts
270,000 Ohms
300 Volts
300,000 Ohms
600 Volts
38.9 Ohms
Press for R readings
Press for R/10 range
3 Cells
Resis.

Schematic diagram of the Weston Model 564 Volt-Ohmmeter. Note the connections of the toggle switches in the center

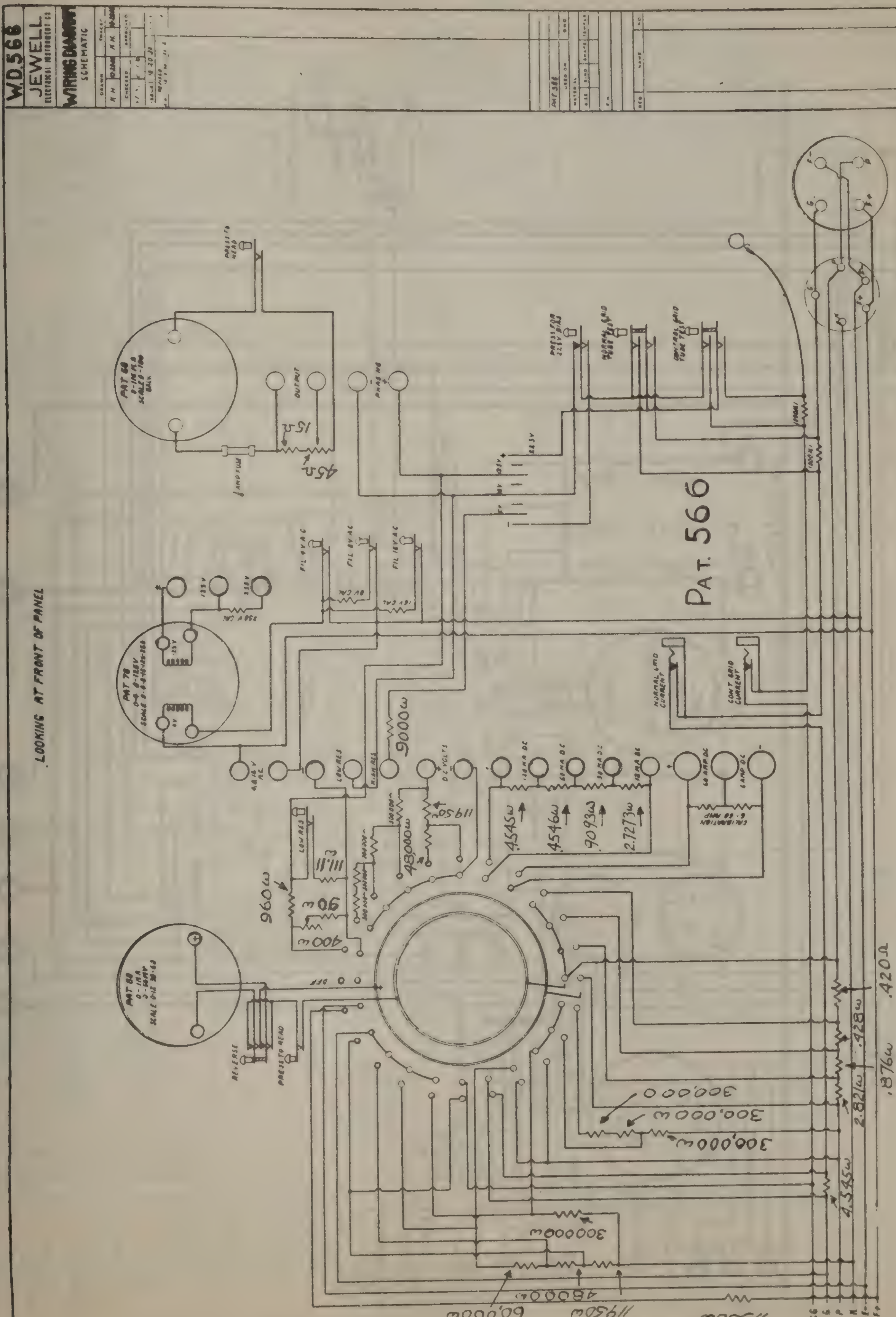
WESTON ELECTRICAL INSTRUM'T CORP.

Note:
Solid contacts on bi-polar switch next to panel.


TERM
CATH GRID CLIP
K G 25 V
K G 25 MA
OSC
CONT. LOW
5000
1 meg. HI
VM BP
RECT
S.G. 2.5
25
CONT. G 10 V
CONT. G 100 V
S.G. 250 V
K 50 V
25 V
REV.
20,508
C 25 V
C 100 V
A 250 V
A 1000 V
H 10 V
CONTY
D.C. VM 1000-250-50
+
-
1000
250
100
50
25
10
-
750,000
150,000
50,000
25,000
15,000
5,527
MA SWITCH
2
100
180Ω
D.C. MA 100-20-2
CLOSE FOR TUBE TEST
GRID TEST
UP FOR TUBE TEST
1906.2
142.45
40.05
OPEN FOR T.T.
G
P +
P
K -
K
C G
FUSE
GRID TEST S G TUBE
GRID TERM.
CLOSE FOR T.T.
400Ω W.L.
OSC.
P -
+
G
8000
.02
COUPLING
OSC. LEAD
AC VM 1000-200-16 8-4
5000Ω
90000Ω
9A
8A
±
200 V
1000 V
16-0 4 V
±
80Ω
40Ω
VOLTAGE ADJ.
115 V LINE

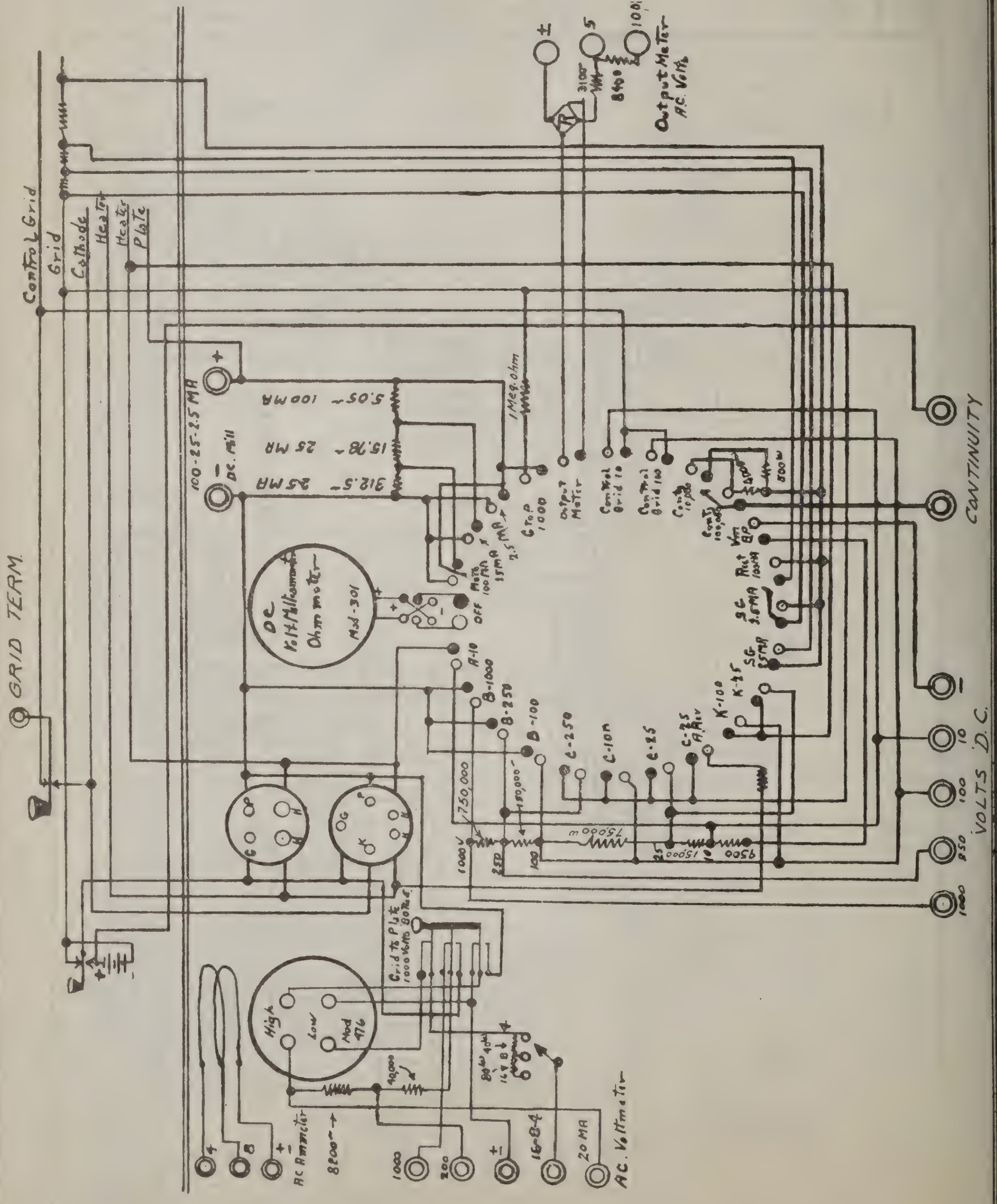
WESTON ELECTRICAL INSTRUM'T CORP.

MODEL Jewell
W D 566


W.D.566
JEWELL ELECTRICAL INSTRUMENT CO
WIRING DIAGRAM
SCHEMATIC
LOOKING AT FRONT OF PANEL
PAT. 566
PRESS TO READ
OUTPUT
15Ω
45Ω
9000ω
960ω
400ω
90ω
48000ω
11950ω
4545ω
4546ω
9093ω
2.7273ω
300,000
300,000ω
300,000ω
300000ω
48000ω
60,000ω
11950ω
11950ω
4.545ω
2.821ω
.876ω
.428ω
.420Ω
REVERSE
PRESS TO READ
NORMAL GRID CURRENT
CONT GRID CURRENT
CG
G
P
K
F-
F+

MODEL Weston 566

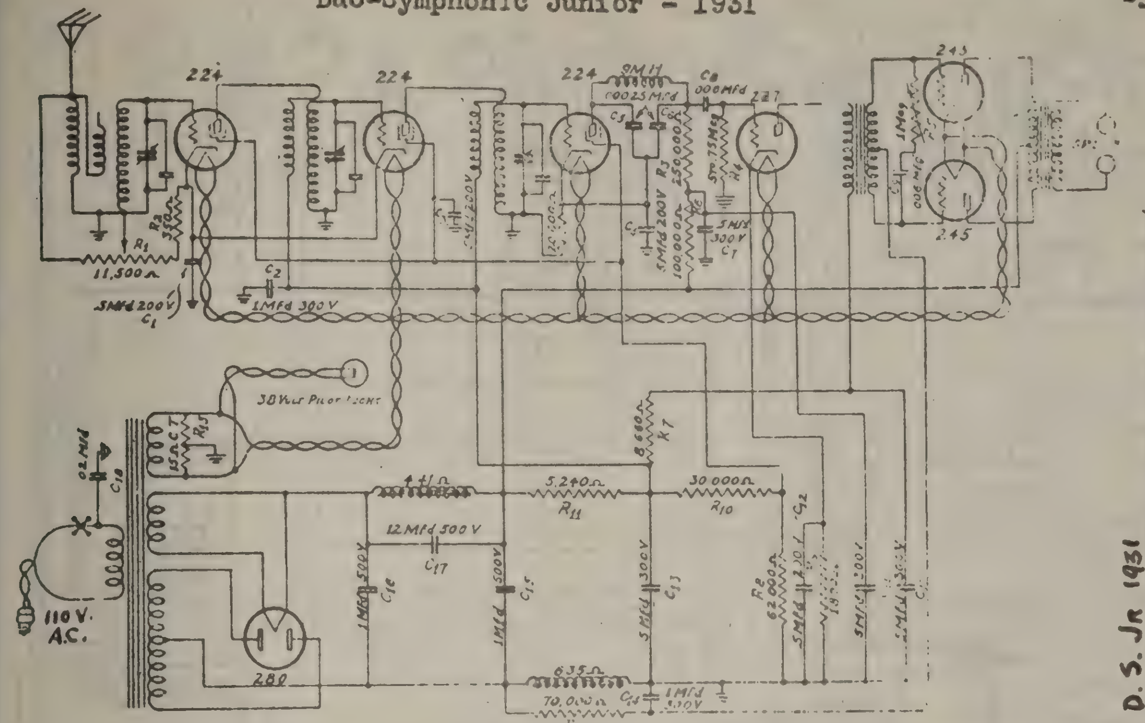
WESTON ELECTRICAL INSTRUM'T CORP.


Control Grid
Grid
Cathode
Heater
Heater
Plate
GRID TERM.
100-25-2.5 MA
+
− DC Mill
5.05 ~ 100 MA
15.78 ~ 25 MA
312.5 ~ 2.5 MA
1 Meg. ohm
DC Volt/Milliammeter Ohmmeter Mod-301
OFF
Meter 100 MA 15 MA 2.5 MA
G to P 1000
Output Meter
Control Grid 10
Control Grid 100
Cont 10,000
Cont 100,000
500 W
Vm BP
Rct 100 MA
SC 3.5 MA
SG 15 MA
K-25
K-100
C-25 A Rev
E-25
C-10 M
C-250
B-100
B-250
B-1000
A-10
750,000
150,000
75000 w
15000
9500
1000 V
250
100
25
10
CONTINUITY
VOLTS D.C.
−
10
100
250
1000
±
5
100
3100
8400
Output Meter AC Volts
Grid to Plate 1000 Volts Bore
High
Low
Mod 476
40000
80 40
1.6 8 4
4
8
±
AC Ammeter
8800
1000
200
±
16-84
20 MA
AC Voltmeter

WHOLESALE RADIO SERVICE CO., INC.

MODEL Duo-Symphonic Junior 1931
MODEL Great Duo-Symphonic

Duo-Symphonic Junior - 1931

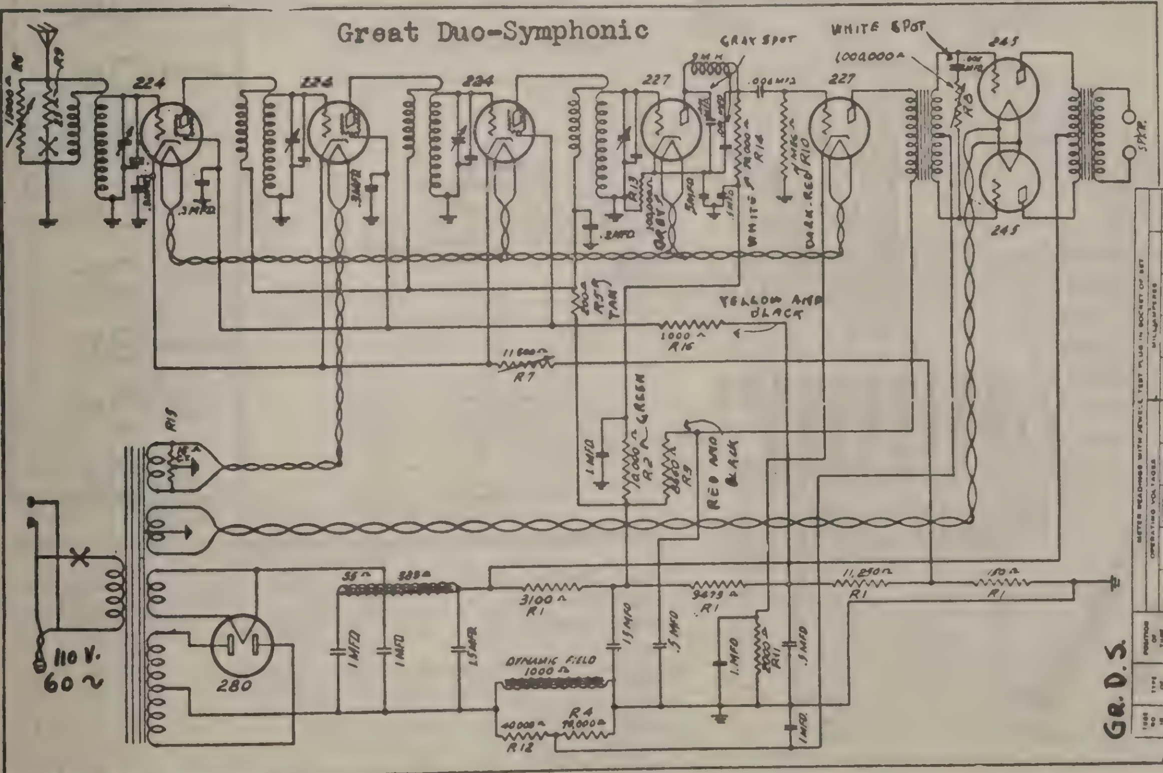

224
224
224
227
245
245
280
9MH
.00025 Mfd
.000 Mfd
R1
R2
350 Ω
11,500 Ω
C1
C2
.5 Mfd 200 V
1 Mfd 300 V
.5 Mfd 200 V
250,000 Ω
100,000 Ω
.5 Mfd 300 V
5 to .75 Meg
3.8 Volt Pilot Light
110 V. A.C.
.02 Mfd
C18
41 Ω
5,240 Ω
R11
30,000 Ω
R10
8,680 Ω
R7
12 Mfd 500 V
C17
1 Mfd 500 V
C16
C15
C13
.5 Mfd 300 V
62,000 Ω
R2
635 Ω
70,000 Ω
R13
C14
1 Mfd 300 V

Line Voltage 120. Vol. Cntrl Full

D. S. Jr 1931

Tube No. in Order Tested	Type of Tube	Position of Tube in Set	Filament or Heater	Plate or Anode	Control Grid-Space Screen	Normal Grid-Screen	Cathode to Heater	Screen Grid or Plate	Plate	Tube Test	Plate Current Change
1	224	1 R.F.	2.3	183	3	93	3				
2	224	2 R.F.	2.3	183	3	93	3				
3	227	Det.	2.3	140	-	80	-				
4	227	1 A.F.	2.3	135	-	9	-				
5	245	PP-AF	2.3	250	-	50	-				
6	245	PP-AF	2.3	250	-	50	-				
7	280	Rect.	4.8	-	-	-	-				

Great Duo-Symphonic

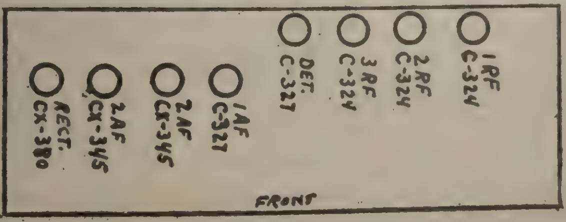

224
224
224
227
227
245
245
280
GRAY SPOT
WHITE SPOT
9MH
.0001 Mfd
1,000,000 Ω
SPKR.
.3 Mfd
.2 Mfd
R13
R14
R10
WHITE
DARK RED
YELLOW AND BLACK
1000 Ω
R16
11,600 Ω
R7
GREEN
R2
R9
RED AND BLACK
1 Mfd
R15
110 V. 60 ~
55 Ω
389 Ω
3100 Ω
R1
9673 Ω
11,250 Ω
150 Ω
DYNAMIC FIELD 1000 Ω
40,000 Ω
R4
74,000 Ω
R12
1 Mfd
.5 Mfd

Line Voltage 117. Vol. Cntrl Full

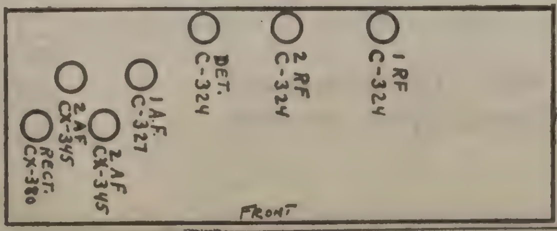
GR. D. S.

Tube No. in Order Tested	Type of Tube	Position of Tube in Set	Filament or Heater	Plate or Anode	Control Grid-Space Screen	Normal Grid-Screen	Cathode to Heater	Screen Grid or Plate	Plate	Tube Test	Plate Current Change
1	224	1 R.F.	2.3	199	3.2	93	3.2				
2	224	2 R.F.	2.3	199	3.2	93	3.2				
3	224	3 R.F.	2.3	199	3.2	93	3.2				
4	227	Det.	2.3	112	-	18.2	18.2				
5	227	1 A.F.	2.4	139	-	-	9.8				
6	245	PP-AF	2.4	265	-	53	-				
7	245	PP-AF	2.4	265	-	53	-				
8	280	Rect.	4.8	-	-	-	-				

Great Duo-Symphonic

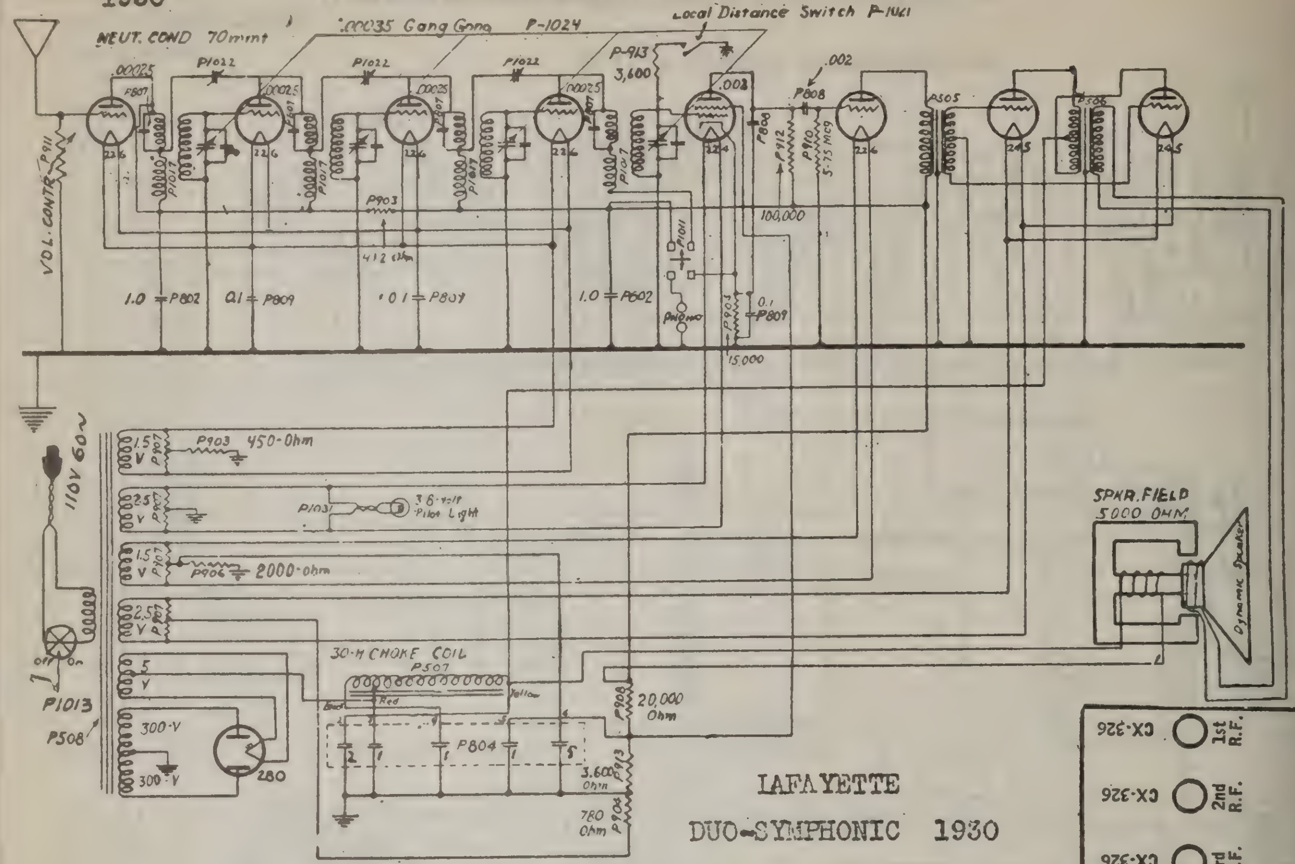

DET. C-327
3 RF C-324
2 RF C-324
1 RF C-324
RECT. CX-380
2 AF CX-345
2 AF CX-345
1 AF C-327
FRONT

Duo-Symphonic Junior - 1931


DET. C-324
2 RF C-324
1 RF C-324
1 A.F. C-327
2 AF CX-345
2 AF CX-345
RECT. CX-380
FRONT

MODEL Duo-Symphonic 1930

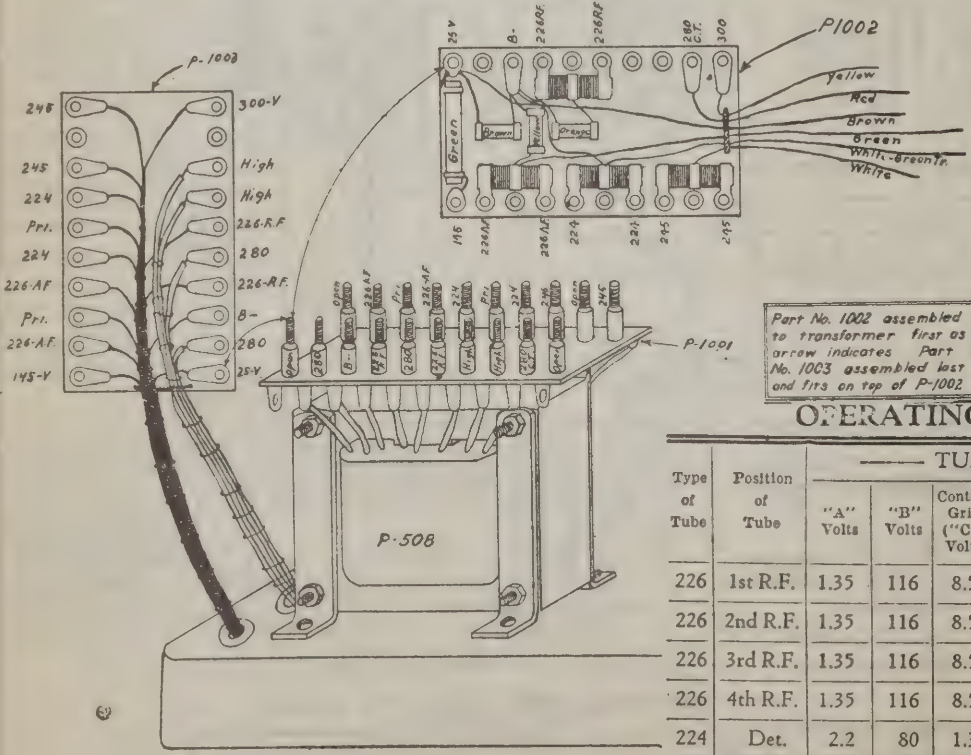
WHOLESALE RADIO SERVICE CO., INC.


NEUT. COND 70mmf
.00035 Gang Cond P-1024
Local Distance Switch P-1021
P1022
.00025
P807
P1017
226
224
245
P-913
3,600
.002
.008
P808
P806
P912
P910
5-75 Meg
P505
P506
VOL. CONTR. P911
P903
412 Ohm
100,000
P1011
Phono
P903
0.1
P809
15,000
1.0
P802
0.1
P809
.01
P807
1.0
P602
110V 60~
1.5 V P907
P903 450-Ohm
2.5 V P907
P1031
3.6-volt Pilot Light
1.5 V P907
P906 2000-ohm
2.5 V P907
5 V
300-V
300-V
280
Off On
P1013
P508
30-H CHOKE COIL
P507
Black
Red
Yellow
P804
2
1
1
1
5
P908
20,000 Ohm
P913
3,600 Ohm
780 Ohm
P904
SPKR. FIELD 5000 OHM
Dynamic Speaker

LAFAYETTE

DUO-SYMPHONIC 1930

CX-326	○	1st R.F.
CX-326	○	2nd R.F.
CX-326	○	3rd R.F.
CX-326	○	4th R.F.
C-324	○	Det.
CX-326	○	1st A.F.
CX-345	○	2nd A.F.
CX-345	○	2nd A.F.
CX-380	○	Rect.


P1002
25 V
B-
226RF
226RF
280 C.T.
300
Green
Brown
Yellow
Orange
Yellow
Red
Brown
Green
Whit.-Green Tr.
White
1/6
226AF
226A.F.
224
224
245
245
P-1003
245
245
224
Pri.
224
226-AF
Pri.
226-A.F.
145-V
300-V
High
High
226-R.F.
280
226-R.F.
B-
280
25-V
Open
280
B-
226 RF
280
226 AF
High
High
Pri.
224
Pri.
224
245
Open
245
P-10.01
P-508

Part No. 1002 assembled to transformer first as arrow indicates Part No. 1003 assembled last and fits on top of P-1002

Power Transformer and Terminal Plate Assembly.

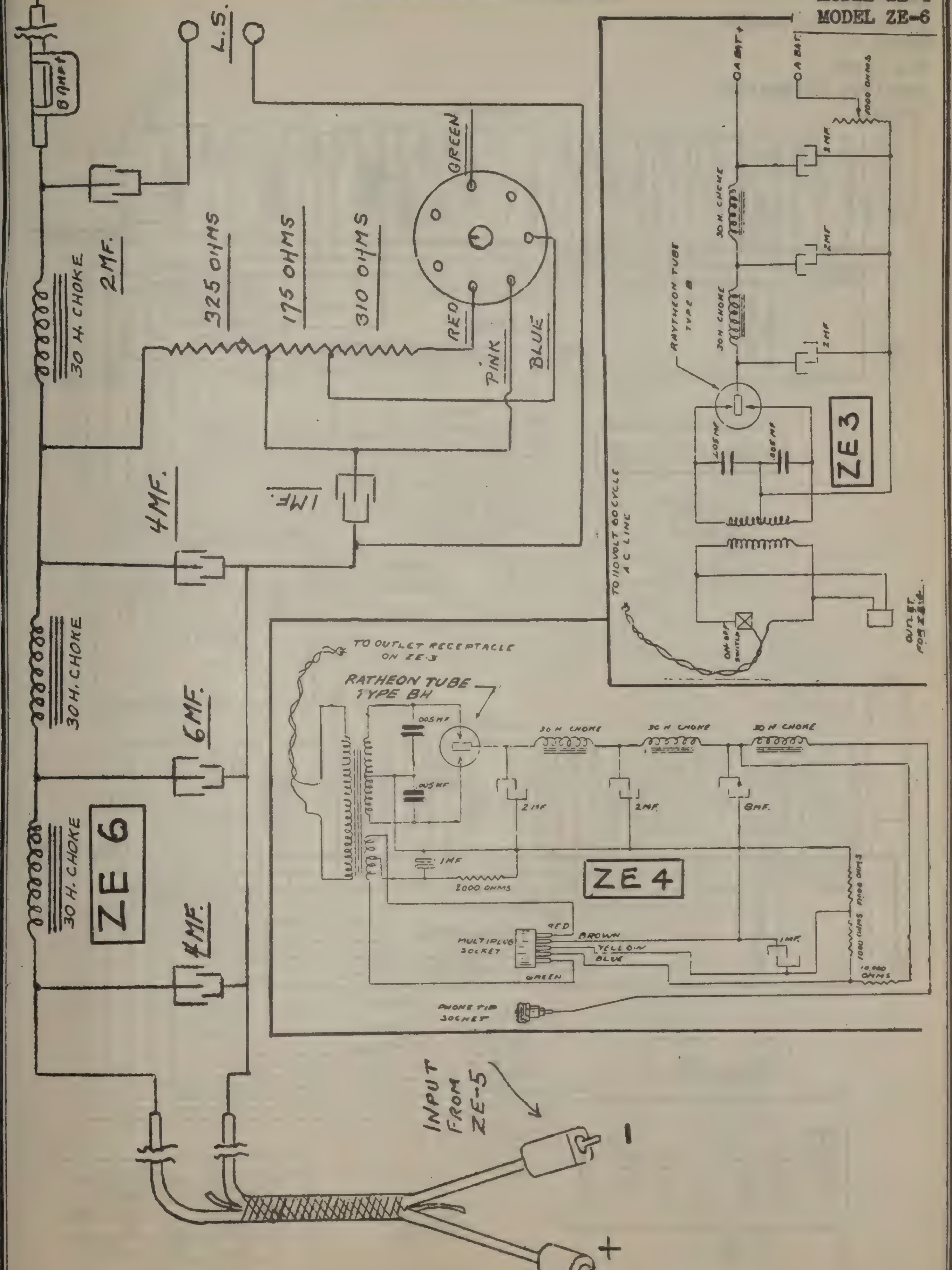
OPERATING VOLTAGES

Type of Tube	Position of Tube	TUBE IN TEST SET							
		"A" Volts	"B" Volts	Control Grid ("C") Volts	Screen Volts	Screen Current	Cathode Volts	Normal Ma.	Grid Test Ma.
226	1st R.F.	1.35	116	8.5				4.7	8.7
226	2nd R.F.	1.35	116	8.5				4.7	8.7
226	3rd R.F.	1.35	116	8.5				4.7	8.7
226	4th R.F.	1.35	116	8.5			—	4.7	8.7
224	Det.	2.2	80	1.3	15		—	—	—
226	1st A.F.	1.4	110	1.0 ← LOW READING DUE TO RESISTANCE COUPLING				4.0	5.0
245	2nd A.F.	2.2	232	42				27	32
245	2nd A.F.	2.2	232	42				27	32
280	Rect.	4.6						84	

Line Voltage During Test—115 Volts.

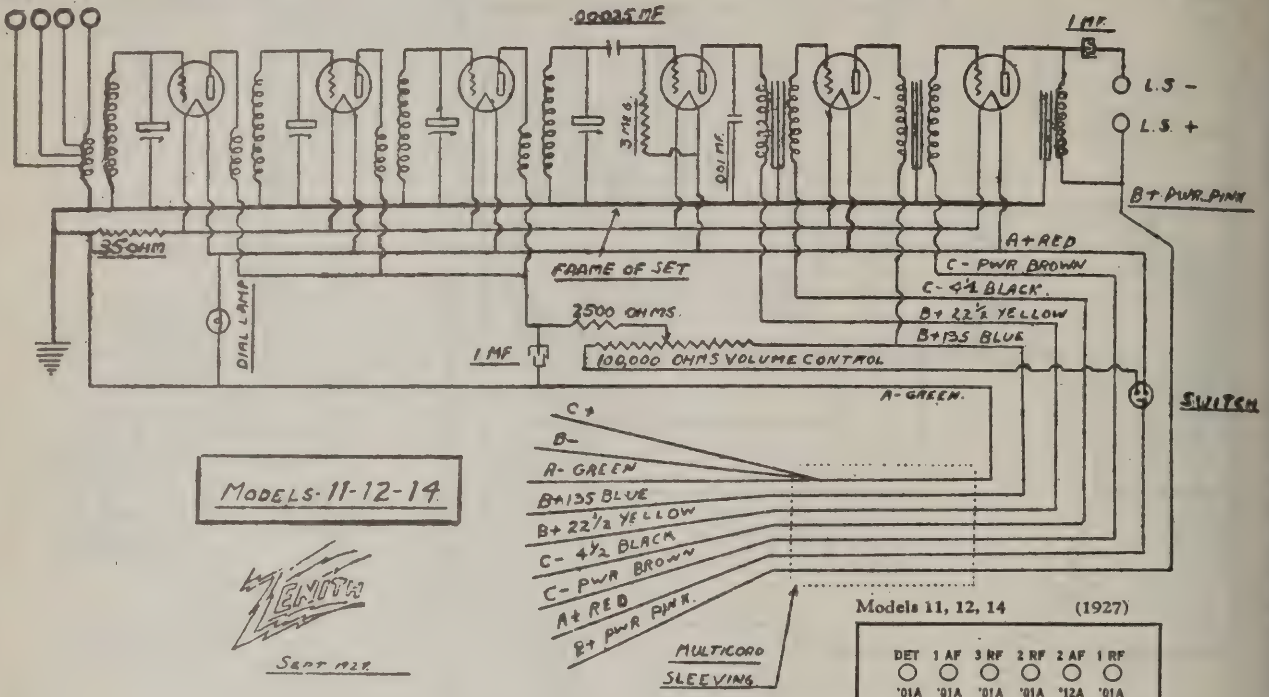
ZENITH RADIO CORP.

MODEL ZE-3
MODEL ZE-4
MODEL ZE-6


8 Amp.
L.S.
2MF.
30 H. CHOKE
325 OHMS
175 OHMS
310 OHMS
GREEN
RED
PINK
BLUE
1MF.
4MF.
30 H. CHOKE
6MF.
30 H. CHOKE
ZE 6
4MF.
INPUT FROM ZE-5
-
+
A BAT +
A BAT.
1000 OHMS
2 MF.
30 H. CHOKE
2 MF
RAYTHEON TUBE TYPE B
30 H CHOKE
2 MF
.005 MF
.005 MF
ZE 3
TO 110 VOLT 60 CYCLE A C LINE
ON OFF SWITCH
OUTLET FOR ZE-4
TO OUTLET RECEPTACLE ON ZE-3
RATHEON TUBE TYPE BH
.005 MF
.005 MF
30 H CHOKE
30 H CHOKE
30 H CHOKE
2 MF
2MF.
8MF.
1MF
2000 OHMS
ZE 4
RED
BROWN
YELLOW
BLUE
GREEN
MULTIPLUG SOCKET
1MF.
1000 OHMS
1000 OHMS
10,000 OHMS
PHONE TIP SOCKET

MODEL 11,12,14
1st Type
Receiver Schematic
MODEL 12
2nd Type
Receiver Schematic

ZENITH RADIO CORP.

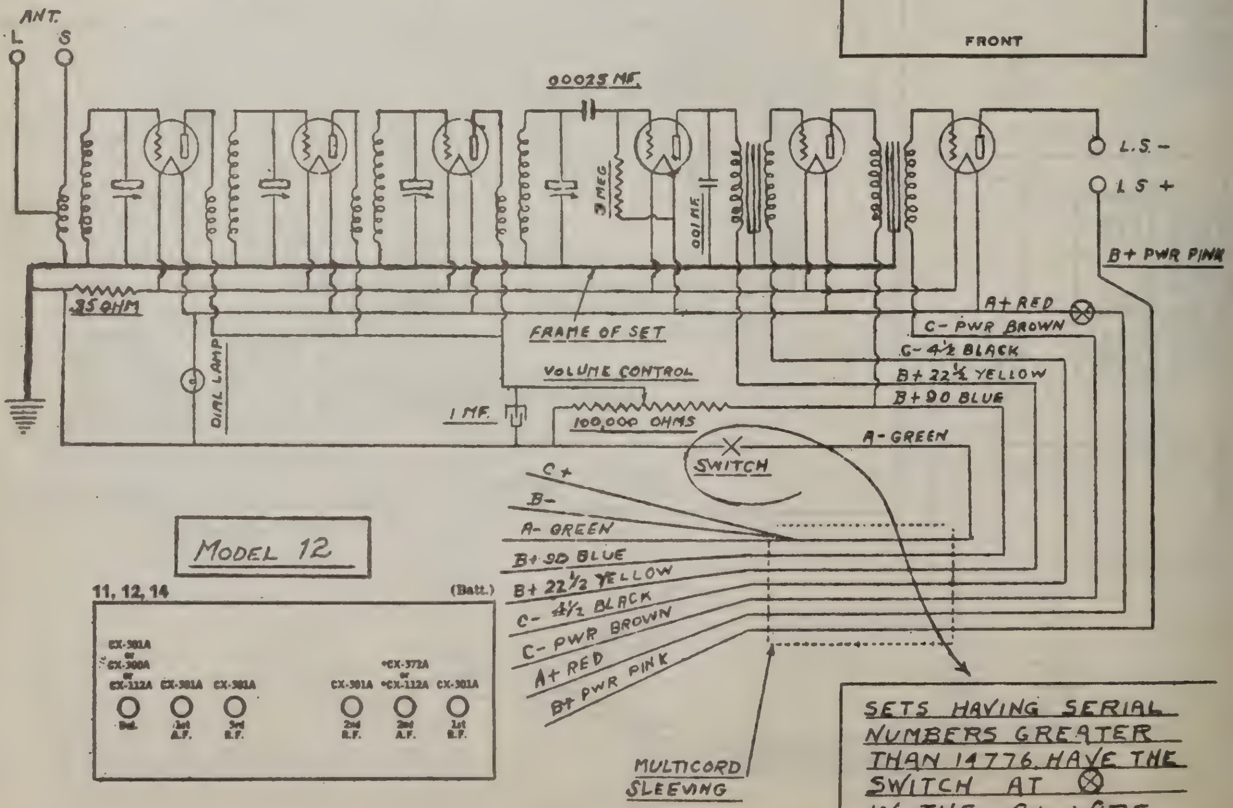

.00025 MF
1 MF.
L.S. -
L.S. +
B+ PWR PINK
3 MEG.
.001 MF.
35 OHM
FRAME OF SET
A+ RED
C- PWR BROWN
C- 4½ BLACK
B+ 22½ YELLOW
B+ 135 BLUE
2500 OHMS.
DIAL LAMP
1 MF
100,000 OHMS VOLUME CONTROL
SWITCH
A- GREEN
C+
B-
A- GREEN
B+ 135 BLUE
B+ 22½ YELLOW
C- 4½ BLACK
C- PWR BROWN
A+ RED
B+ PWR PINK
MODELS-11-12-14
ZENITH
SEPT 1927
MULTICORD
SLEEVING

Models 11, 12, 14 (1927)

DET	1 AF	3 RF	2 RF	2 AF	1 RF
'01A OR '00A	'01A	'01A	'01A	'12A	'01A OR '71A

PILOT 6.0 V.

FRONT


ANT.
L
S
.00025 MF.
L.S. -
L.S. +
B+ PWR PINK
3 MEG
.001 MF.
35 OHM
FRAME OF SET
A+ RED
C- PWR BROWN
C- 4½ BLACK
B+ 22½ YELLOW
B+ 90 BLUE
VOLUME CONTROL
DIAL LAMP
1 MF.
100,000 OHMS
A- GREEN
SWITCH
C+
B-
A- GREEN
B+ 90 BLUE
B+ 22½ YELLOW
C- 4½ BLACK
C- PWR BROWN
A+ RED
B+ PWR PINK
MODEL 12
MULTICORD
SLEEVING

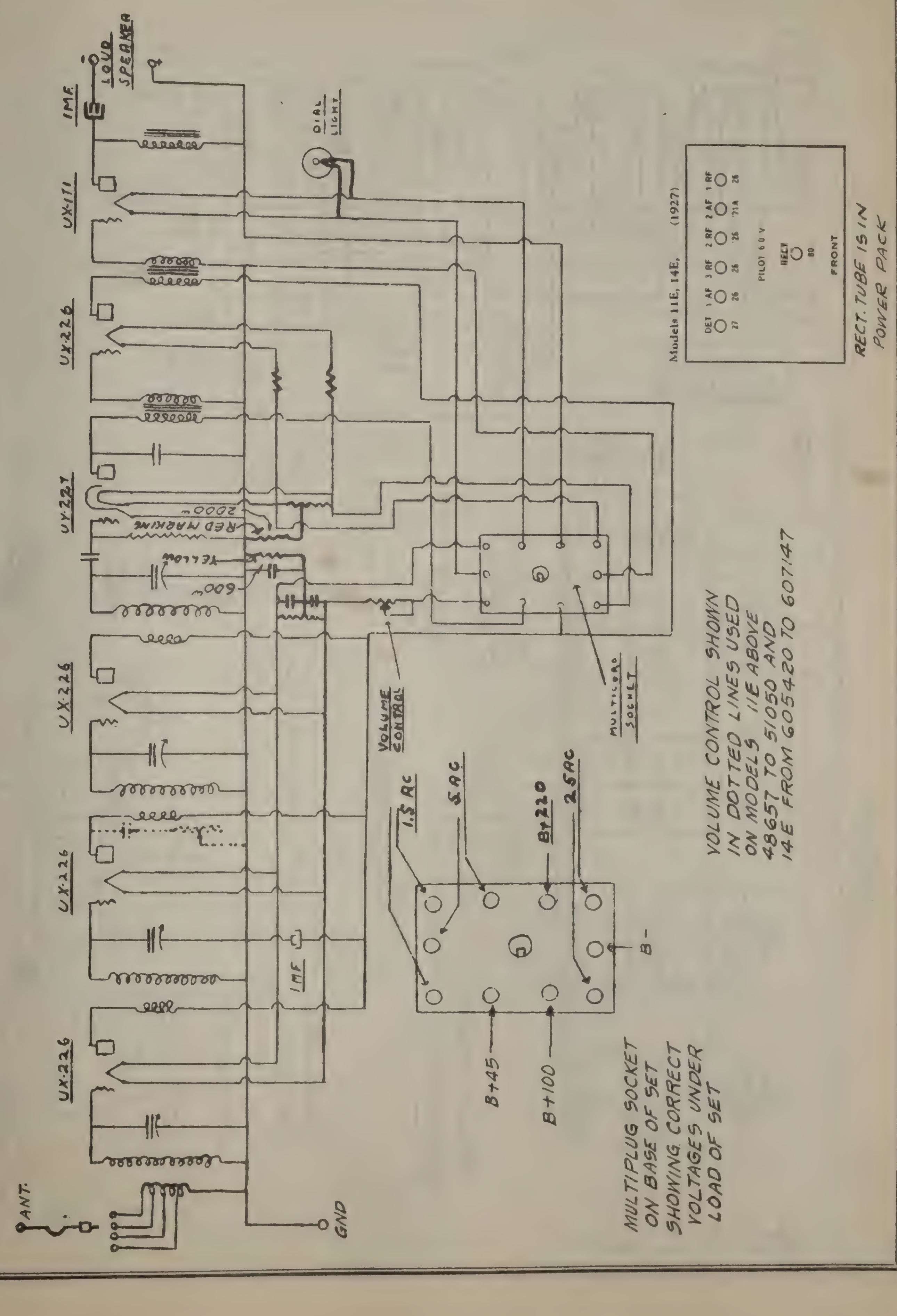
11, 12, 14 (Batt.)

CX-301A or CX-300A or CX-112A	CX-301A	CX-301A	CX-301A	*CX-372A or *CX-112A	CX-301A
Det.	1st A.F.	3rd R.F.	2nd R.F.	2nd A.F.	1st R.F.

SETS HAVING SERIAL
NUMBERS GREATER
THAN 14776 HAVE THE
SWITCH AT ⊗
IN THE A+ WIRE

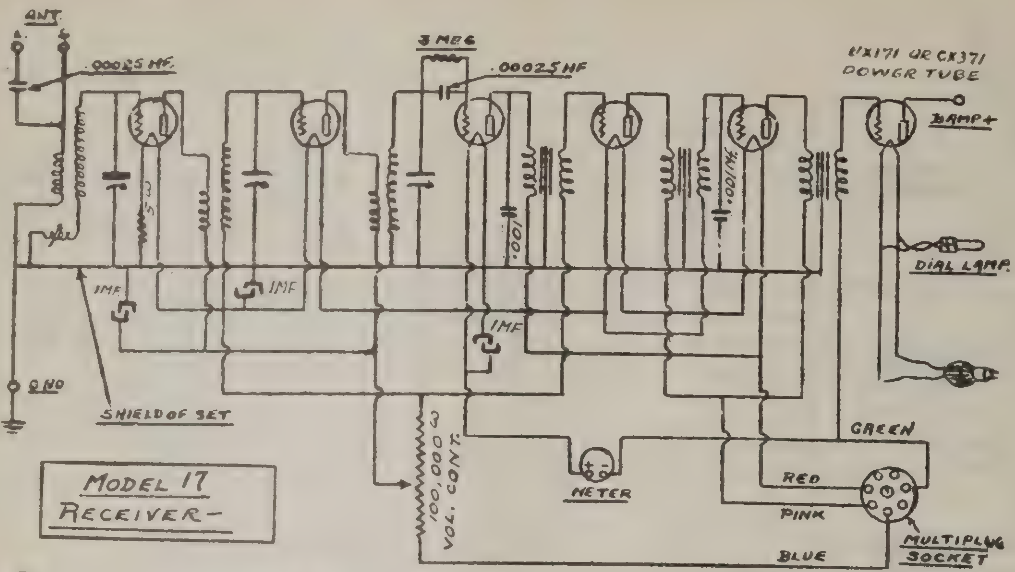
ZENITH RADIO CORP

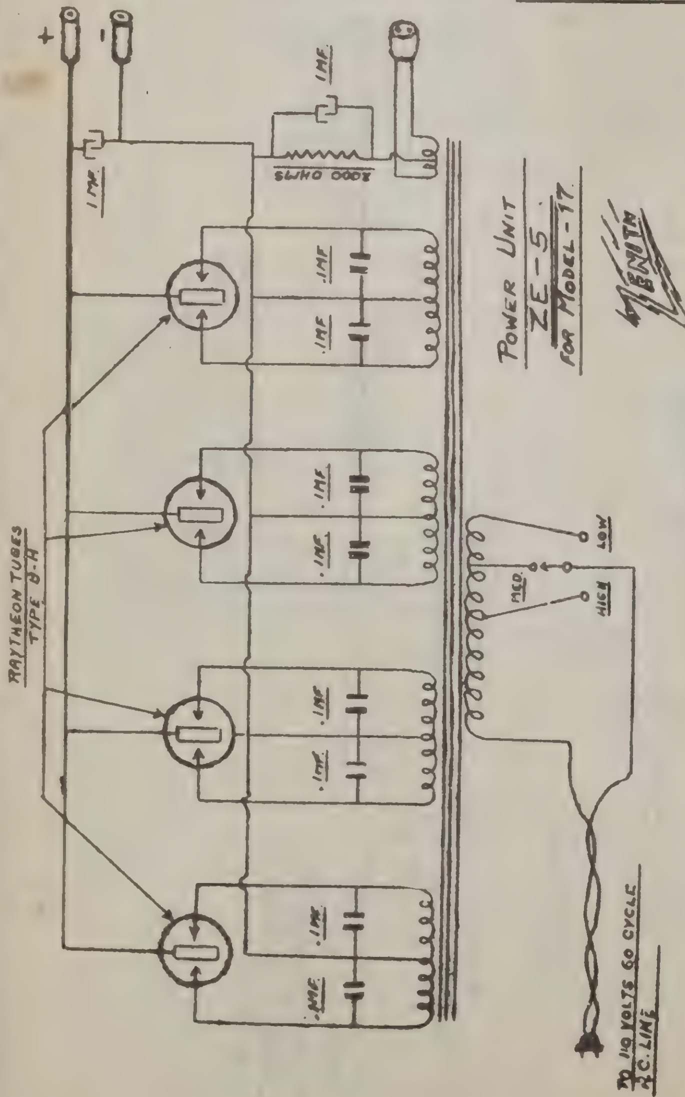
MODEL 11-E,14-E
Receiver Schematic

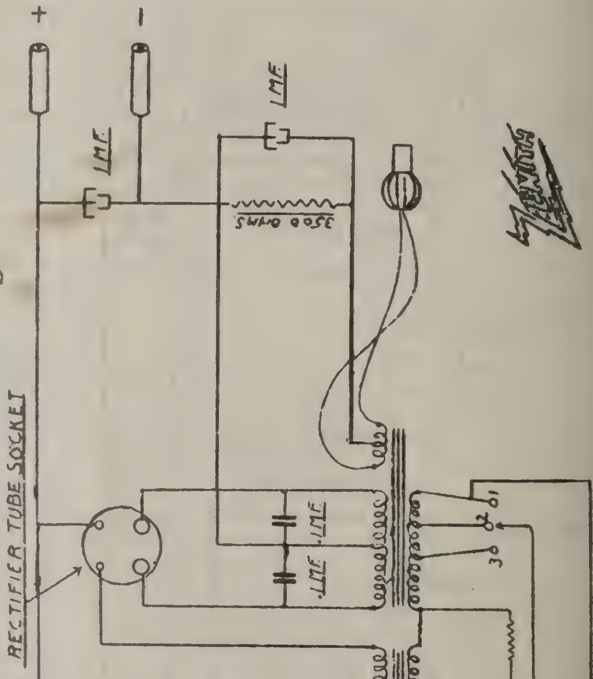

LOUD SPEAKER
1MF
UX-171
UX-226
UY-227
UX-226
UX-226
UX-226
ANT.
GND
DIAL LIGHT
RED MARKING
2000~
YELLOW
600~
1MF
VOLUME CONTROL
MULTICORD SOCKET
1.5 AC
5 AC
B+220
2.5 AC
B-
B+45
B+100
Models 11E, 14E, (1927)
DET 1AF 3RF 2RF 2AF 1RF
27 26 26 26 71A 26
PILOT 6.0 V
RECT 80
FRONT
RECT. TUBE IS IN POWER PACK
VOLUME CONTROL SHOWN IN DOTTED LINES USED ON MODELS 11E ABOVE 48657 TO 51050 AND 14E FROM 605420 TO 607147
MULTIPLUG SOCKET ON BASE OF SET SHOWING CORRECT VOLTAGES UNDER LOAD OF SET

MODEL 17 Schematic
MODEL ZE-5 Power Units

ZENITH RADIO CORP.

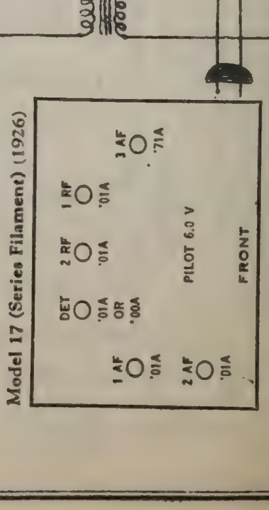

ANT.
.00025 MF.
3 MEG
.00025 MF
UX171 OR CX371 POWER TUBE
B AMP+
.5 Ω
.001
.001 MF.
DIAL LAMP
IMF
IMF
IMF
GND
SHIELD OF SET
100,000 Ω VOL. CONT.
METER
GREEN
RED
PINK
BLUE
MULTIPLUG SOCKET
MODEL 17 RECEIVER


+
-
I MF.
I MF.
3000 OHMS
I MF.
RAYTHEON TUBES TYPE B-H
LOW
MED.
HIGH
TO 110 VOLTS 60 CYCLE A.C. LINE
POWER UNIT ZE-5 FOR MODEL-17


+
-
I MF.
I MF.
3500 OHMS
I MF.
I MF.
RECTIFIER TUBE SOCKET
1
2
3

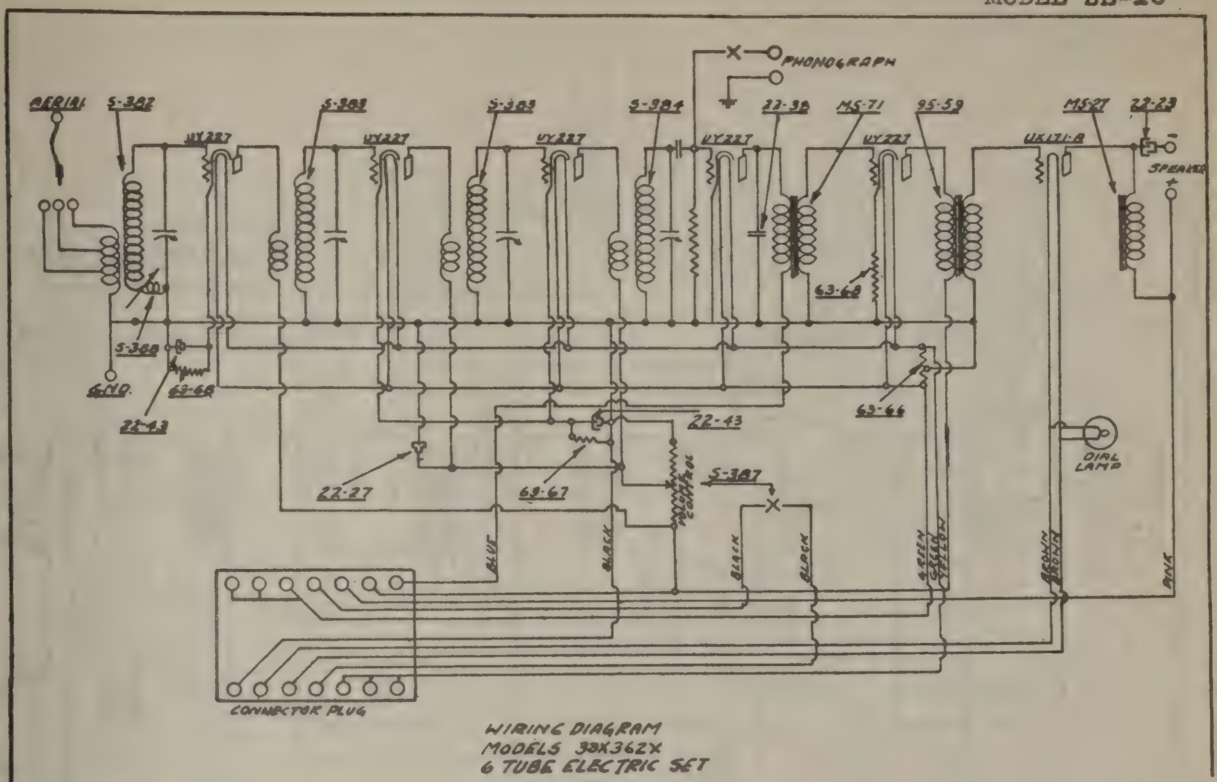
SPECIAL ZE-5
POWER SUPPLY
USING SINGLE
RECTIFYING TUBE

Model 17 (Series Filament) (1926)

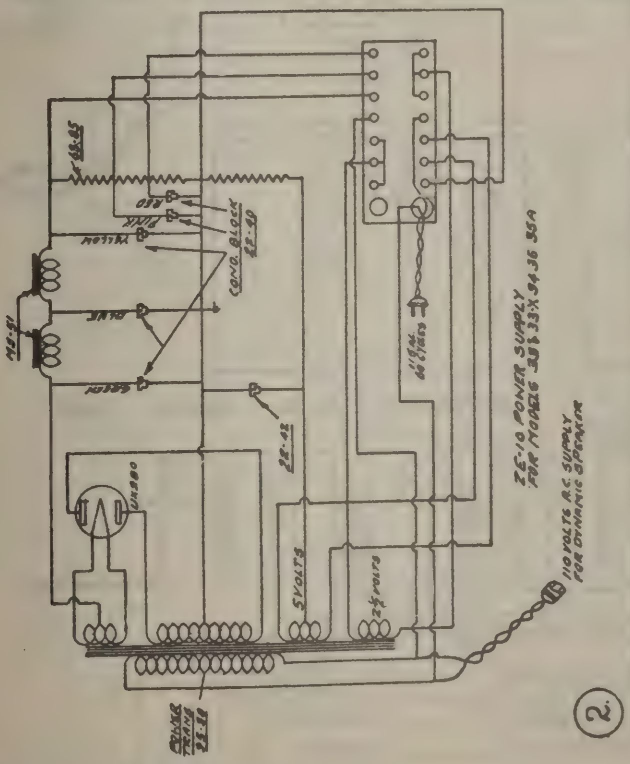

1 AF '01A
DET '01A OR '00A
2 RF '01A
1 RF '01A
3 AF '71A
2 AF '01A
PILOT 6.0 V
FRONT

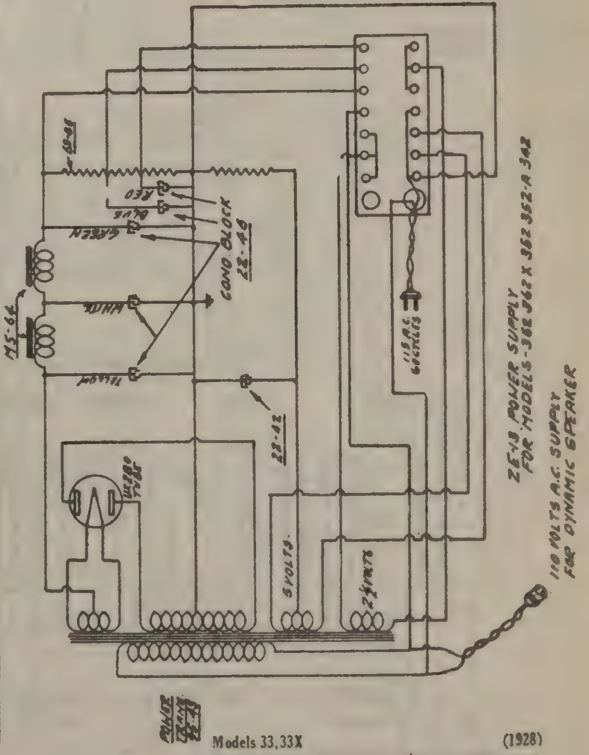
MODEL 33-X, 362-X
MODEL ZE-10
MODEL ZE-13

ZENITH RADIO CORP.


PHONOGRAPH
AERIAL
S-382
S-383
S-383
S-384
22-38
MS-71
95-59
MS-27
22-23
UY227
UY227
UY227
UY227
UY227
UX171-A
SPEAKER
S-388
GND.
63-68
22-43
63-69
63-66
22-43
22-27
63-67
VOLUME CONTROL
S-387
DIAL LAMP
BLUE
BLACK
BLACK
BLACK
GREEN
GREEN
YELLOW
BROWN
BROWN
PINK
CONNECTOR PLUG

WIRING DIAGRAM
MODELS 33X362X
6 TUBE ELECTRIC SET

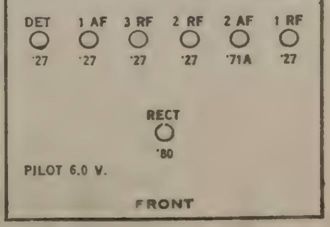

COND. BLOCK 22-50
MS-81
UX280
22-42
5 VOLTS
2½ VOLTS
110 V. AC 60 CYCLES
ZE-10 POWER SUPPLY FOR MODELS 33 & 33-X 34 36 35A
110 VOLTS A.C. SUPPLY FOR DYNAMIC SPEAKER
②


COND. BLOCK 22-44
MS-64
UX280 TUBE
22-42
5 VOLTS
2½ VOLTS
115 A.C. 60 CYCLES
ZE-13 POWER SUPPLY FOR MODELS -362 362 X 362 352-A 342
110 VOLTS A.C. SUPPLY FOR DYNAMIC SPEAKER

ZENITH—Models 33X-362X
Line Voltage 115

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	227	1st. R.F.			2.05	102	6	-	2.9	4.1	1.2
2	227	2nd. R.F.			2.05	102	5	-	3.8	6.8	3.0
3	227	3rd. R.F.			2.05	102	5	-	3.8	6.8	3.0
4	227	Detector			2.00	40	0	-	2.3	2.5	0.2
5	227	1st. A.F.			2.05	94	5	-	2.6	3.7	1.1
6	171A	2nd. A.F.			4.90	170	35	-	17.0	18.0	1.0
7	280	Rectifier			4.90	-	-	-	20.0	-	-

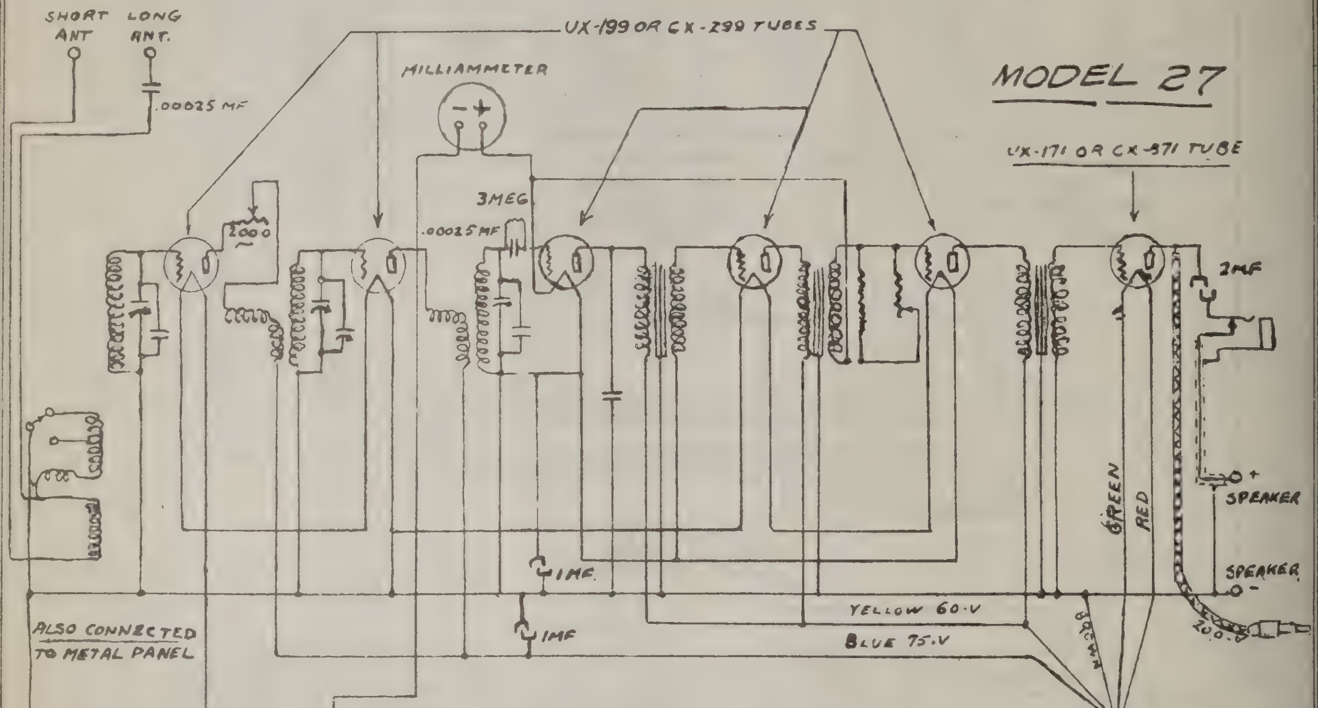
Models 33, 33X (1928)


DET '27
1 AF '27
3 RF '27
2 RF '27
2 AF '71A
1 RF '27
RECT '80
PILOT 6.0 V.
FRONT

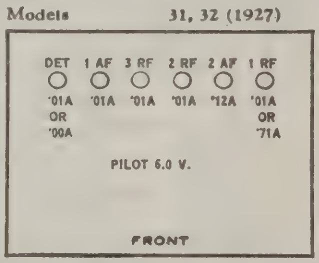
CX-380 used in separate power unit.

MODEL Super-Zenith 27
MODEL 31,32 Battery

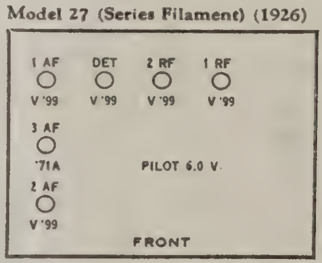
ZENITH RADIO CORP.

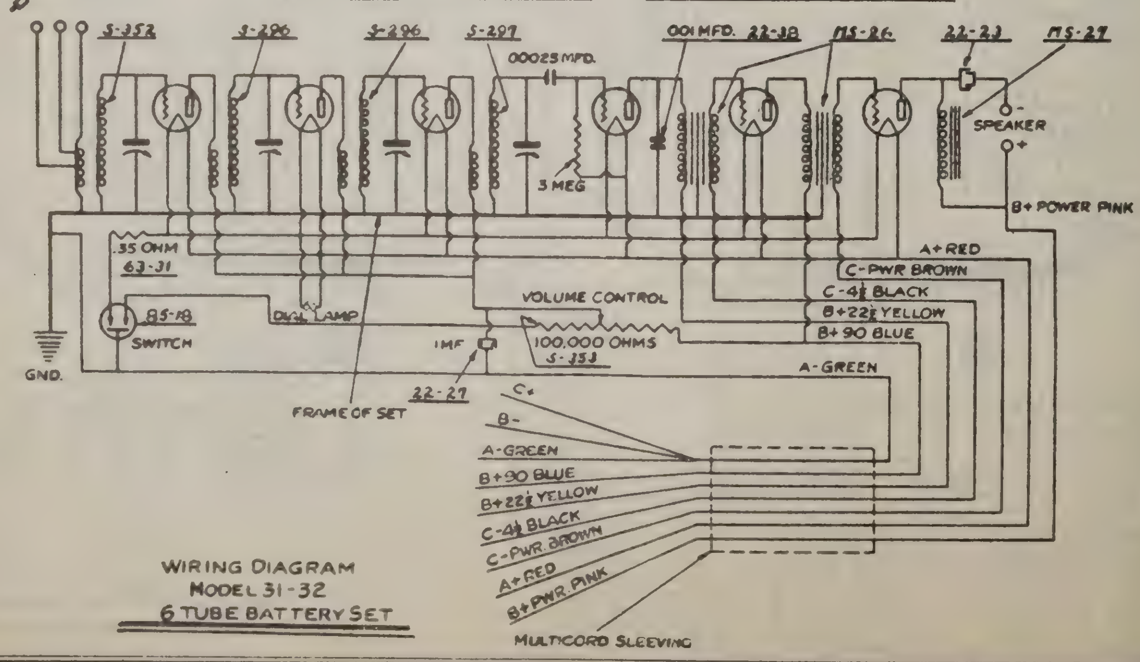

MODEL 27
SHORT ANT
LONG ANT.
.00025 MF
UX-199 OR CX-299 TUBES
MILLIAMMETER
3MEG
.00025 MF
2000
UX-171 OR CX-371 TUBE
2MF
1MF.
1MF
GREEN
RED
+ SPEAKER
SPEAKER −
YELLOW 60-V
BLUE 75-V
BROWN
200.
ALSO CONNECTED TO METAL PANEL
GND
A+
A−

Models 31, 32 (1927)


DET
'01A
OR
'00A
1 AF
'01A
3 RF
'01A
2 RF
'01A
2 AF
'12A
1 RF
'01A
OR
'71A
PILOT 6.0 V.
FRONT

Model 27 (Series Filament) (1926)

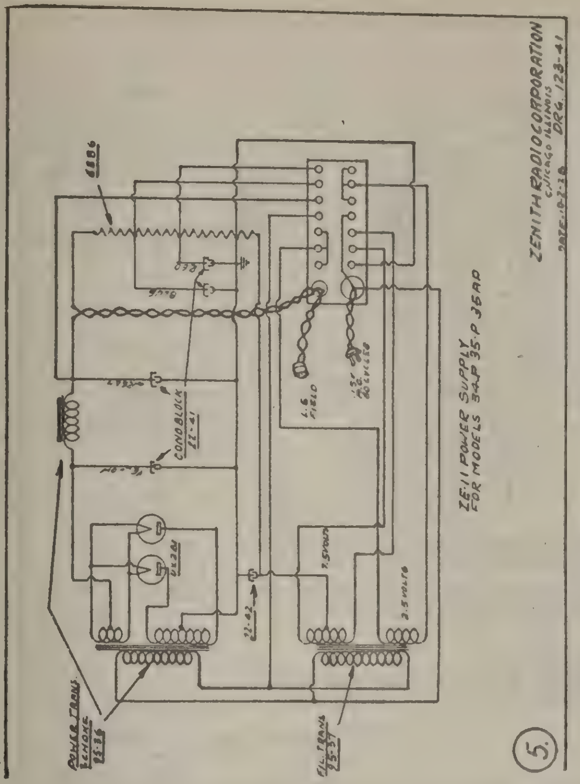

1 AF
V '99
DET
V '99
2 RF
V '99
1 RF
V '99
3 AF
'71A
2 AF
V '99
PILOT 6.0 V.
FRONT

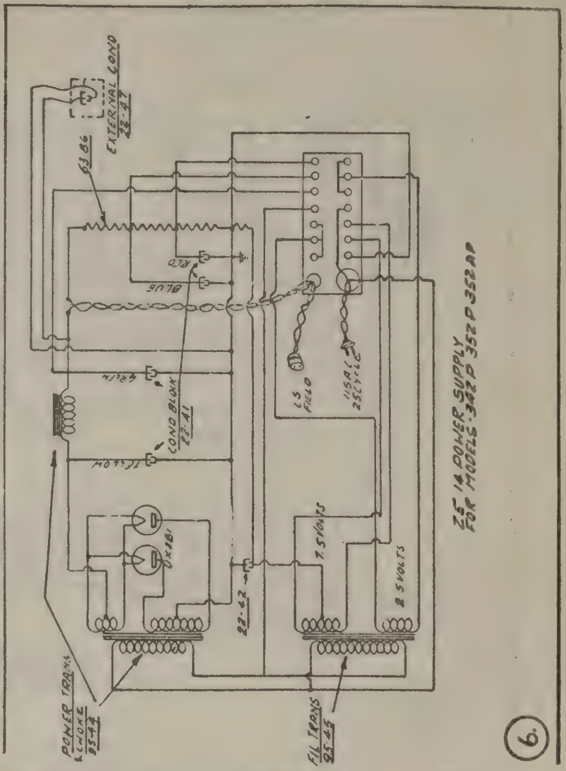

AERIAL
S-352
S-296
S-296
S-297
.00025 MFD.
.001 MFD.
22-38
MS-26
22-23
MS-27
− SPEAKER +
3 MEG
B+ POWER PINK
A+ RED
C-PWR BROWN
C-4½ BLACK
B+22½ YELLOW
B+90 BLUE
A-GREEN
.35 OHM
63-31
85-18
SWITCH
DIAL LAMP
VOLUME CONTROL
100,000 OHMS
S-353
1MF
22-27
GND.
FRAME OF SET
C+
B−
A-GREEN
B+90 BLUE
B+22½ YELLOW
C-4½ BLACK
C-PWR. BROWN
A+RED
B+PWR. PINK
MULTICORD SLEEVING

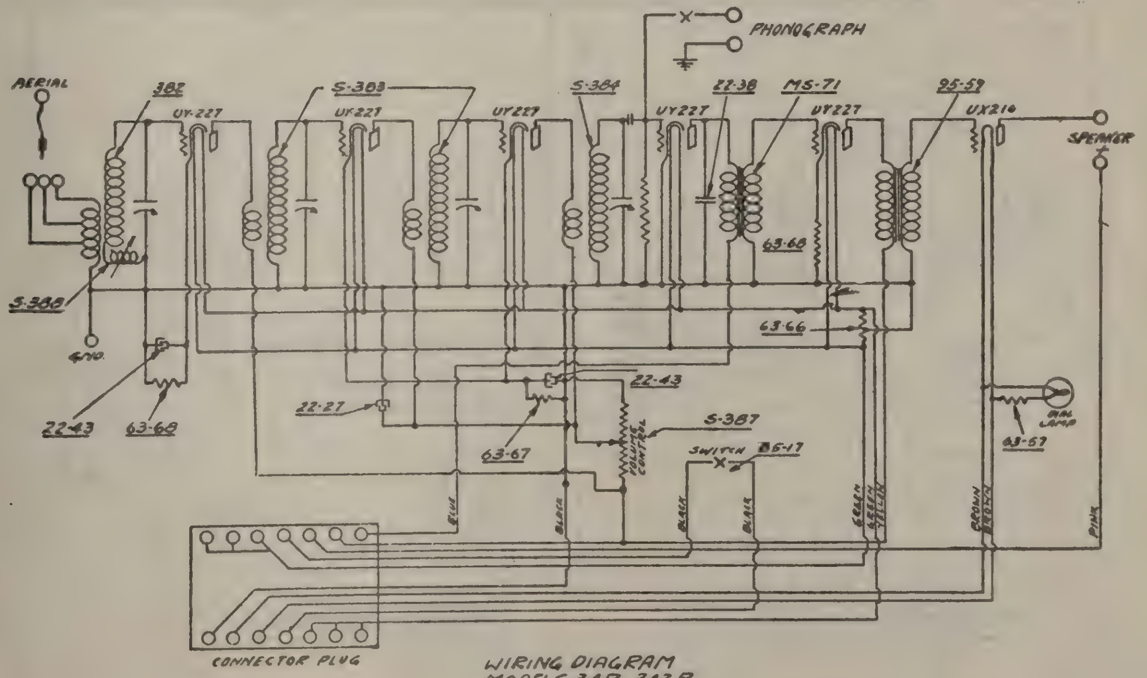
WIRING DIAGRAM
MODEL 31-32
6 TUBE BATTERY SET

ZENITH RADIO CORP.

MODEL 34-P, 342-P
MODEL ZE-11
MODEL ZE-14


ZENITH RADIO CORPORATION
CHICAGO ILLINOIS
DATE 10-2-28
DRG. 123-41
ZE-11 POWER SUPPLY
FOR MODELS 34P 35P 36AP
63-86
RED
BLUE
GREEN
YELLOW
CONDBLOCK 22-41
UX281
22-42
7.5 VOLTS
2.5 VOLTS
L.S. FIELD
115V AC 60 CYCLE
POWER TRANS & CHOKE 95-36
FIL. TRANS 95-57
5


EXTERNAL COND 22-47
63-86
RED
BLUE
GREEN
YELLOW
COND BLOCK 22-41
UX281
22-42
7.5 VOLTS
2.5 VOLTS
LS FIELD
115V AC 25 CYCLE
ZE 14 POWER SUPPLY
FOR MODELS 342P 352P 352AP
POWER TRANS & CHOKE 95-44
FIL TRANS 95-45
6

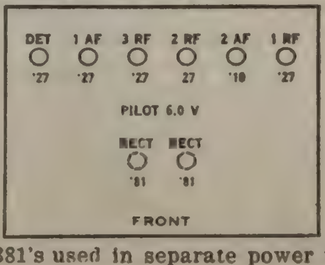

PHONOGRAPH
AERIAL
382
S-383
S-384
22-38
MS-71
95-59
UY227
UY227
UY227
UY227
UY227
UX210
SPEAKER
S-388
GND.
22-43
63-68
63-66
22-27
22-43
63-67
S-387
VOLUME CONTROL
SWITCH 85-17
DIAL LAMP
63-57
BLUE
BLACK
BLACK
BLACK
GREEN
GREEN YELLOW
BROWN
BROWN
PINK
CONNECTOR PLUG

WIRING DIAGRAM
MODELS 34P-342P
6 TUBE ELECTRIC SET

ZENITH—Models 34P-342P
Line Voltage 115

TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG & SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
	227	1st. R.F.			2.05	90	5.5	-	2.7	4	1.3
2	227	2nd. R.F.			2.05	92	5.0	-	3.5	6.5	3.0
3	227	3rd. R.F.			2.05	92	5.0	-	3.5	6.5	3.0
4	227	Detector			2.00	40	0.0	-	2.2	2.2	0.0
5	227	1st. A.F.			2.05	84	5.0	-	2.4	3.6	1.2
6	210	2nd. A.F.			7.40	400	34.0	-	23	25	2.0
7	281	Rectifier			7.25	-	-	-	42	-	-
8	281	Rectifier			7.25	-	-	-	42	-	-

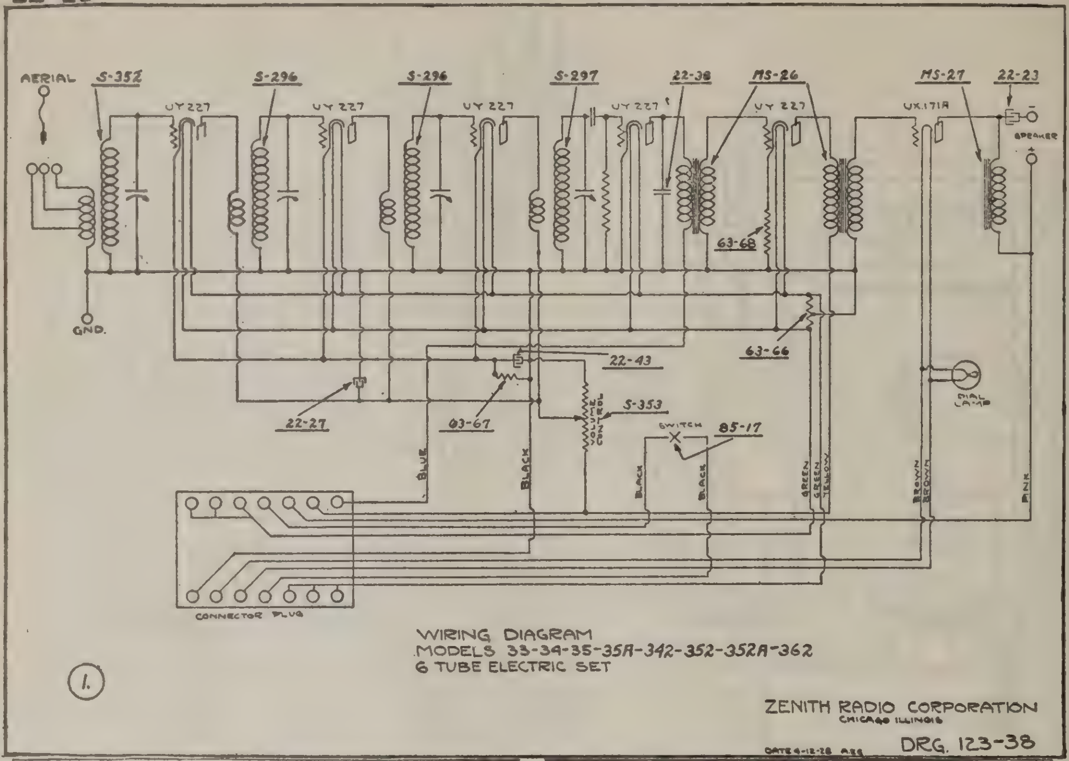
Models 341, 342P (1928)

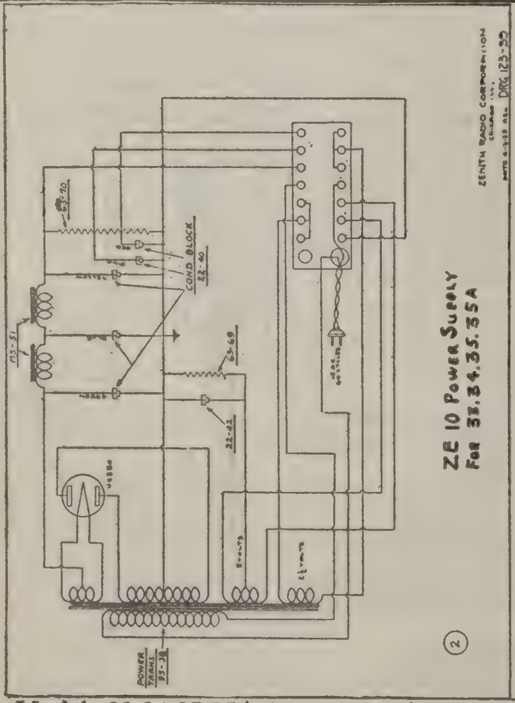

DET
'27
1 AF
'27
3 RF
'27
2 RF
27
2 AF
'10
1 RF
'27
PILOT 6.0 V
RECT
'81
RECT
'81
FRONT

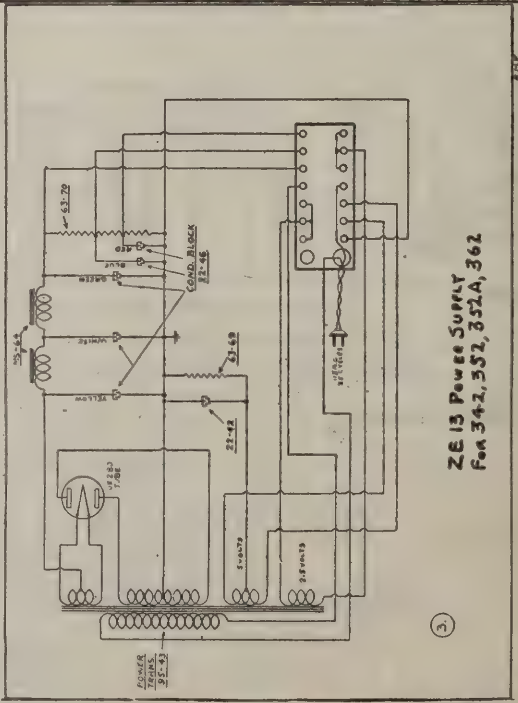
2 CX-381's used in separate power units.

MODELS 33,34,35,35-A,342,
352,352-A,362
MODELS ZE-10
MODEL ZE-13

ZENITH RADIO CORP.


AERIAL
S-352
S-296
S-296
S-297
22-38
MS-26
MS-27
22-23
UY227
UY227
UY227
UY227
UY227
UX171A
SPEAKER
GND.
63-68
63-66
22-43
22-27
63-67
S-353
VOLUME CONTROL
SWITCH
85-17
DIAL LAMP
BLUE
BLACK
BLACK
BLACK
GREEN
GREEN
YELLOW
BROWN
BROWN
PINK
CONNECTOR PLUG
WIRING DIAGRAM
MODELS 33-34-35-35A-342-352-352A-362
6 TUBE ELECTRIC SET
1.
ZENITH RADIO CORPORATION
CHICAGO ILLINOIS
DATE 4-12-28
DRG. 123-38

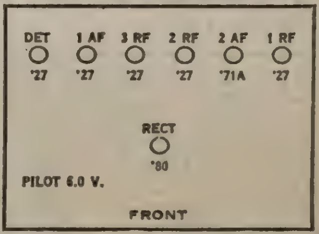

ZENITH RADIO CORPORATION
CHICAGO ILL.
DRG 123-32
63-70
COND. BLOCK
22-40
MS-51
63-69
22-42
5 VOLTS
2½ VOLTS
POWER TRANS. 95-38
ZE 10 POWER SUPPLY
FOR 33, 34, 35, 35A
2


63-70
COND. BLOCK
22-46
RED
BLUE
GREEN
WHITE
YELLOW
MS-64
63-69
22-42
UX280 TUBE
5 VOLTS
2.5 VOLTS
POWER TRANS. 95-43
ZE 13 POWER SUPPLY
FOR 342, 352, 352A, 362
3.

ZENITH—Models 33-34-35-35A-342-352-352A-362
Line Voltage 115—Volume Control Full for R. F. and Center for A. F. on All Models

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST. R.F., DET., ETC.	READINGS, PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M.A	PLATE M.A GRID TEST	PLATE M.A CHANGE
1	227	1st. R.F.			2.0	110	6	-	3.2	6.2	3.0
2	227	2nd. R.F.			2.0	110	6	-	3.2	6.2	3.0
3	227	3rd. R.F.			2.0	110	6	-	3.2	6.2	3.0
4	227	Detector			2.0	45	0	-	3.2	3.4	.2
5	227	1st. A.F.			2.0	105	6	-	3.2	4.5	1.3
6	171A	2nd. A.F.			4.75	180	40	-	15.0	16.0	1.0
7	280	Rectifier			4.9	-	-	-	22.0	-	-

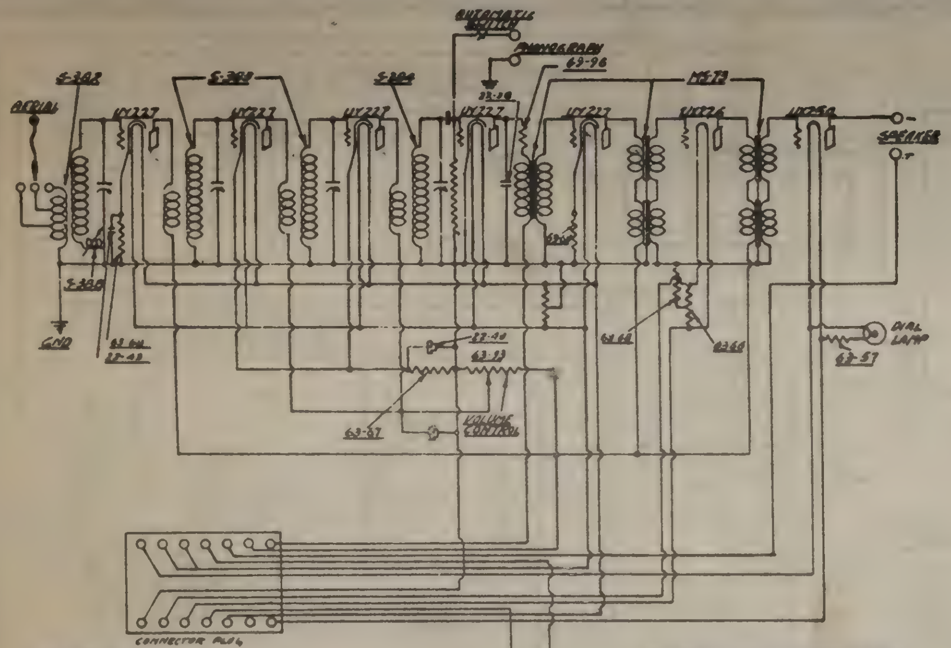
Models 34, 35, 35A, 342, 352, 352A, 362 (1928)


DET
'27
1 AF
'27
3 RF
'27
2 RF
'27
2 AF
'71A
1 RF
'27
RECT
'80
PILOT 6.0 V.
FRONT

CX-380 used in separate power unit.

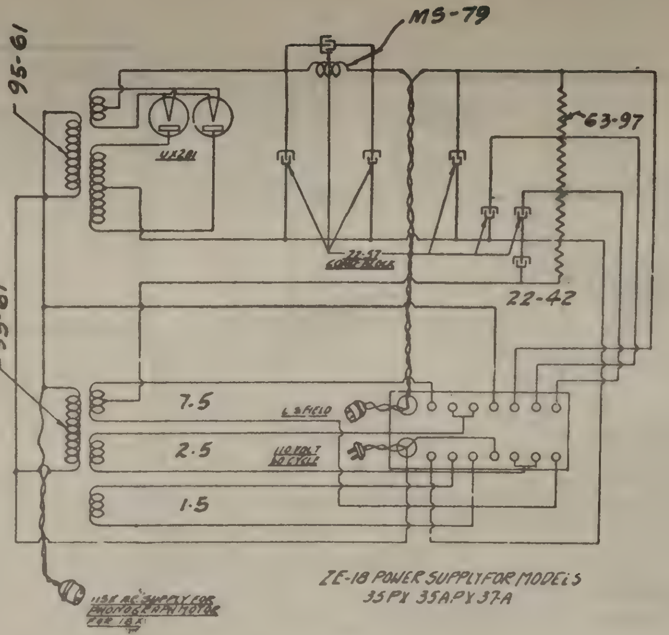
ZENITH RADIO CORP.

MODEL 37-A
MODELS 35-PX,35-APX,352-PX,
352-APX
MODEL ZE-18

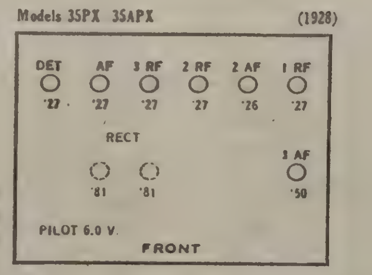

AERIAL
S-382
S-380
S-384
UY227
UX227
UX226
UX250
MS-73
AUTOMATIC SWITCH
PHONOGRAPH
63-96
SPEAKER
GND
DIAL LAMP
63-57
63-66
22-40
63-53
VOLUME CONTROL
CONNECTOR PLUG
SWITCH

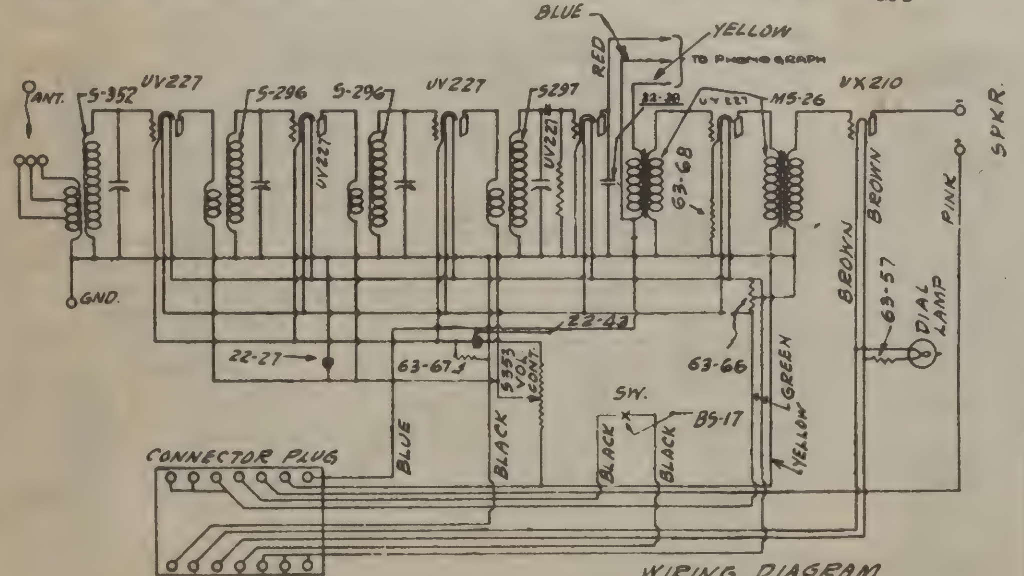
WIRING DIAGRAM
MODELS 35PX 35APX 352PX 352APX 37-A

ZENITH RADIO CORPORATION
DRWG 123-53


MS-79
95-61
63-97
22-42
UX281
22-47
7.5
2.5
1.5
L.S. FIELD
110 VOLT 60 CYCLE
115 AC SUPPLY FOR PHONOGRAPH MOTOR

ZE-18 POWER SUPPLY FOR MODELS
35PX 35APX 37A


Models 35PX 35APX
(1928)
DET
'27
AF
'27
3 RF
'27
2 RF
'27
2 AF
'26
1 RF
'27
RECT
'81
'81
3 AF
'50
PILOT 6.0 V.
FRONT


ANT.
S-352
UV227
S-296
S-296
UV227
S297
UV227
BLUE
RED
YELLOW
TO PHONOGRAPH
MS-26
63-68
VX210
SPKR.
BROWN
BROWN
PINK
63-57
DIAL LAMP
GND.
22-43
22-27
63-67
S353 VOL. CONT.
63-66
SW.
BS-17
GREEN
YELLOW
BLACK
BLACK
BLACK
BLUE
CONNECTOR PLUG

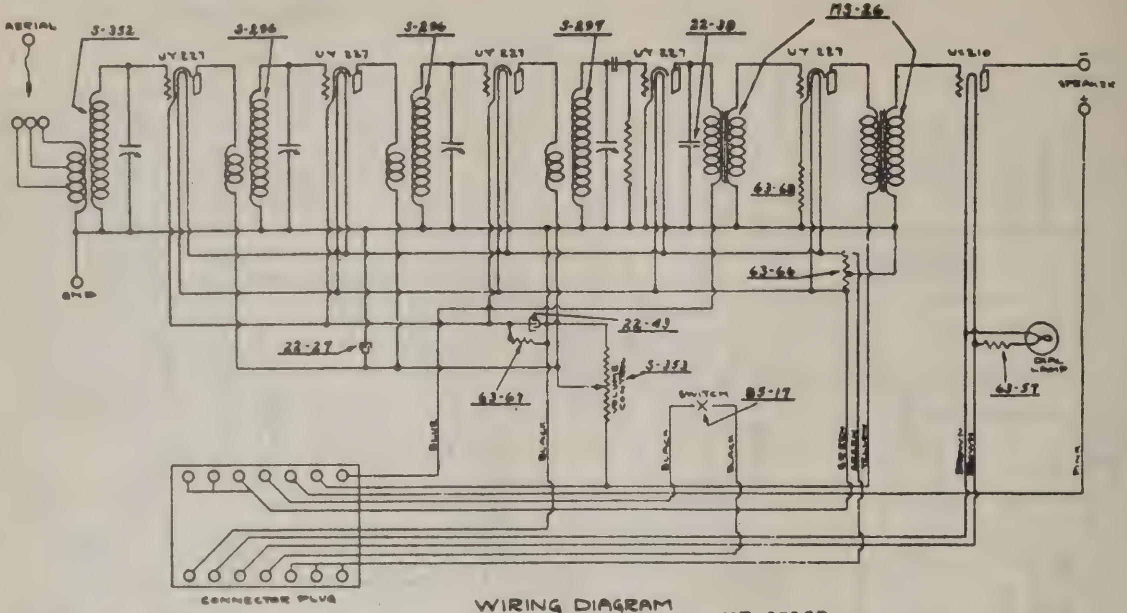
WIRING DIAGRAM
MODEL 37A
6 TUBE ELECTRIC SET

ZENITH—Models 35PX-35APX-352PX-352APX-37A
Line Voltage 115

TUBE NO. IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST R.F. DET...ETC.	READINGS. PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE M A	PLATE M A GRID TEST	PLATE M A CHANGE
1	227	1st. R.F.			2.1	104	6	-	3.3	4.6	1.3
2	227	2nd. R.F.			2.1	104	5	-	4.6	7.6	3.0
3	227	3rd. R.F.			2.1	104	5	-	4.6	7.6	3.0
4	227	Detector			2.05	24	0	-	1.3	1.4	.1
5	227	1st. A.F.			2.1	85	5	-	2.7	3.6	.9
6	226	2nd. A.F.			1.4	85	5.5	-	2.8	3.8	1.0
7	250	3rd. A.F.			7.1	335	54	-	35.0	36	1.0
8	281	Rectifier			7.0	-	-	-	45.0	-	-
9	281	Rectifier			7.0	-	-	-	45.0	-	-
10											

MODEL 35-P,35-AP,352-P,352-AP
MODEL ZE-11 for 35-P,35-AF,37-A
MODEL ZE-14 for 352-P,352-AP

ZENITH RADIO CORP.

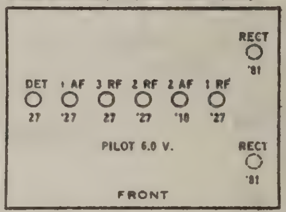

AERIAL
S-352
UY227
S-296
UY 227
S-296
UY 227
S-297
UY 227
22-30
MS-26
UY 227
UX210
SPEAKER
GND
63-68
63-64
22-43
22-27
S-352
63-67
SWITCH
85-17
DIAL LAMP
63-57
BLUE
BLACK
BLACK
BLACK
PINK
CONNECTOR PLUG

WIRING DIAGRAM
MODELS 35P-35AP-352P-352AP
6 TUBE ELECTRIC SET

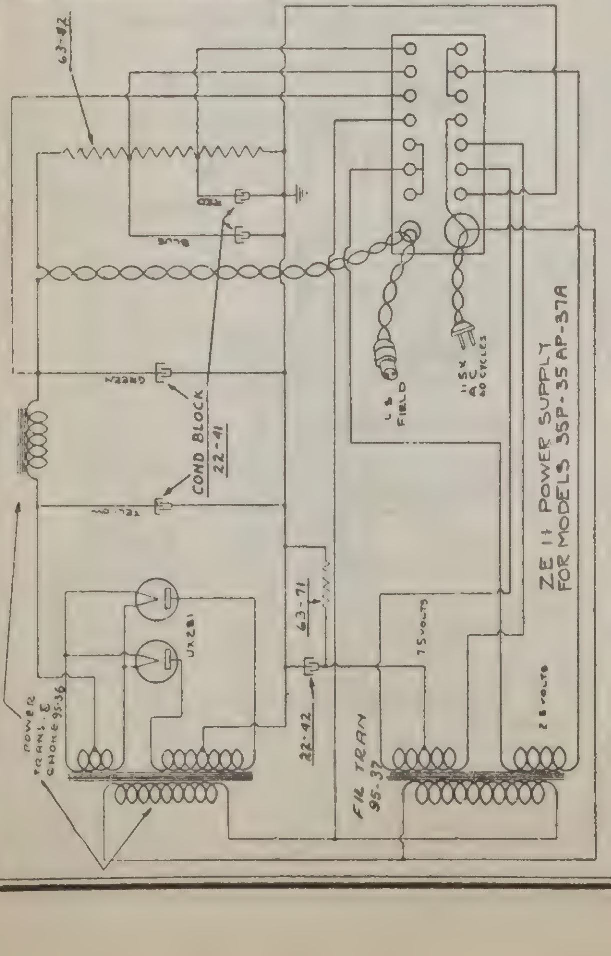
ZENITH—Models 35P-35AP-37A-352P-352AP
Line Voltage 115

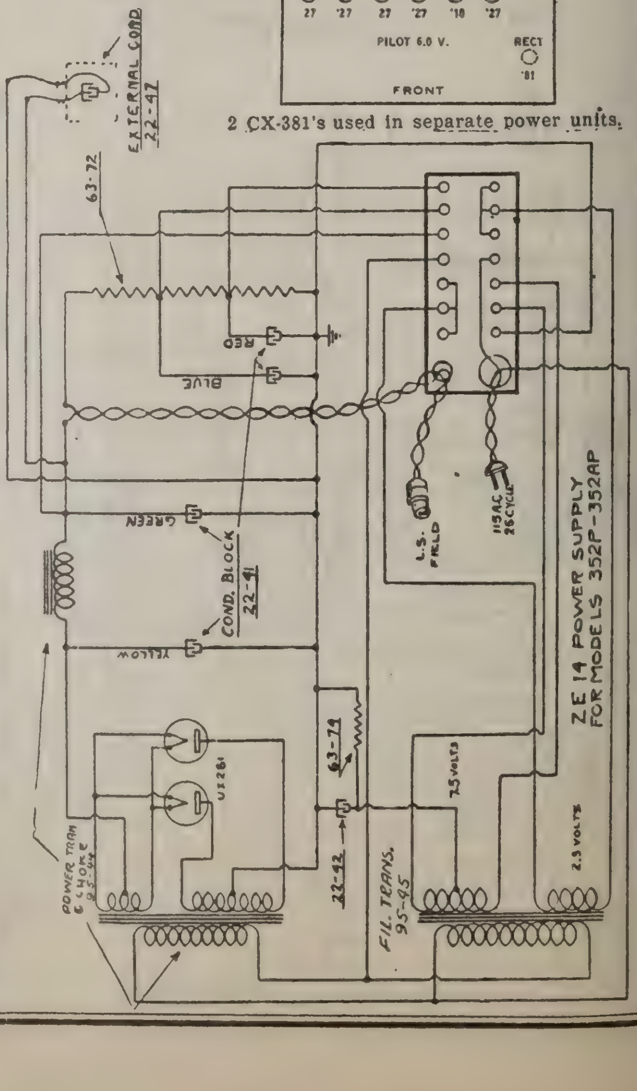
TUBE NO IN ORDER	TYPE OF TUBE	POSITION OF TUBE 1ST RF DET ETC	READINGS PLUG IN SOCKET OF SET								
			TUBE OUT		TUBE IN TESTER						
			A VOLTS	B VOLTS	A VOLTS	B VOLTS	C VOLTS	CATHODE VOLTS	NORMAL PLATE MA	PLATE MA GRID TEST	PLATE MA CHANGE
	227	1st. R.F.			2.0	100	6	-	3.0	6.0	3.0
	227	2nd. R.F.			2.0	100	6	-	3.0	6.0	3.0
	227	3rd. R.F.			2.0	100	6	-	3.0	6.0	3.0
	227	DETECTOR			2.0	42	0	-	3.0	3.2	0.2
	227	1st. A.F.			2.0	100	6	-	3.0	4.0	1.0
	210	2nd. A.F.			7.2	400	32	-	20.0	22.0	2.0
	281				7.25	-	-	-	45.0	-	-
	281				7.25	-	-	-	45.0	-	-

Models 35AP, 35P, 37A, 352P, 352AP (1928)


RECT
'81
DET
27
1 AF
'27
3 RF
27
2 RF
'27
2 AF
'10
1 RF
'27
PILOT 6.0 V.
RECT
'81
FRONT

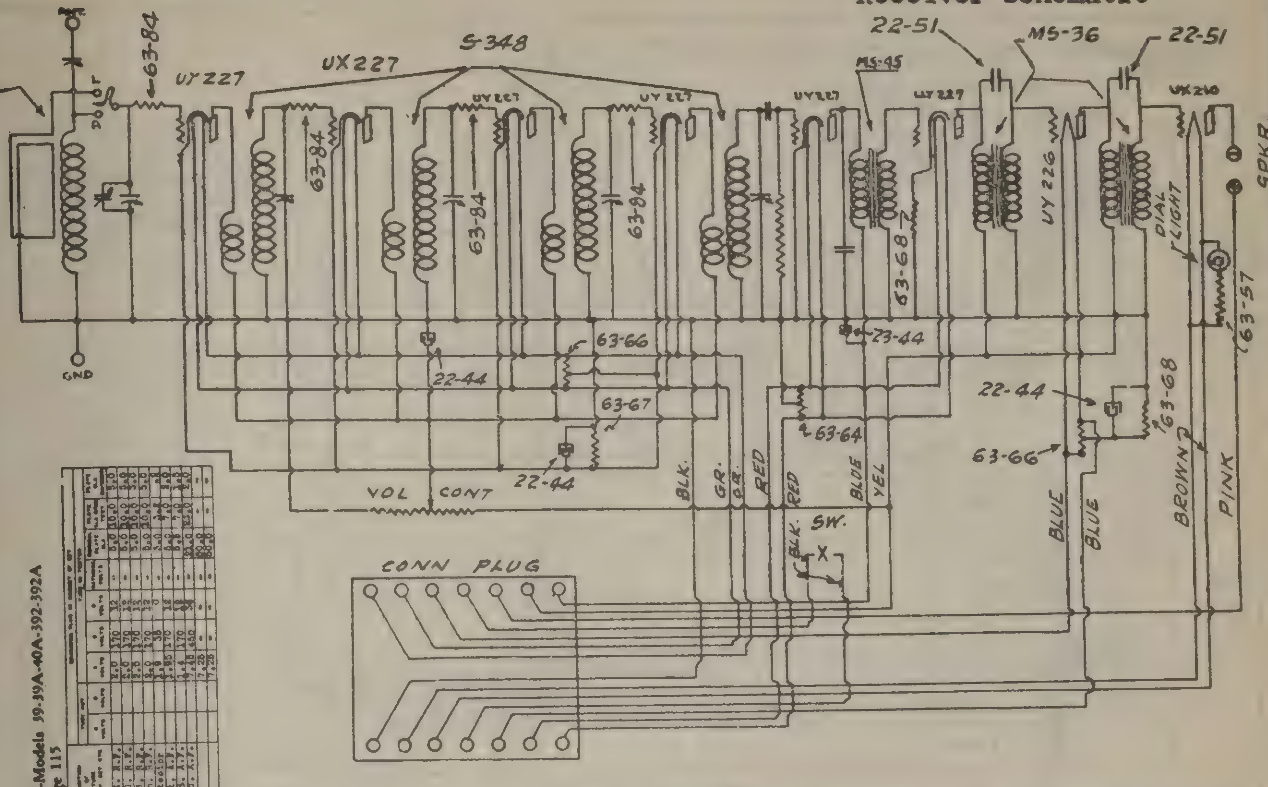
2 CX-381's used in separate power units.


63-82
RED
BLUE
GREEN
COND BLOCK
22-41
YELLOW
63-71
UX281
75 VOLTS
2.5 VOLTS
22-42
FIL TRAN
95-37
POWER TRANS. & CHOKE 95-36
L.S. FIELD
115V AC 60 CYCLES
ZE 11 POWER SUPPLY
FOR MODELS 35P-35AP-37A


EXTERNAL CORD
22-47
63-72
RED
BLUE
GREEN
COND. BLOCK
22-41
YELLOW
63-74
UX281
7.5 VOLTS
2.5 VOLTS
22-42
FIL. TRANS.
95-95
POWER TRAN & CHOKE 95-44
L.S. FIELD
115A.C. 25CYCLE
ZE 14 POWER SUPPLY
FOR MODELS 352P-352AP

ZENITH RADIO CORP.

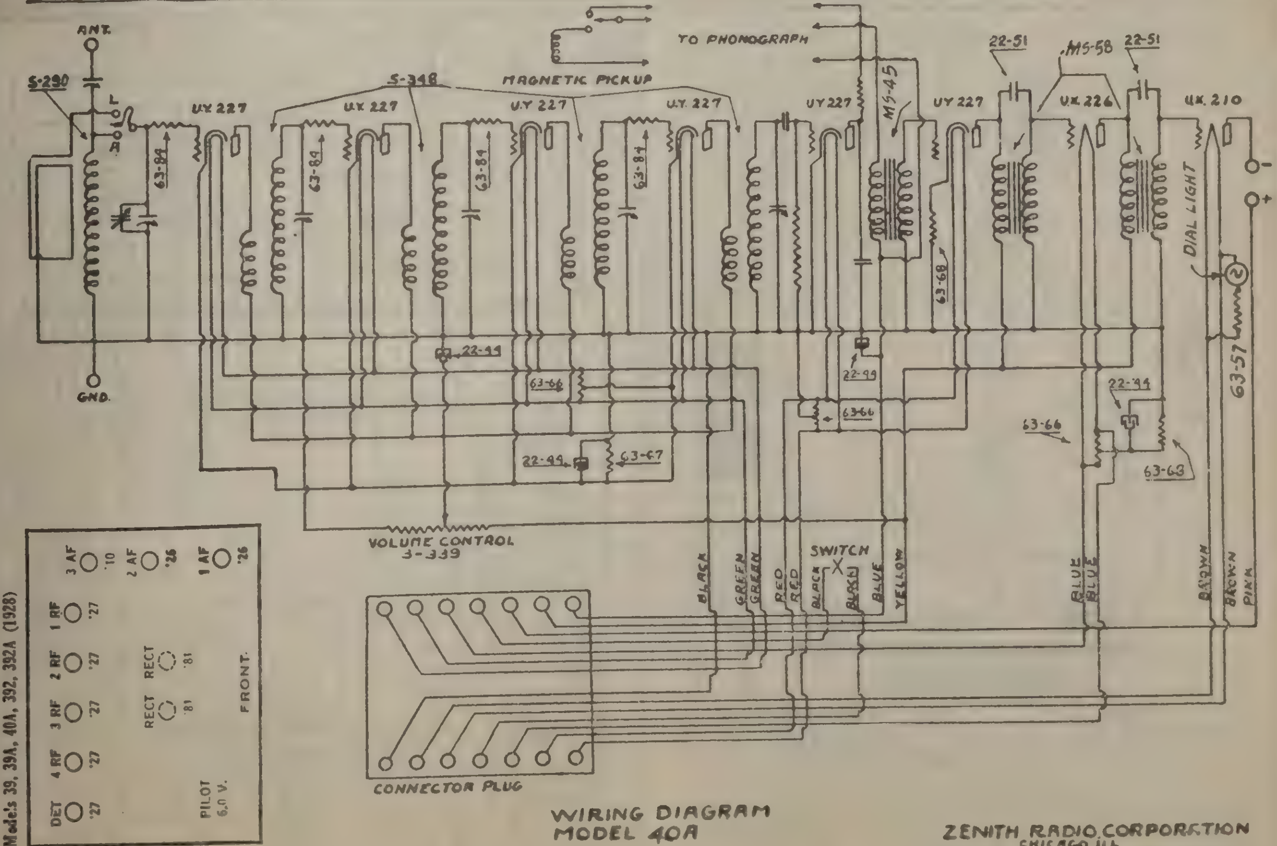
MODELS 39,39-A,392,392-A
Receiver Schematic
MODEL 40-A
Receiver Schematic


S290
63-84
UY227
UX227
S-348
UY227
UY227
UY227
UY227
63-84
63-84
63-84
22-51
MS-45
MS-36
22-51
UX210
UY 226
DIAL LIGHT
SPKR.
63-68
23-44
63-57
GND
63-66
22-44
63-67
22-44
63-64
22-44
63-66
63-68
VOL CONT
BLK.
GR.
GR.
RED
RED
BLUE
YEL
BLK.
SW.
X
BLUE
BLUE
BROWN
PINK
CONN PLUG

WIRING DIAGRAM
MODELS 39-39 A-392-392A ZENITH RADIO CORPORATION
CHICAGO ILLINOIS
DATE 4-17-30 DRG 123-43

ZENITH—Models 39-39A-40A-392-392A
Line Voltage 115

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	227	1st. R.F.			2.0	170	12	-	5.0	10.0	5.0
[illegible]	227	2nd. R.F.			2.0	170	12	-	5.0	10.0	5.0
[illegible]	227	3rd. R.F.			2.0	170	12	-	5.0	10.0	5.0
[illegible]	227	4th. R.F.			2.0	170	12	-	5.0	10.0	5.0
[illegible]	227	Detector			1.8	38	0	-	3.0	3.8	.8
[illegible]	227	1st. A.F.			1.95	170	12	-	5.0	7.0	2.0
[illegible]	227	2nd. A.F.			1.4	170	18	-	5.5	7.0	1.5
[illegible]	210	3rd. A.F.			7.15	450	30	-	21.0	23.0	2.0
[illegible]	281				7.28	-	-	-	80.0	-	-
[illegible]	281				7.25	-	-	-	80.0	-	-

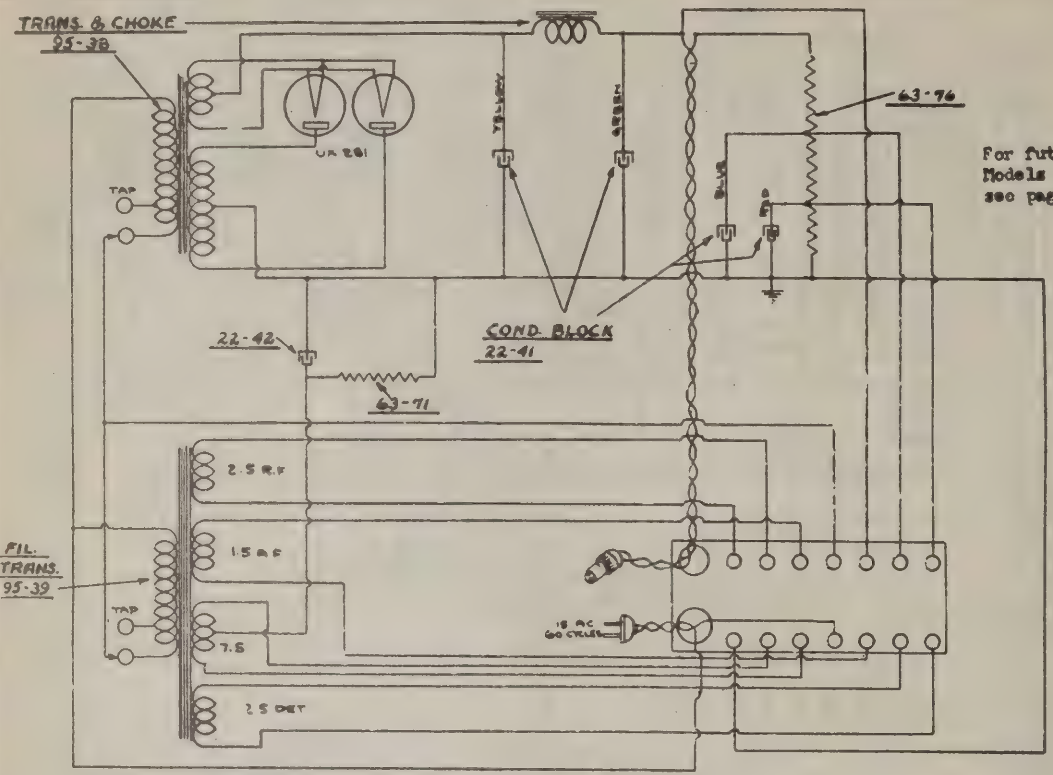

ANT.
S-290
UX 227
S-348
UX 227
UY 227
UY 227
UY 227
UY 227
63-84
63-84
63-84
63-84
MAGNETIC PICKUP
TO PHONOGRAPH
MS-45
22-51
MS-58
22-51
UX 226
UX 210
DIAL LIGHT
SPKR
63-68
GND.
22-44
63-66
22-44
63-66
22-44
63-67
22-44
63-66
63-63
63-57
VOLUME CONTROL
3-339
BLACK
GREEN
GREEN
RED
RED
BLACK
SWITCH
X
BLACK
BLUE
YELLOW
BLUE
BLUE
BROWN
BROWN
PINK
CONNECTOR PLUG
Models 39, 39A, 40A, 392, 392A (1928)
DET '27
4 RF '27
3 RF '27
2 RF '27
1 RF '27
3 AF '10
2 AF '26
1 AF '26
RECT '81
RECT '81
PILOT 6.0 V.
FRONT

WIRING DIAGRAM
MODEL 40A

ZENITH RADIO CORPORATION
CHICAGO ILL
6-27-28 DRG 123-51

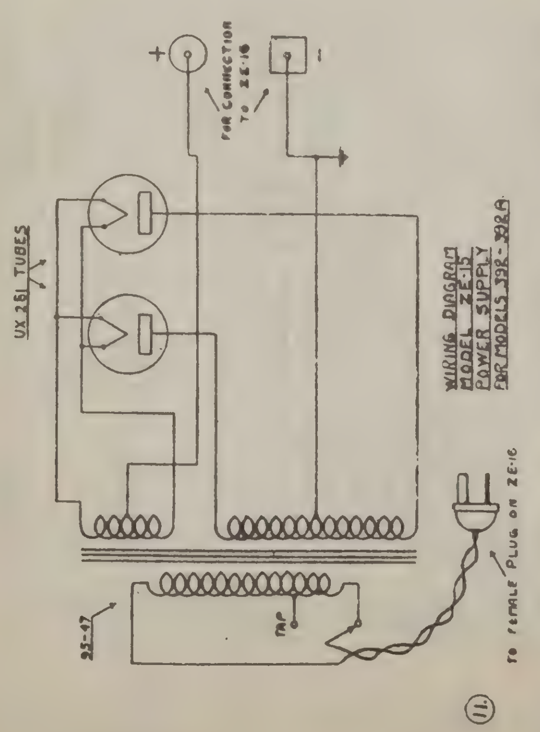
MODEL ZE-12 for 39,39-A,40-A
MODEL ZE-15 for 392,392-A
MODEL ZE-16 Filter for above

ZENITH RADIO CORP.

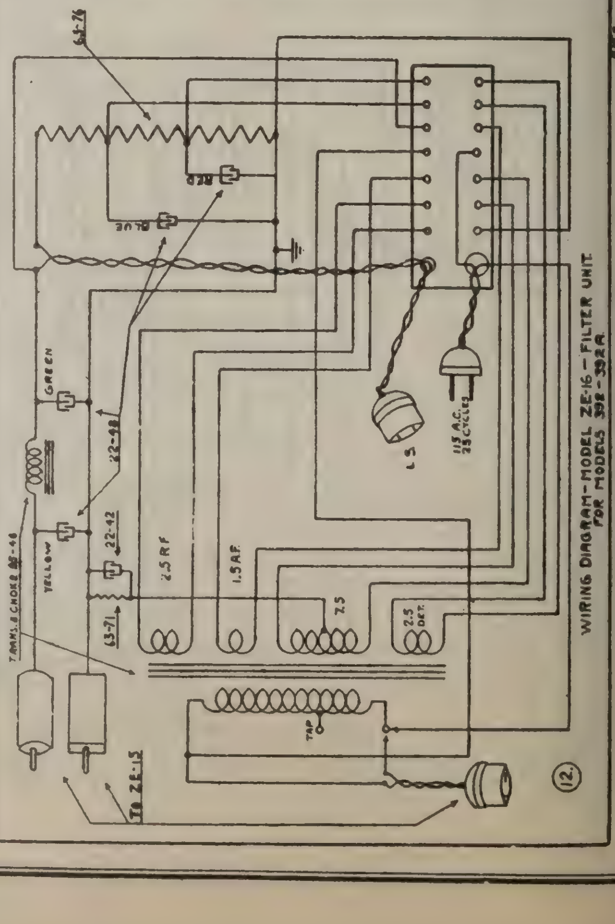

TRANS. & CHOKE 95-38
UX 281
YELLOW
GREEN
BLUE
RED
63-76
TAP
COND. BLOCK 22-41
22-42
63-71
2.5 R.F
1.5 A.F
7.5
2.5 DET
FIL. TRANS. 95-39
110 AC 60 CYCLES

For futher data on Models 39, 39-A, 40-A see page 674.

ZE 12 POWER SUPPLY FOR MODELS 39—39 A—40 A


+
-
FOR CONNECTION TO ZE-16
UX 281 TUBES
TAP
95-47
TO FEMALE PLUG ON ZE-16
11.

WIRING DIAGRAM MODEL ZE-15 POWER SUPPLY FOR MODELS 392-392A

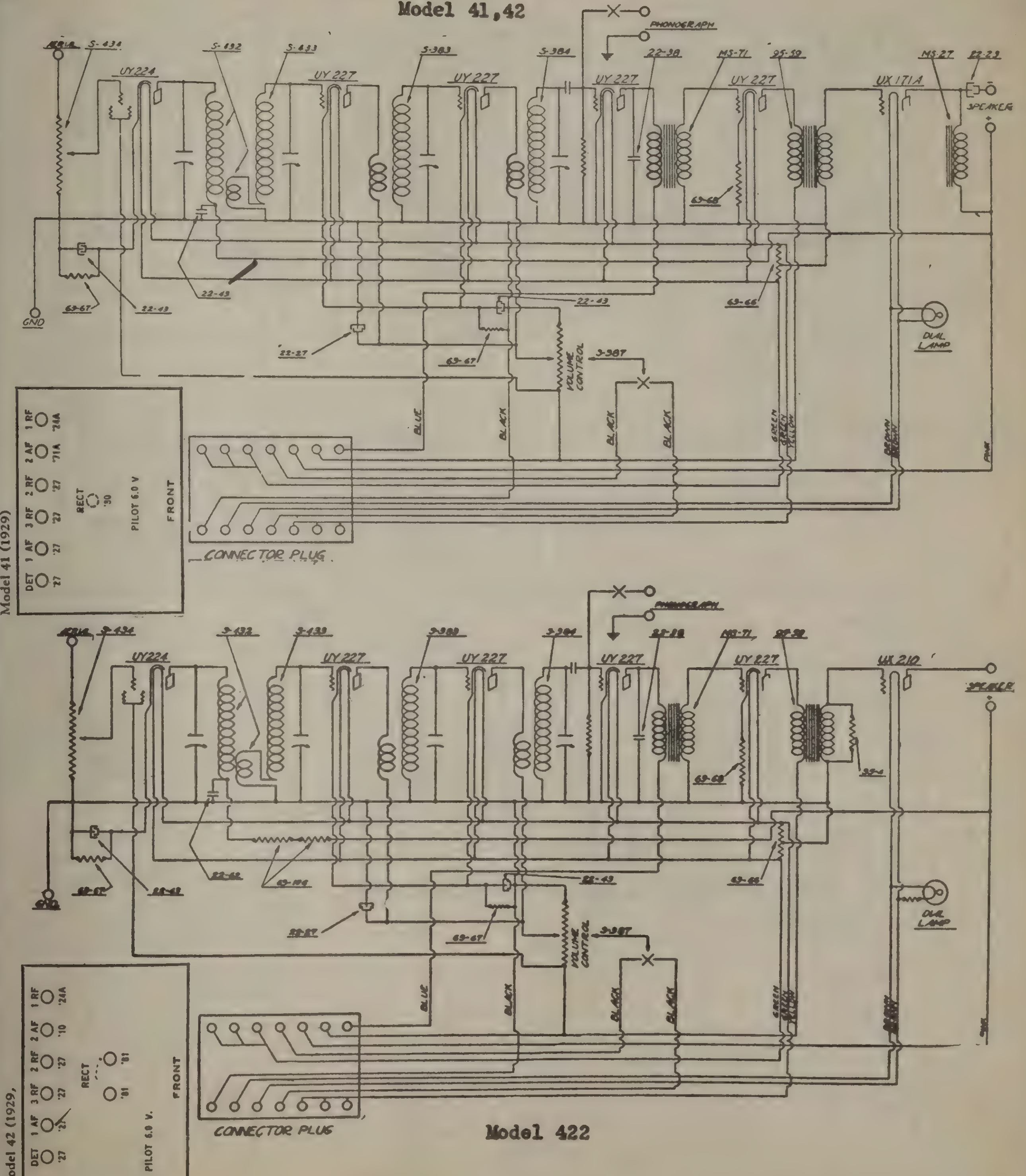

63-76
RED
BLUE
GREEN
22-48
YELLOW
22-42
63-71
TRANS. & CHOKE 95-46
2.5 RF
1.5 AF.
7.5
2.5 DET.
TAP
L.S
115 A.C. 25 CYCLES
TO ZE-15
12.

WIRING DIAGRAM-MODEL ZE-16 — FILTER UNIT FOR MODELS 392-392A

ZENITH RADIO CORP.

MODEL 41,42
MODEL 422

Model 41,42


AERIAL
S-434
S-432
S-433
S-383
S-384
UY224
UY 227
UY 227
UY 227
UY 227
UX 171A
PHONOGRAPH
22-38
MS-71
95-59
MS-27
22-23
SPEAKER
63-68
22-43
63-67
22-43
GND
22-27
63-67
22-43
63-66
VOLUME CONTROL
3-387
DUAL LAMP
BLUE
BLACK
BLACK
BLACK
GREEN
GREEN
YELLOW
BROWN
BROWN
CONNECTOR PLUG
1 RF '24A
2 AF '71A
2 RF '27
3 RF '27
1 AF '27
DET '27
RECT '80
PILOT 6.0 V
FRONT
UX 210
CONNECTOR PLUG
1 RF '24A
2 AF '10
2 RF '27
3 RF '27
1 AF '27
DET '27
RECT '81
'81
PILOT 6.0 V.
FRONT

Model 41 (1929)

Model 42 (1929,

Model 422

ZENITH—MODEL 42

Type Tube	Position of Tube	"A" Vts.	"B" Vts.	"C" Vts.	Plate MA.	Screen Grid	Cath. Volts
'24	1 R. F.	1.90	214	3	3.4	94	+2.2
'27	2 R. F.	1.90	80	4	3.5		+4
'27	3 R. F.	1.90	85	4	3.5		+4
'27	Det.	1.90	35		2.2		
'27	1 Aud.	1.96	78	4	2.5		+4
'10	2 Aud.	6.9	420	31	20		
'81	Rect.	6.9			45		
'81					45		

LV—115. Volume Control Max.

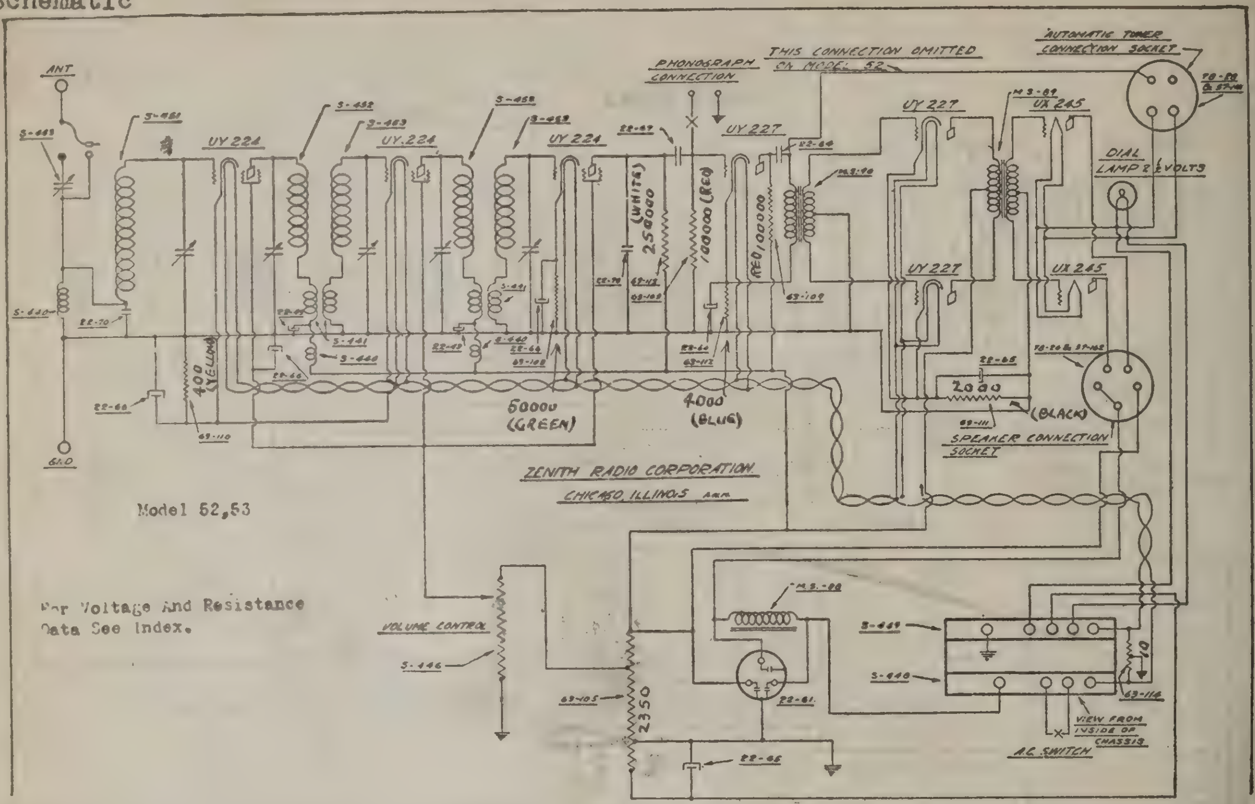
ZENITH—MODEL 41

Type Tube	Position of Tube	"A" Vts.	"B" Vts.	"C" Vts.	Plate MA.	Screen Grid	Cath. Volts
'24	1 R. F.	1.95	200	2	3	98	+2
'27	2 R. F.	2°	95	4.5	4		+4.5
'27	3 R. F.	2	95	4.5	4		+4.5
'27	Det.	1.95	38		2.1		
'27	1 Aud.	2	89	4.5	3		+4.5
'71A	2 Aud.	4.2	145	29	14.5		
'80	Rect.	4.1			17.8		

LV—110. Volume Control Max.

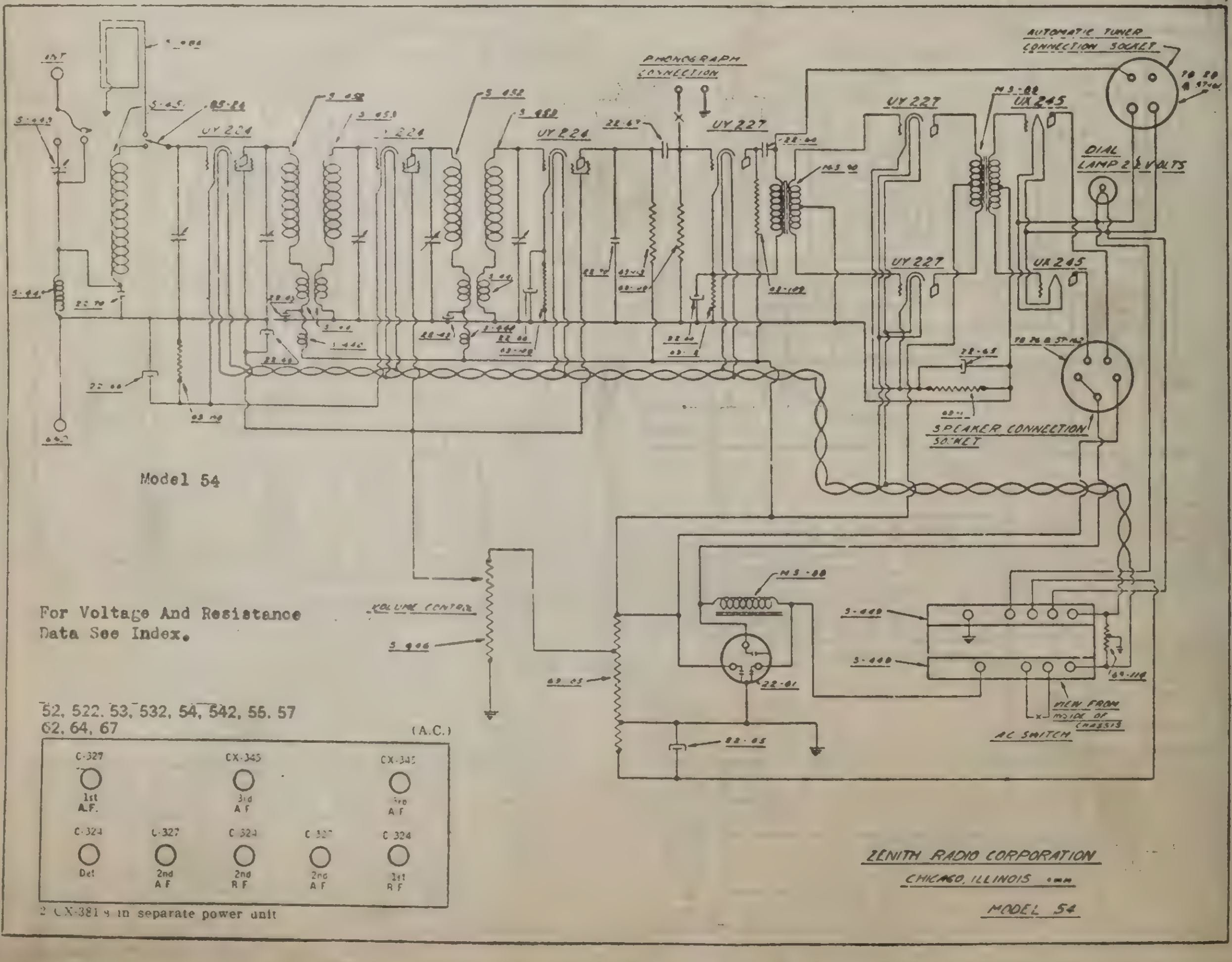
MODEL 52,53
MODEL 54
Schematic

ZENITH RADIO CORP.


ANT
S-443
S-451
UY 224
S-452
S-453
UY.224
S-452
S-453
UY 224
22-67
PHONOGRAPH CONNECTION
THIS CONNECTION OMITTED ON MODEL 52
UY 227
22-64
M.S.-90
UY 227
M S-89
UX 245
AUTOMATIC TUNER CONNECTION SOCKET
78-82 & 57-101
DIAL LAMP 2½ VOLTS
(WHITE) 250000
100000 (RED)
RED, 100000
S-440
22-70
22-69
S-441
S-440
22-66
22-69
22-66
400 (YELLOW)
63-110
22-43
S-441
S-440
22-66
63-108
22-70
63-113
63-109
22-66
63-112
63-109
50000 (GREEN)
4000 (BLUE)
UY 227
UX 245
78-20 & 57-102
22-65
2000
63-111
(BLACK)
SPEAKER CONNECTION SOCKET
GND
ZENITH RADIO CORPORATION.
CHICAGO, ILLINOIS
VOLUME CONTROL
S-446
63-105
2350
M.S.-88
22-61.
22-66
S-449
S-448
10
63-114
VIEW FROM INSIDE OF CHASSIS
A.C. SWITCH

Model 52,53

For Voltage And Resistance Data See Index.


ANT
S-443
S-45
85-24
UY 224
S-452
S-453
UY 224
S-452
S-453
UY 224
22-67
PHONOGRAPH CONNECTION
UY 227
22-64
MS 90
UY 227
M S-88
UX 245
AUTOMATIC TUNER CONNECTION SOCKET
78 82 & 57-101
DIAL LAMP 2½ VOLTS
S-44
22-70
22-69
S-44
S-440
22-66
22-66
63-110
22-43
S-441
22-66
63-108
22 70
63-113
63-109
63-109
22-66
63-112
UY 227
UX 245
78 20 & 57-102
22-65
63-111
SPEAKER CONNECTION SOCKET
GND
VOLUME CONTROL
S 446
63-05
MS-88
22-61
22-65
S-449
S-448
63-114
VIEW FROM INSIDE OF CHASSIS
AC SWITCH
C-327
1st A.F.
CX-345
3rd A F
CX-345
3rd A F
C-324
Det
C-327
2nd A F
C-324
2nd R F
C-327
2nd A F
C-324
1st R F
ZENITH RADIO CORPORATION
CHICAGO, ILLINOIS
MODEL 54

Model 54

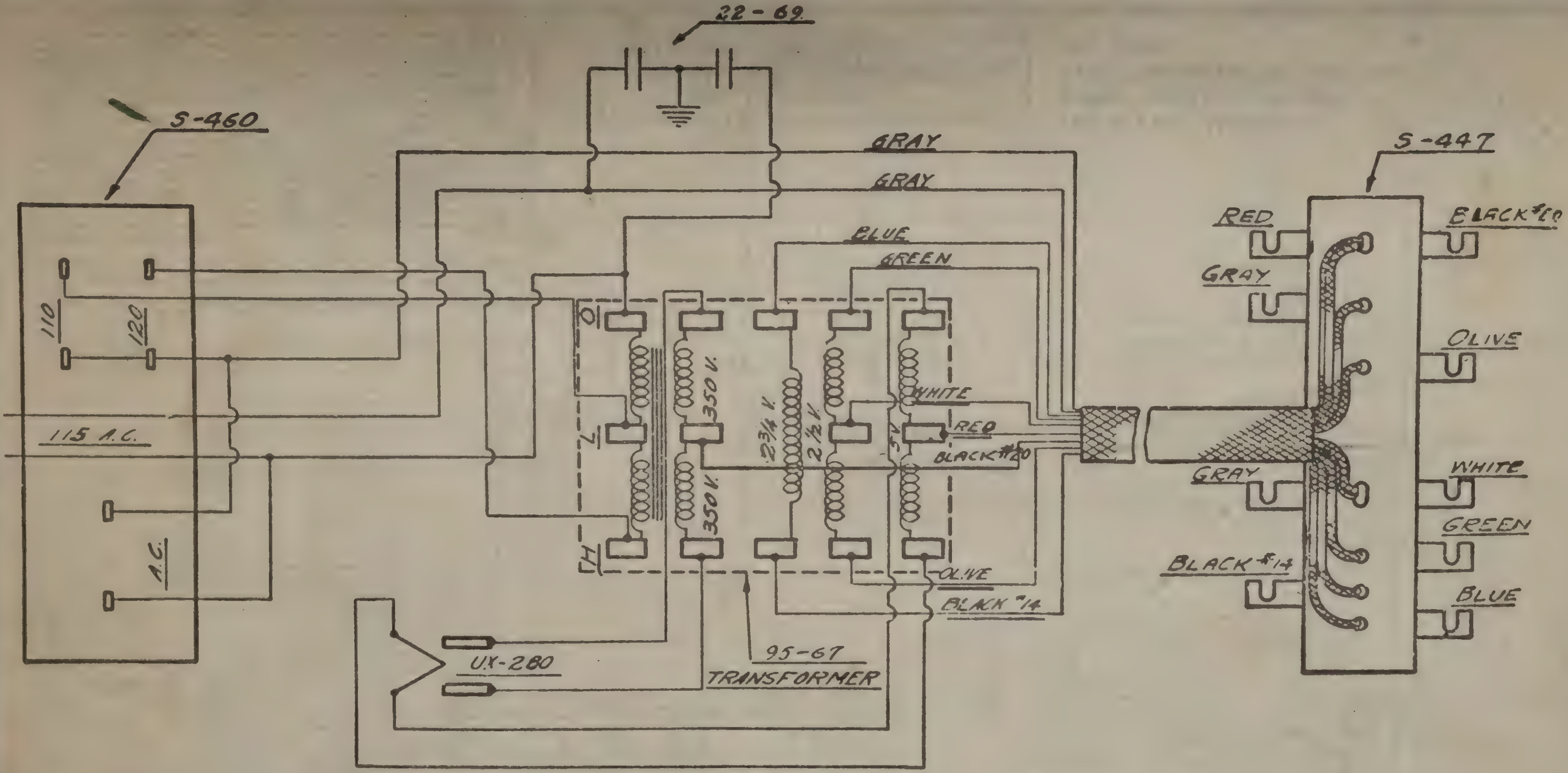
For Voltage And Resistance Data See Index.

52, 522. 53, 532, 54, 542, 55. 57
62, 64, 67 (A.C.)

2 CX-381's in separate power unit

ZENITH RADIO CORP.

MODEL 52,53,54,55
Voltage - Resistors
MODEL ZE-50
Power Unit


22-69
S-460
S-447
GRAY
GRAY
BLUE
GREEN
110
120
115 A.C.
A.C.
O
L
H
350 V.
350 V.
2¾ V.
2½ V.
3 V.
WHITE
RED
BLACK #20
OLIVE
BLACK #14
95-67
TRANSFORMER
UX-280
RED
GRAY
GRAY
BLACK #14
BLACK #20
OLIVE
WHITE
GREEN
BLUE

ZENITH—Models 52-53-54-55
Line Voltage 115—Set on 120 Volt Tap—Volume Control Position Full On

*The screen grid voltage on the detector tube is actually 50 volts but an electrostatic voltmeter would be needed to show true voltage.

TUBE NO IN ORDER ①	TYPE OF TUBE ②	POSITION OF TUBE 1ST RF DET ETC ③	READINGS PLUG IN SOCKET OF SET.									
			TUBE OUT		TUBE IN TESTER							
			A VOLTS ④	B VOLTS ⑤	A VOLTS ⑥	B VOLTS ⑦	C VOLTS (CONTROL GRID) ⑧	CATHODE-HEATER ⑨ VOLTS	NORMAL PLATE ⑩ MA	PLATE MA GRID ⑪ TEST	PLATE CHANGE ⑫ MA.	SCREEN GRID ⑬ VOLTS
1	224	1st RF	-	-	2.4	175	1	2	1.6	2.8	-	50
2	224	2nd RF	-	-	2.4	175	1	2	1.6	4	-	50
3	224	Det.	-	-	2.4	90	5	5	0	0	-	*
4	227	1st AF	-	-	2.4	55	2	2	1	1.2	-	-
5	227	2nd AF	-	-	2.4	143	14	14	4.3	5.7	-	-
6	227	2nd AF	-	-	2.4	143	14	14	4.3	5.7	-	-
7	245	3rd AF	-	-	2.2	248	45	-	24	28	-	-
8	245	3rd AF	-	-	2.2	248	45	-	24	28	-	-
9	280	Rect.	-	-	4.7	-	-	-	100	-	-	-
10												

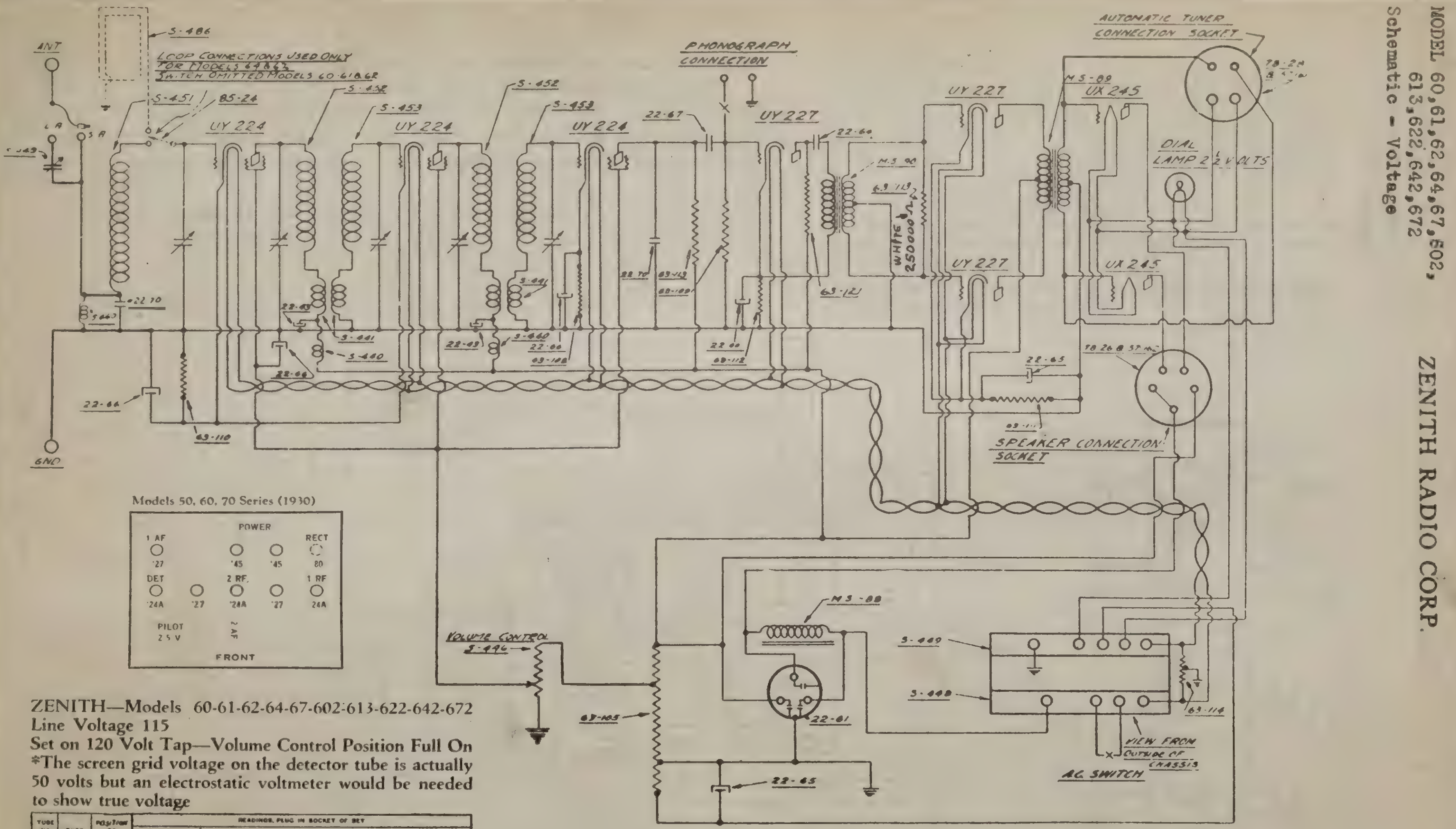
Color Code of Resistors in 50 Series

63-101	50000 ohms	Green
63-109	100000 ohms	Red
63-110	400 ohms	Yellow
63-111	2000 ohms	Black
63-112	4000 ohms	Blue
63-113	250000 ohms	White
63-121	100000 ohms	Pink

The voltage divider 63-105 has a total resistance of 6000 ohms tapped at 850 ohms from one end and 2800 ohms from the other end. The remaining section has a resistance of 2350 ohms. Marshon filter units are used.

MODEL 60,61,62,64,67,602,
613,622,642,672
Schematic - Voltage

ZENITH RADIO CORP.


ANT
GND
S-486
LOOP CONNECTIONS USED ONLY FOR MODELS 64&67
SWITCH OMITTED MODELS 60-61&62
S-451
85-24
S-452
S-453
UY 224
UY 224
UY 224
22-70
22-66
22-64
63-110
22-63
S-441
S-440
22-60
63-108
22-67
22-70
63-113
63-109
22-60
63-112
PHONOGRAPH CONNECTION
UY 227
22-64
M.S. 90
63-113
WHITE 250000 Ω
63-121
UY 227
UY 227
M.S-89
UX 245
UX 245
AUTOMATIC TUNER CONNECTION SOCKET
DIAL LAMP 2½ VOLTS
22-65
63-111
SPEAKER CONNECTION SOCKET
VOLUME CONTROL S-496
63-105
M.S-88
22-61
22-65
S-449
S-448
63-114
VIEW FROM OUTSIDE OF CHASSIS
A.C. SWITCH
POWER
1 AF
'27
'45
'45
RECT
80
DET
'24A
'27
2 RF
'24A
'27
1 RF
24A
PILOT
2.5 V
2 AF
FRONT

Models 50, 60, 70 Series (1930)

ZENITH—Models 60-61-62-64-67-602-613-622-642-672
Line Voltage 115
Set on 120 Volt Tap—Volume Control Position Full On
*The screen grid voltage on the detector tube is actually 50 volts but an electrostatic voltmeter would be needed to show true voltage

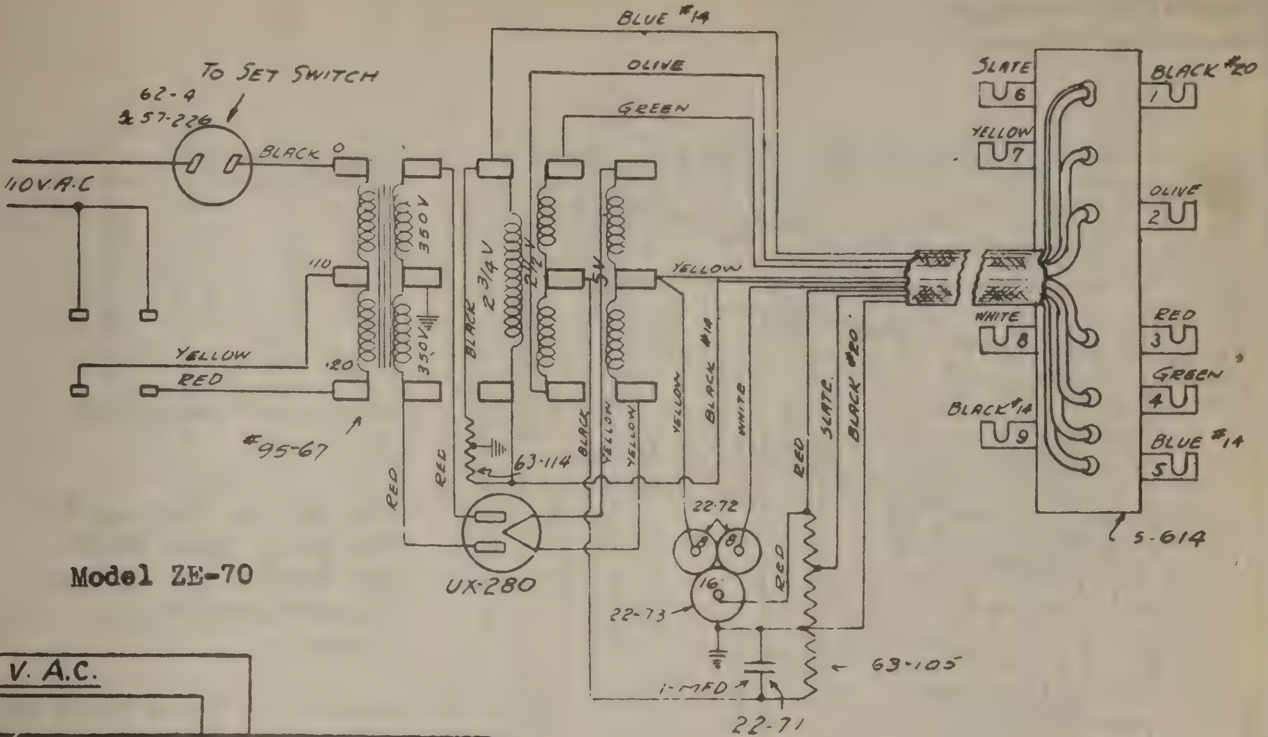
Tube No in Order ①	Type of Tube ②	Position of Tube 1st RF Det. etc ③	Readings, Plug in Socket of Set									
			Tube Out		Tube in Tester							
			A Volts ④	B Volts ⑤	A Volts ⑥	B Volts ⑦	C Volts (Control Grid) ⑧	Cathode-Heater Volts ⑨	Normal Plate M A ⑩	Plate M A Grid Test ⑪	Plate Change M A ⑫	Screen Grid Volts ⑬
1	224	1 R.F.	—	—	2.4	175	1	2	1.6	2.8	1.2	50
2	224	2 R.F.	—	—	2.4	175	1	2	1.6	4	2.4	50
3	224	Det.	—	—	2.4	90	5	5	0	0	0	*
4	227	1 A.F.	—	-	2.4	55	2	2	1	1.2	.2	-
5	227	2 A.F.	—	-	2.4	143	14	14	4.3	5.7	1.4	-
6	227	2 A.F.	—	-	2.4	143	14	14	4.3	5.7	1.4	-
7	245	3 A.F.	—	-	2.2	248	45	-	24	28	4	-
8	245	3 A.F.	—	-	2.2	248	45	-	24	28	4	-
9	280	Rect.	-	-	4.7	-	-	-	100	-	-	-
10	—	—	-	-	-	-	-	-	-	-	-	-

SINGLE VOLUME CONTROL
MODELS 60, 61, 62, 602, 612 AND 622 WITHOUT LOOP
MODELS 64, 67, 642 AND 672 WITH LOOP

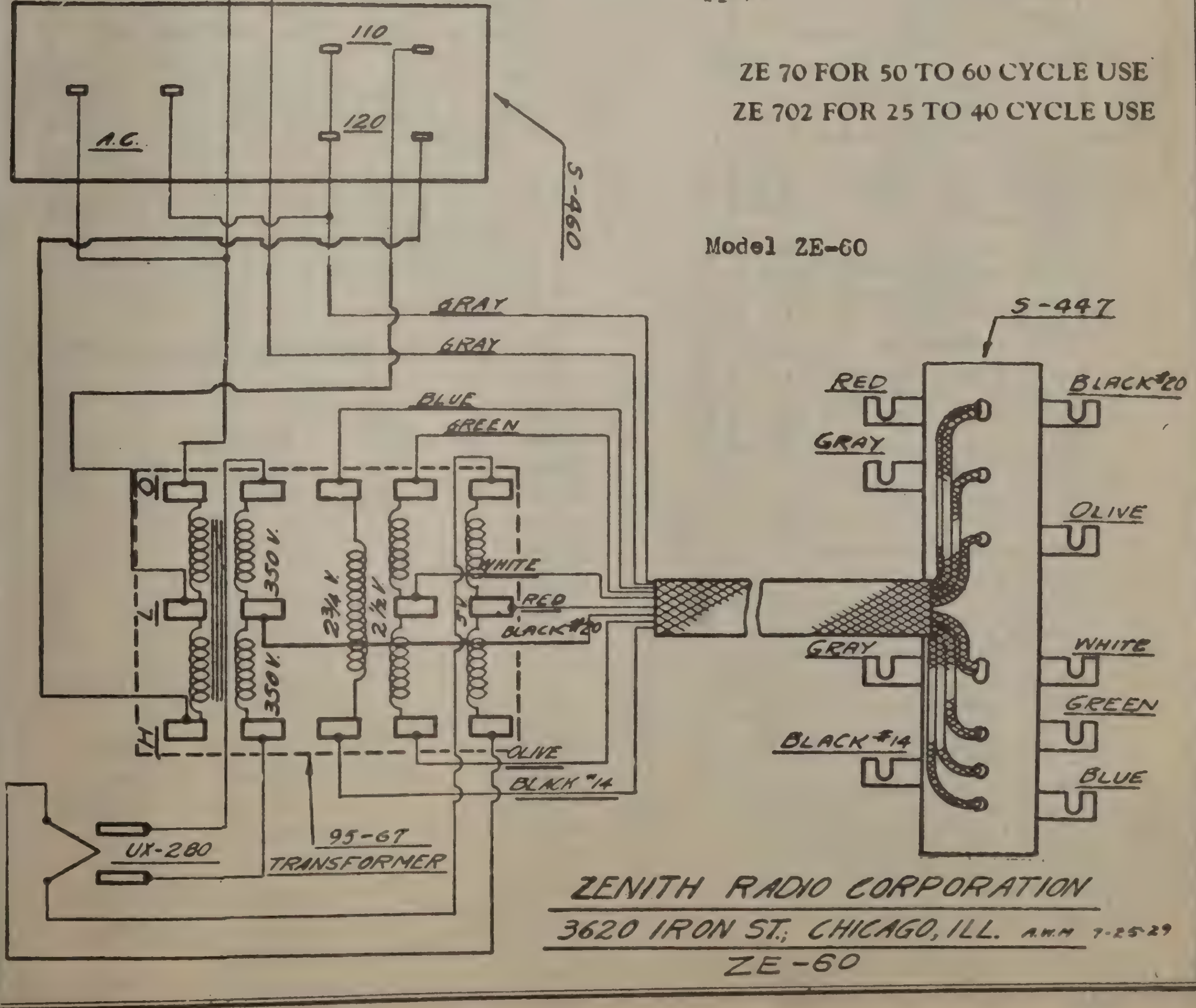
For wiring diagram of
power supply ZE 60 used
with the Series 60 receivers
see index

ZENITH RADIO CORP.

MODEL ZE-60
MODEL ZE-70


BLUE #14
OLIVE
GREEN
To Set Switch
62-4
& 57-226
BLACK 0
110V.A.C
110
.20
YELLOW
RED
#95-67
350 V
350 V
BLACK
2 3/4 V
2 1/2 V
5V
YELLOW
RED
RED
63-114
BLACK
YELLOW
YELLOW
YELLOW
BLACK #14
WHITE
RED
SLATE
BLACK #20
UX-280
22-72
8
8
16
RED
22-73
1-MFD
22-71
63-105
SLATE 6
YELLOW 7
WHITE 8
BLACK #14 9
BLACK #20 1
OLIVE 2
RED 3
GREEN 4
BLUE #14 5
S-614

Model ZE-70


115 V. A.C.
110
120
A.C.
S-460
GRAY
GRAY
BLUE
GREEN
350 V.
350 V.
2 3/4 V
2 1/2 V
5V
WHITE
RED
BLACK #20
OLIVE
BLACK #14
UX-280
95-67
TRANSFORMER
S-447
RED
GRAY
GRAY
BLACK #14
BLACK #20
OLIVE
WHITE
GREEN
BLUE

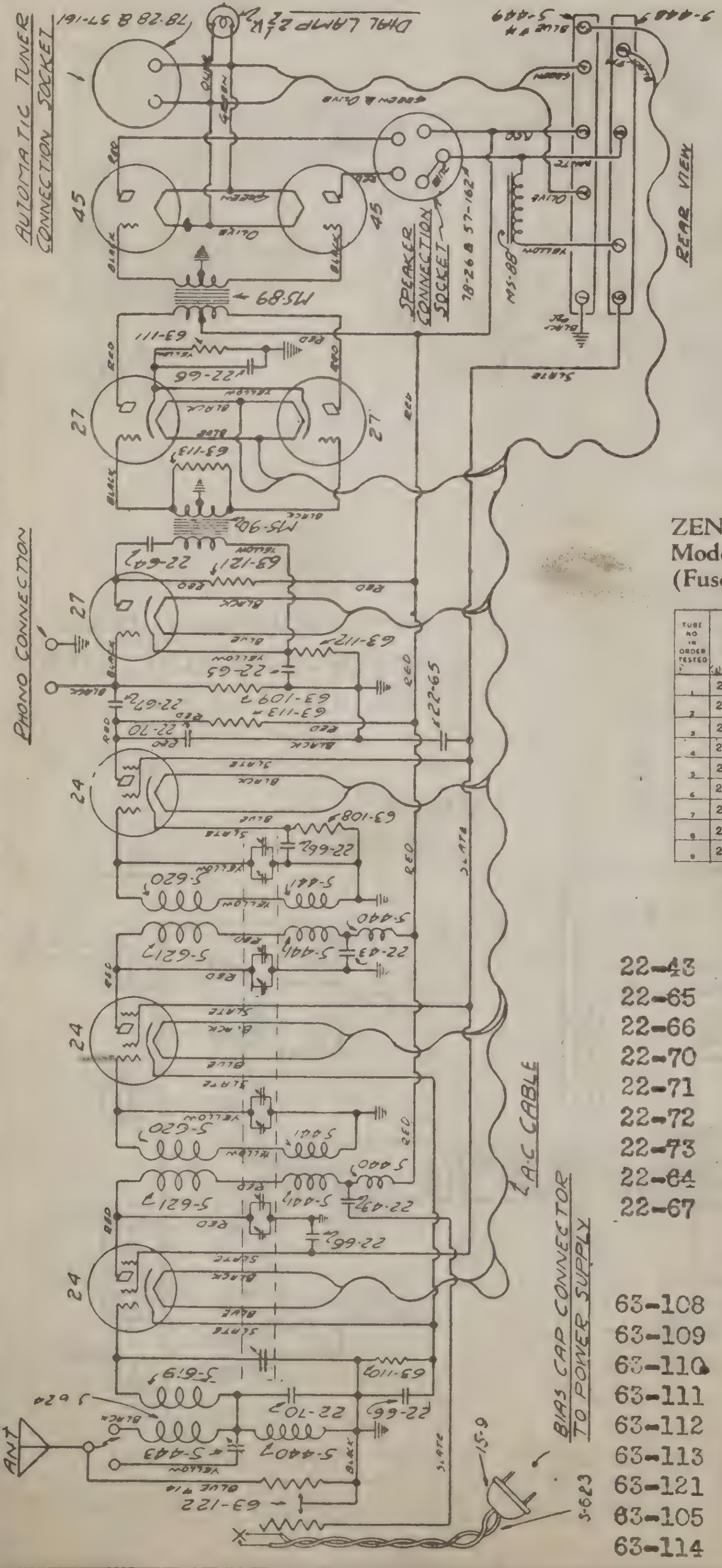
ZE 70 FOR 50 TO 60 CYCLE USE
ZE 702 FOR 25 TO 40 CYCLE USE

Model ZE-60

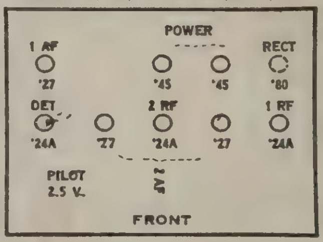
ZENITH RADIO CORPORATION
3620 IRON ST.; CHICAGO, ILL. A.W.H. 7-25-29
ZE-60

MODEL 71,72,73,77,712,
722,732,777
Schematic - Voltage
Electrical Values

ZENITH RADIO CORP.


AUTOMATIC TUNER CONNECTION SOCKET
DIAL LAMP 2½V
78-28 B 57-161
45
45
SPEAKER CONNECTION SOCKET
78-26 B 57-162
REAR VIEW
S-449
S-448
MS-89
MS-88
63-111
22-66
27
27
63-113
MS-90
PHONO CONNECTION
63-121
22-64
63-112
22-65
22-67
63-109
63-113
22-70
24
63-108
22-66
S-620
S-441
S-440
S-621
22-43
24
S-620
S-441
S-440
S-621
22-43
22-66
24
S-619
63-110
22-70
22-66
S-443
S-440
63-122
ANT
A.C CABLE
BIAS CAP CONNECTOR TO POWER SUPPLY
15-9
S-623
RED
BLACK
SLATE
BLUE
YELLOW
GREEN
OLIVE

Models 50, 60, 70 Series (1930)


POWER
1 AF
'27
'45
'45
RECT
'80
DET
'24A
'27
2 RF
'24A
'27
1 RF
'24A
PILOT
2.5 V.
FRONT

For wiring diagram of the power pack ZE-70 and ZE-702 for series 70 receivers see Index

ZENITH—Models 71, 72, 73 and 77—60 Cycle
Models 712, 722, 732 and 777—25 Cycle
(Fuse in 110 Volt Clips—Line Volts 110)

TUBE NO IN ORDER TESTED ①	TYPE OF TUBE ②	POSITION OF TUBE IN SET ③	METER READINGS WITH JEWELL TEST PLUG IN SOCKET OF SET								
			OPERATING VOLTAGES					MILLIAMPERES			
			④ FILAMENT OR HEATER	⑤ PLATE OR ANODE	⑥ CONTROL GRID—SPACE GO +	⑦ NORMAL GRID—SCREEN GO +	⑧ CATHODE TO HEATER	⑨ SCREEN GD L H 80 PLATE	⑩ PLATE R H 80 PLATE	⑪ TUBE TEST	⑫ PLATE CURRENT CHANGE
1	224	1 R.F.	2.5	185	2	55	2.5	-	2.5		
2	224	2 R.F.	2.5	185	2	55	2.5	-	3.0		
3	224	Det.	2.5	100	-	5	5	-	.1		
4	227	1 A.F.	2.5	65	-	25	5	-	1.5.		
5	227	PP-2nd	2.5	160	-	13	13	-	3.4		
6	227	PP-2nd	2.5	160	-	13	13	-	3.4		
7	245	PP-PWR	2.3	260	-	52	-	-	38		
8	245	PP-PWR	2.3	260	-	52	-	-	38		
9	280	Rect.	5.0	-	-	-	-	-	-		

CONDENSER SPECIFICATIONS

22-43	.25 mf	(2)
22-65	1.	(double)
22-66	.2	(quadruple)
22-70	.001	(2)
22-71	1.	
22-72	8.	(2)
22-73	16.	
22-64	.03	
22-67	.15	

RESISTOR SPECIFICATIONS

63-108	50000 ohms	Green
63-109	100000 ohms	Red
63-110	400 ohms	Yellow
63-111	2000 ohms	Black
63-112	4000 ohms	Blue
63-113	250000 ohms	White
63-121	100000 ohms	Pink
63-105	voltage divider	
63-114	10 ohms	Center Tap

ZENITH RADIO CORP.

MODEL 70
Tone Control
Installation

INSTALLATION OF TONE CONTROL ON MODEL 70 SERIES

Remove variable condenser shield. Unsolder lead from lower terminal on rocking stator and pull this lead through the base to under side of chassis.

Turn chassis up side down; remove the two machine screws from rear side of coil assembly base on the first R. F. coil can only

With chassis inverted, multicord terminal strip facing the operator, remove the one machine screw from right hand end of chassis which is screwed through the chassis frame and into the R. F. coil assembly base.

Unsolder the two remaining leads, coming from the first R. F. coil can; the one at the antenna choke terminal; the other at the S. A. tip jack; also the copper shielding on lead going through 1st R. F. coil can.

The R. F. coil assembly base may now be forced back about one-half inch and this will permit the 1st R. F. coil can and its bas to be lifted upward from the chassis.

Measure off a point midway between the volume control shaft and the rocking stator shaft centers; and 15/16" from chassis bottom (base plate removed.)

Center punch and drill a .378" dia. hole to take the 500,000 ohm variable resistor tone control shaft, and mount so soldering terminals on same point toward, and are next to the volume control.

Be sure the Textolite Insulating Strip is attached to the back of the tone control unit to prevent the terminals from shorting out when the R. F. coil can is again installed.

Mount the .01 mfd. fixed condenser by soldering one of its terminals directly to one of the outside terminals of the six point audio transformer; be sure to get the secondary side, or grid of the 245 output tube.

This condenser will be self-supporting.

Wire from the remaining .01 fixed condenser terminal to anyone of the two terminals on the variable resistance tone control unit

Wire from the remaining terminal on this unit to the other side of the same secondary winding direct on six point audio transformer, or grid of the other 245 output tube.

Technically speaking this produces a series circuit consisting of a .01 mfd. fixed condenser and a 500,000 ohm variable resistor in shunt to the secondary circuit of the six point audio transformer, or from grid to grid of the 245 output tubes.

Run your two twisted leads through the slot in the R. F. coil assembly base, behind and to the right of the 1st R.F. socket (still viewing the chassis as before - inverted.)

Press the Textolite Insulating Strip on the back of the tone control unit into place and inspect to see that no terminals are shorted.

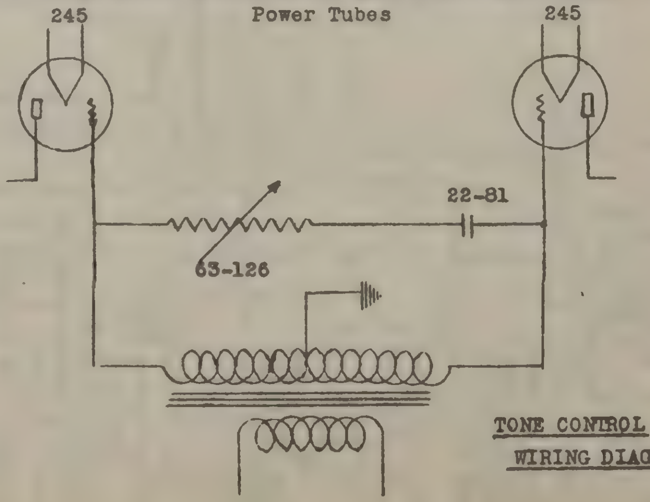
Replace the 1st R.F. coil can and base by first threading through the leads in the assembly base and work the coil can base into place.

Insert the two screws you removed from this point on the base Force the coil assembly base back into position, and insert the machi screw into same through chassis end.

Resolder all leads previously removed and put condenser shiel in place. Be sure to resolder the copper shielding on the lead from 1st R.F. coil can previously unsoldered.

Turning tone control knob clockwise produces the treble effec and counter-clockwise the bass.

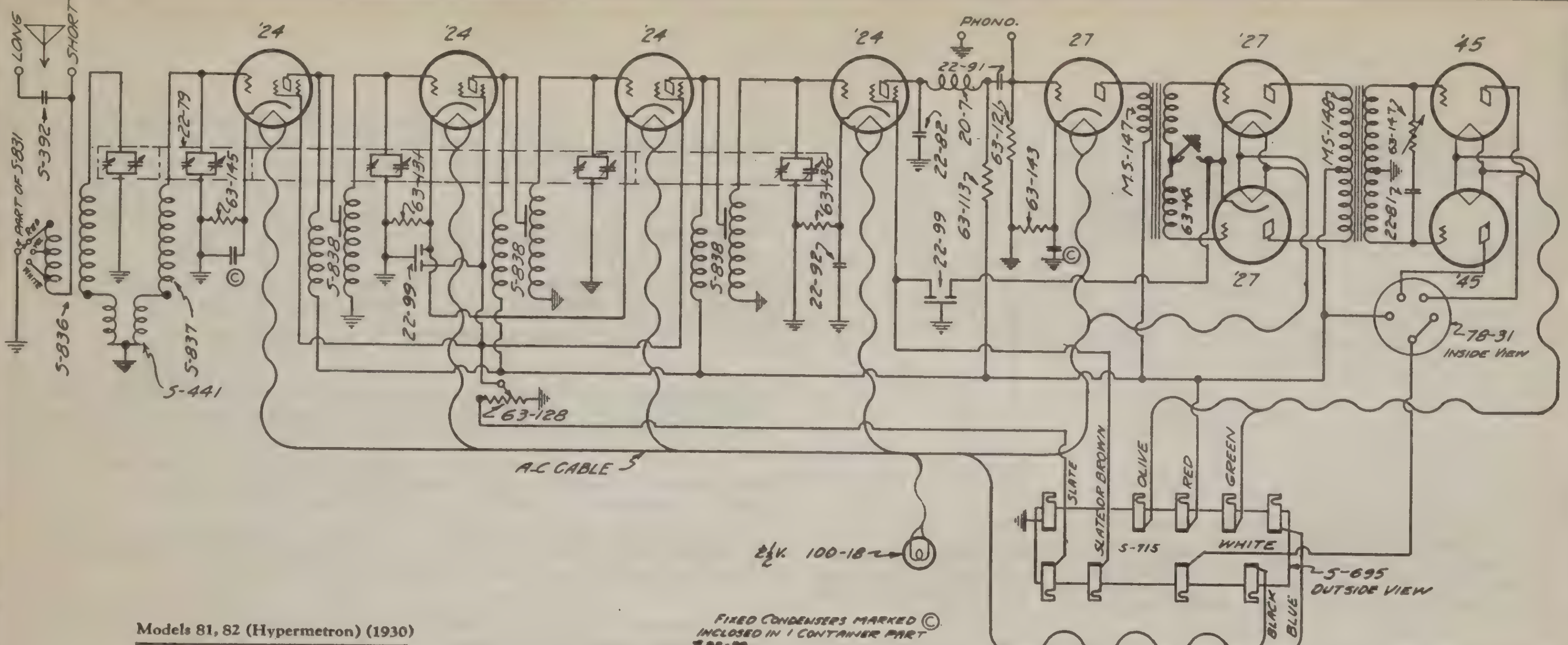
A small tone control escutcheon plate will be included and should be mounted on the cabinet panel to read correctly, the cabinet panel having been drilled with a 5/8" hole 1 1/16" from base centrally located between the resonance and volume controls.



TONE CONTROL
WIRING DIAGRAM

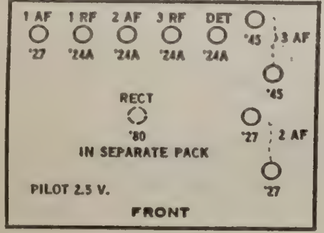
MODEL 80 Hypermetron
Schematic

ZENITH RADIO CORP.


LONG
SHORT
PART OF S-831
S-392
S-836
S-837
S-441
WHITE
'24
'24
'24
'24
22-79
63-145
63-134
S-838
S-838
S-838
22-99
63-136
22-92
63-128
A-C CABLE
PHONO.
22-91
20-7
22-82
63-121
63-113
22-99
63-143
27
MS-147
63-144
'27
'27
MS-148
63-147
22-81
'45
'45
78-31
INSIDE VIEW
SLATE
SLATE OR BROWN
OLIVE
RED
GREEN
WHITE
S-715
S-695
OUTSIDE VIEW
BLACK
BLUE
2½V. 100-18

FIXED CONDENSERS MARKED ©
INCLOSED IN 1 CONTAINER PART
#22-99

Models 81, 82 (Hypermetron) (1930)


1 AF
1 RF
2 AF
3 RF
DET
'27
'24A
'24A
'24A
'24A
'45
3 AF
'45
RECT
'80
IN SEPARATE PACK
'27
2 AF
'27
PILOT 2.5 V.
FRONT

ZENITH RADIO CORP.
CHICAGO, ILL.
MODEL 80 [illegible]
HYPERMETRON

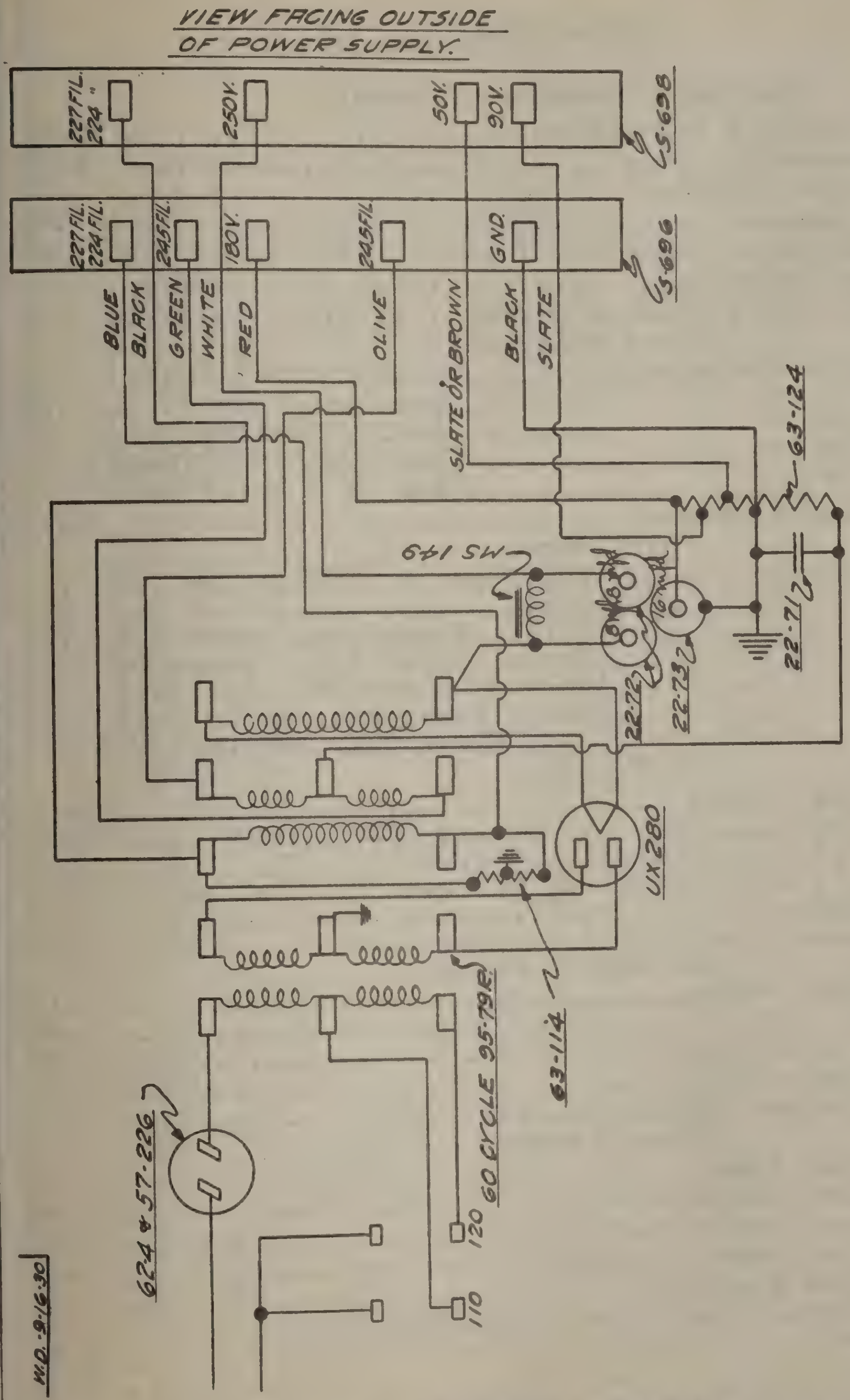
COLOR CODE		
SIZE	COLOR	USED FOR
#20	RED	+180. R.F. & A.F. PLATE LEAD.
#20	WHITE	+250 FILTER CHOKE.
#20	YELLOW	AUDIO CATHODES.
#20	SLATE	SCREENS & CATHODES R.F.
#20	BLACK	AUDIO GRID LEADS, GR'D COMMON.
#20	GREEN & OLIVE	POWER FILA'S. & PILOT LIGHT.
#14	BLACK	224 & 227 FILAMENTS.
#14	BLUE	" " "
#20	BROWN OR SLATE	224 DET. SCREEN.

MODELS 82, 89 (60 cycle) and 822, 892 (25 cycle) ZENITH HYPER METRON RECEIVERS.

Models **82** and **89** Zenith Receivers operate on 105 to 125 volts, 50 to 60 cycle alternating current. Models 822 and 892 operate on 105 to 125 volts, 25 to 40 cycle alternating current (A. C.) The power supply ZE80 is used on 50 to 60 cycle current. The power supply ZE**802** is used on 25 to 40 cycle current

ZENITH RADIO CORP.

MODEL ZE-80
Schematic
Parts List


VIEW FACING OUTSIDE OF POWER SUPPLY.
227 FIL. 224 "
250 V.
50 V.
90 V.
S-698
227 FIL. 224 FIL.
245 FIL.
180 V.
245 FIL.
GND
S-696
BLUE
BLACK
GREEN
WHITE
RED
OLIVE
SLATE OR BROWN
BLACK
SLATE
63-124
MS 149
22-71
22-72
22-73
UX 280
63-114
60 CYCLE 95-79 R.
624 + 57-226
120
110
W.D. 9-16-30

POWER SUPPLY - ZE 80

22-71	1. mf Condenser..........(Power Bias)..........		1.10
22-72	8. " " ....(Electrolytic)..........		2.50
22-73	16. " " ....(Electrolytic)..........		5.50
Note:	16 mf Condenser can be identified by Blue marking on anode		
63-114	10 Ohm Center Tap Resistor..........		.40
63-124	10,450 " Voltage Divider..........		1.60
57-226	Bias Plate..........		.04
57-242	Bias Socket & Guide Plate..........		.01

78-32	Four Prong Socket for Rectifier..........	.15
95-79	Power Transformer..........(60 Cycle)..........	9.00
95-93	Power Transformer..........(25 Cycle)..........	13.50
136-2	2 Amp Fuse..........	.10
S-696	Terminal Strip Assem..........(Five)..........	.70
S-698	Terminal Strip Assem..........(Four)..........	.70
S-700	Fuse Receptacle & A.C. Outlet Plate..........	.20
MS-149	Power Choke..........	3.50

MODEL 80 Hypermetron
Parts List

ZENITH RADIO CORP.

HYPERMETRON

Variable Condenser Assembly

22-79	Five Gang Variable Condenser	20.00
S-829	Dial Drum Assembly	1.50
26-21	Calibrated Dial Strip	.20
S-703	Dial Lamp Bracket	.45
100-18	2½ Volt Dial Lamp	.25
11-2	Dial Control Cable	.05
80-70	Dial Control Cable Tension Spring	.01

Fixed Condensers

22-81	Single .01 mf Condenser (Tone Control Cond.)	.85
22-82	Single .001 " " (Detector Plate)	.30
22-91	Single .03 " " (Audio Coupling)	.50
22-92	Single .5 " " (Det. Cathode Bypass	.75
22-99	Dual .1 " " (2nd RF & Det.Bypass	.75
S-392	Antenna Series Condenser	.10

Resistors

63-113	250M Ohm Resistor (Red,Green End,Yellow Dot)	.35
63-121	100M " " (Pink)	.35
63-131	400 " " (Yellow,Black End, Brown Dot	.35
63-136	50M " " (Green, Black End, Orange Do	.35
63-143	4M " " (Yellow, Black End, Red Dot)	.35
63-145	800 " " (Gray, Black End, Brown Dot)	.35
63-146	2000 " " (Red, Black End, Red Dot)	.35

R.F.Coils

S-441	R. F. Coupling Coil	1.00
S-836	Preselector Coil (Coil Only)	1.40
S-837	1st R. F. Coil (" ")	1.00
S-838	2nd, 3rd R. F. & Det. Coils (" ")	1.00
20-7	Detector Choke	.50
20-8	R. F. Choke	.50

Shields & Bases

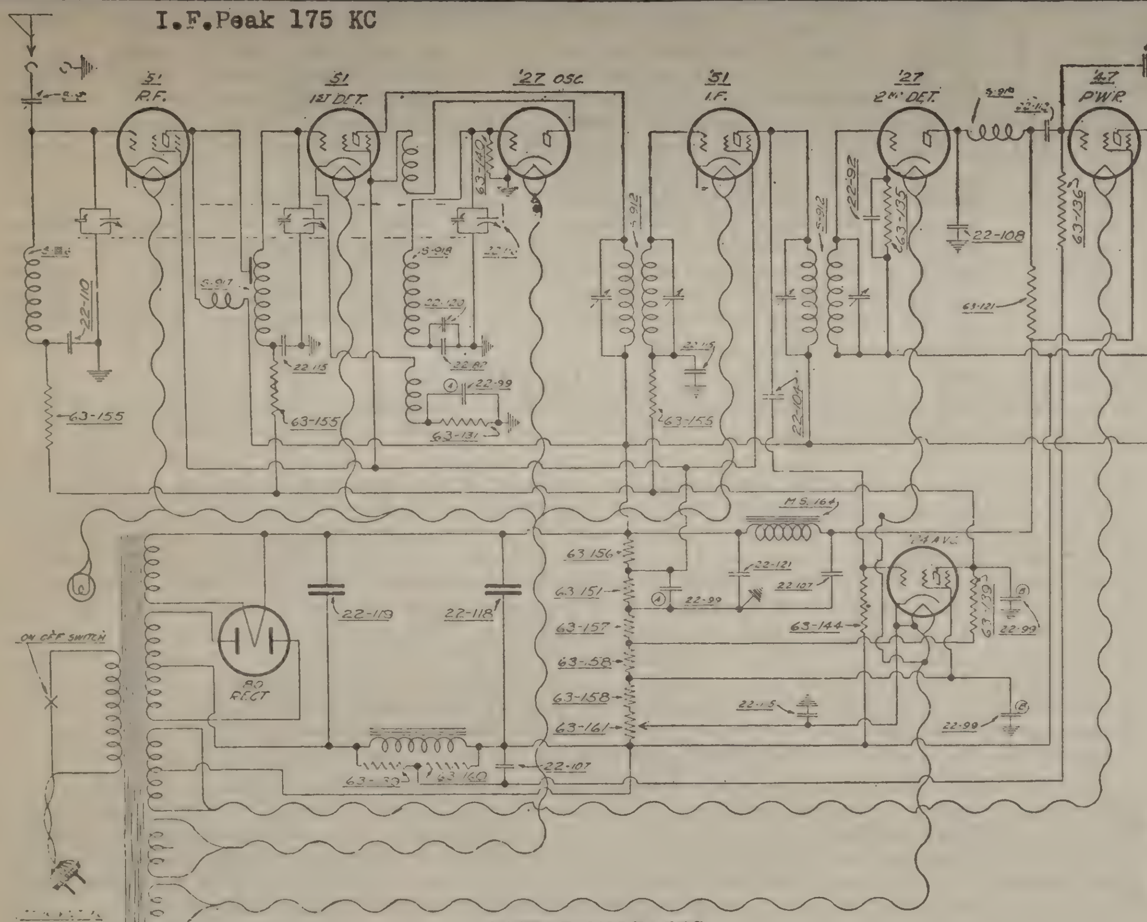
4-87	Tube Shield Can Base	.05
126-62	Coil " " "	.05
126-59	R. F. Coil Shield Can	.25
126-61	Tube Shield Can	.20
MS-153	Variable Condenser Shield	.75

Miscellaneous

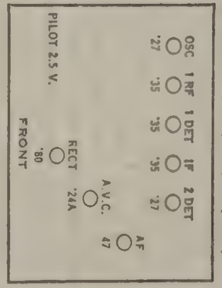
44-4	Phono Connector Base	.30
78-30	Five Prong Floating Socket	.20
78-31	Five Prong Stationary Socket	.20
78-32	Four Prong Stationary Socket	.20
57-161	UY Socket Guide Plate	.01
57-242	Four & Five Prong Socket Guide Plates	.03
63-128	Volume Control	1.50
63-147	Tone Control	1.25
85-26	Three Point Switch Base Less Shaft	.45
143-9	Three Point Switch Bushing with Contact Arm	.35
117-31	Three Point Switch Lever Arm	.01
S-695	Multicord & Terminal Plate Assembly	2.00
S-715	Multicord Terminal Plate Only	.50
52-23	Multicord only	1.25
MS-147	1st Stage Push Pull Transformer (5 Lead)	5.50
MS-148	2nd Stage Push Pull Transformer (6 Lead)	5.50

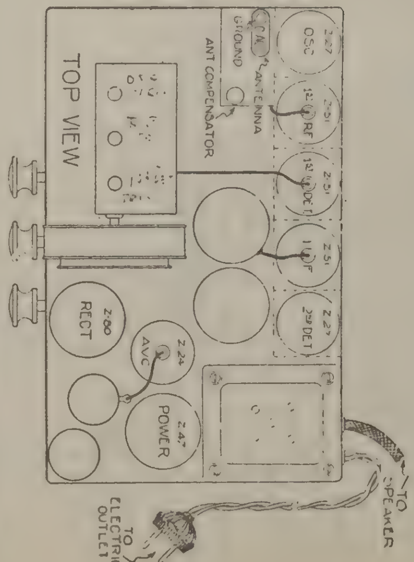
ZENITH RADIO CORP.

MODEL AH,CH,RH
Schematic
Voltage - Chassis


I.F. Peak 175 KC
'51 R.F.
'51 1st DET.
'27 OSC.
'51 I.F.
'27 2nd DET.
'47 PWR.
'24 AVC
'80 RECT
ON OFF SWITCH
22-111
63-154
5-914
22-112
22-108
63-121
63-136
22-92
63-135
5-912
22-104
22-115
63-155
63-140
5-918
22-120
22-80
22-99
63-131
22-110
5-917
M.S. 164
22-121
22-107
63-144
63-139
63-156
63-151
63-157
63-58
63-158
63-161
22-119
22-118
63-130
63-160

Models AH, CH, RH, 90 (1932)


OSC
'27
1 RF
'35
1 DET
'35
IF
'35
2 DET
'27
AF
47
A.V.C.
'24A
RECT
'80
PILOT 2.5 V.
FRONT


Z-27 OSC
Z-51 1st RF
Z-51 1st DET
Z-51 1st IF
Z-27 2nd DET
ANTENNA
GROUND
ANT COMPENSATOR
TOP VIEW
Z-24 AVC
Z-47 POWER
Z-80 RECT
TO SPEAKER
TO ELECTRIC OUTLET

SOCKET VOLTAGES

Type	Position	Fil. Volts	Plate Volts	Control Grid Volts	Cathode Volts	Plate M. A.	S.G. Volts
Z51	R. F.	2.25	170	—.4	0	4.5	64
Z51	1st Det.	2.25	165	—1.5	1.5	3.	62
Z27	Osc.	2.1	55	0	0	4.5	0
Z51	I. F.	2.3	180	—5.6	0	.75	80
Z27	2nd Det.	2.15	160	—14.5	8.5	.80	0
Z47	Power	2.3	250	—15	0	28.	250
Z24	A. V. C.	2.1	8	—.5	0	0	40
Z80	Rect.	4.7	0	0	0	34. ca.	0

Voltage readings taken with a Weston type 566 tester. Manual volume control in maximum position and antenna and ground disconnected. Line voltage 112.

MODELS AH,CH,RH
Parts List
Servicing Data

ZENITH RADIO CORP.

I-F. ADJUSTMENT

The intermediate transformers employed between the 1st detector and I. F. tube and between the I. F. tube and 2nd detector have been accurately peaked to 175 kilocycles on a temperature controlled crystal oscillator before leaving the factory and unless the service man has an oscillator which is accurately calibrated at 175 kilocycles and feels that the intermediates are at fault, their adjustment should never be changed. However, in cases where it is necessary the test oscillator is first set to 175 kilocycles and coupled to the grid terminal of the first detector through a .00025 mf. fixed series condenser. The ground lead of the test oscillator is connected to the ground post of the receiver. (Indicated at point "A" in figure 2.) For this operation the oscillator tube of the receiver should be removed. Do not connect the test oscillator direct to grid of the first detector tube without the series condenser being in the grid lead, since by so doing, the bias resistor will be shorted out. Four adjusting screws are provided under the chassis (see figure 3). These verniers tune the plate circuit of the first detector, grid and plate circuits of the I. F. stage and grid circuit of the 2nd detector. (See wiring diagram.) Beginning at the second detector grid vernier, each adjusting screw is, in turn, set for maximum output. For best results the verniers should be gone over twice in the same rotation, always keeping the output from the test oscillator at the weakest possible strength.

BALANCING CHASSIS

Every Zenette Superheterodyne is carefully balanced on laboratory equipment before the set leaves the factory and should not require further attention. However, in the event that some part of the receiver has been changed or the adjustments shifted by mishandling it may be done as follows: Procure an oscillator which is calibrated to 1500 and 550 kilocycles. It is necessary that it be accurate, otherwise the receiver dial cannot be set properly. It will be best to remove the chassis from the cabinet for this operation in order to reach the oscillator padding condenser adjustment. (See figure 4.) The test oscillator should be coupled to the antenna and ground posts of the receiver by the two leads now being furnished by the manufacturers of commercial oscillators. Although very good results may be had simply by judging audibility from the speaker, a more accurate method is to employ an output meter attached to the speaker transformer.

Before balancing any Zenette Superheterodyne the tuning condenser gang should be turned to maximum mesh position, namely the 550 kilocycle end of the scale. When the condenser is turned as far as it will go in this direction the dial index light must point to a position one division or channel beyond the 550 kilocycle line on the dial. If this condition does not already exist the index bracket should be adjusted up or down as the case may be.

The test oscillator should first be set to exactly 1500 kilocycles and attached to the antenna and ground posts, after which the receiver dial is also set to the 1500 kilocycle marking. With the manual volume control set to maximum volume, the oscillator trimmer (see figure 3) is adjusted to give maximum response in the speaker or greatest deflection of the output meter, if one is used. This vernier is extremely sharp and, therefore, great care should be used in its adjustment. The first detector section is next (see figure 3). This is the right hand section from the front. Its trimmer must also be varied for maximum response.

It will be noted that the center section of the condenser gang does not have a vernier adjustment. This is provided by the antenna compensating condenser. This section will automatically resonate by adjusting the antenna compensator after the set is connected to the aerial which is to be permanently employed. It is done by tuning to a very weak station at between 1500 and 1300 kilocycles on the dial and turning the manual volume control to the position of maximum volume. The compensator knob varies the capacity of a small series condenser and should be turned for greatest signal strength by turning first to the right and then to the left and allowed to stay at a point of maximum volume.

After making the above adjustment at 1500 kilocycles it will be necessary to then set the test oscillator at 550 kilocycles. Tune the set to 550 kilocycles and rock the receiver dial back and forth over the test oscillator signal at the same time adjusting the oscillator padder condenser (see figure 4). An adjustment of the padder will be found which gives maximum output. When this has been done it is necessary to go back to 1500 kilocycles on both the test oscillator and the dial and readjust the oscillator vernier if necessary.

In case a test oscillator is not available the service man may use a weak station on the low frequency end and another station on the high frequency end with the manual volume control in the maximum position.

RESISTORS

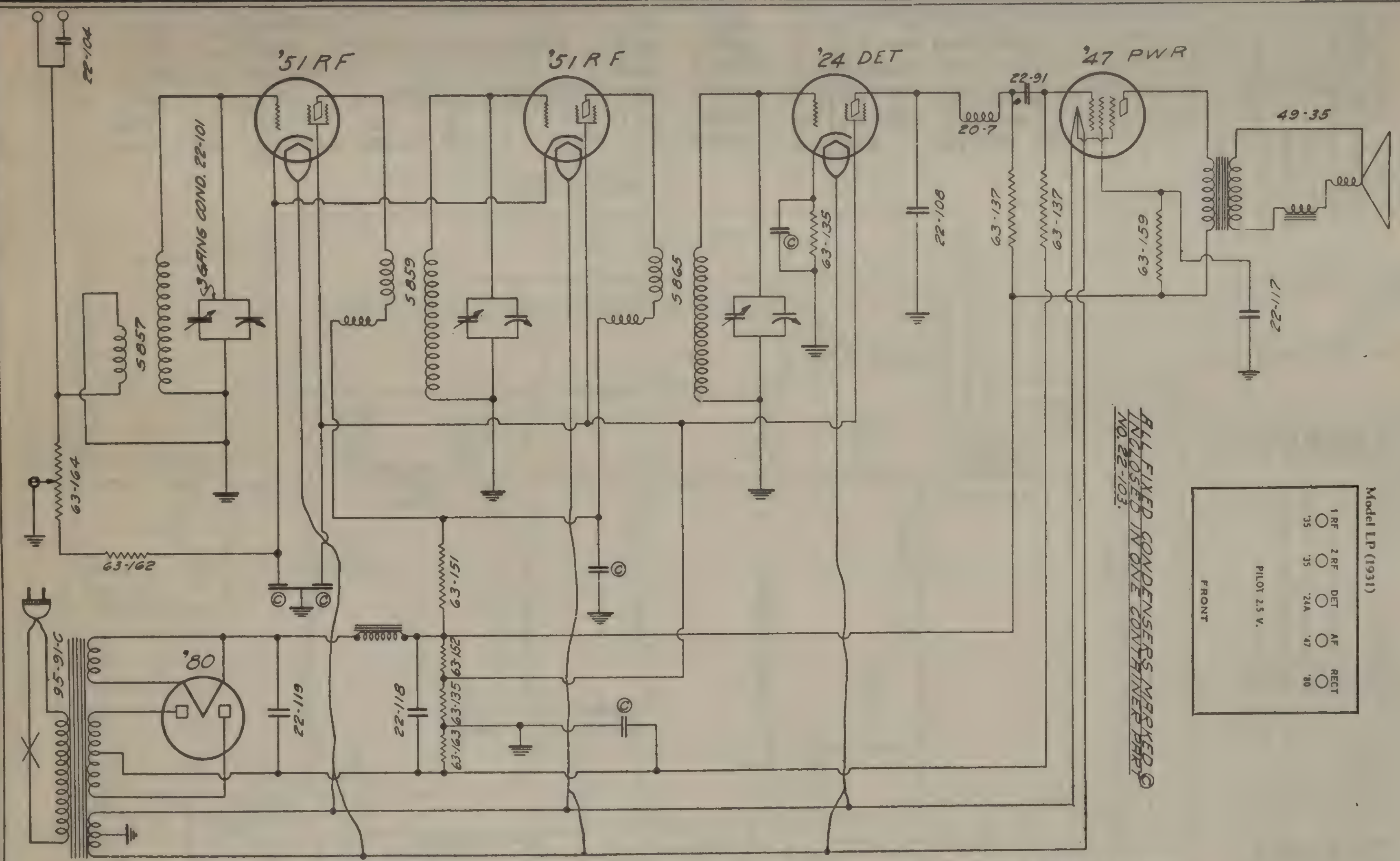
No.	PART	DESCRIPTION
63-121	100M ohm Detector Plate	Brown, black end, yellow dot.
63-131	400 ohm 1st Det. Cathode	Yellow, black end, brown dot.
63-135	25M ohm	Red, green end, orange dot
63-136	50M ohm Power Tube Grid	Green, black end, orange dot
63-139	500M ohm A. V. C. Plate	Green, black end, yellow dot
63-140	1 meg. ohm Osc. Grid	Brown, black end, green dot
63-144	3 meg ohm A. V. C. Grid	Orange, black end, green dot.
63-151	15M ohm Voltage Divider	Brown, green end, orange dot.
63-155	1M ohm R. F. 1st Det. I. F.	Brown, black end, red dot
63-156	10M ohm Voltage Divider	Brown, black end, orange dot
63-157	100 ohm Voltage Divider	Brown, black end, brown dot
63-158	1700 ohm Voltage Divider	Brown, purple end, red dot
63-160	100M ohm Power Tube Bias	Brown, black end, yellow dot.

CONDENSERS

No.	PART
22- 82	.001 mf
22- 92	.5 mf
22- 99	.1 mf (Dual)
22-104	.0001 mf
22-107	.5 mf
22-108	.001 mf
22-110	.1 mf
22-111	.03 mf
22-112	.1 mf
22-115	1 mf
22-118	6. mf Electrolytic L.V.
22-119	6. mf Electrolytic H.V.
22-121	8. mf

MODEL LP
Schematic
Parts List

ZENITH RADIO CORP.


'51 RF
'51 R F
'24 DET
'47 PWR
'80
22-104
3 GANG COND. 22-101
5857
5859
5865
63-164
63-162
63-151
63-152
63-135
63-163
63-135
22-108
22-91
20-7
63-137
63-137
63-159
49-35
22-117
22-118
22-119
95-91-C
©
Model LP (1931)
1 RF '35
2 RF '35
DET '24A
AF '47
RECT '80
PILOT 2.5 V.
FRONT

ALL FIXED CONDENSERS MARKED © INCLOSED IN ONE CONTAINER PART NO. 22-103.

Resistors

63-135	25M	ohm resistor	(Red, Green end, Orange Dot)
63-137	250M	" "	(" " " Yellow ")
63-151	15M	" "	(Brown " Orange ")
63-152	43M	" "	(Yellow Orange " ")
63-159	4M	" "	(" Black end Red ")
63-162	100	" "	(Flat wire wound black ")
63-163	320	" "	" " " Red ")

Fixed Condensers

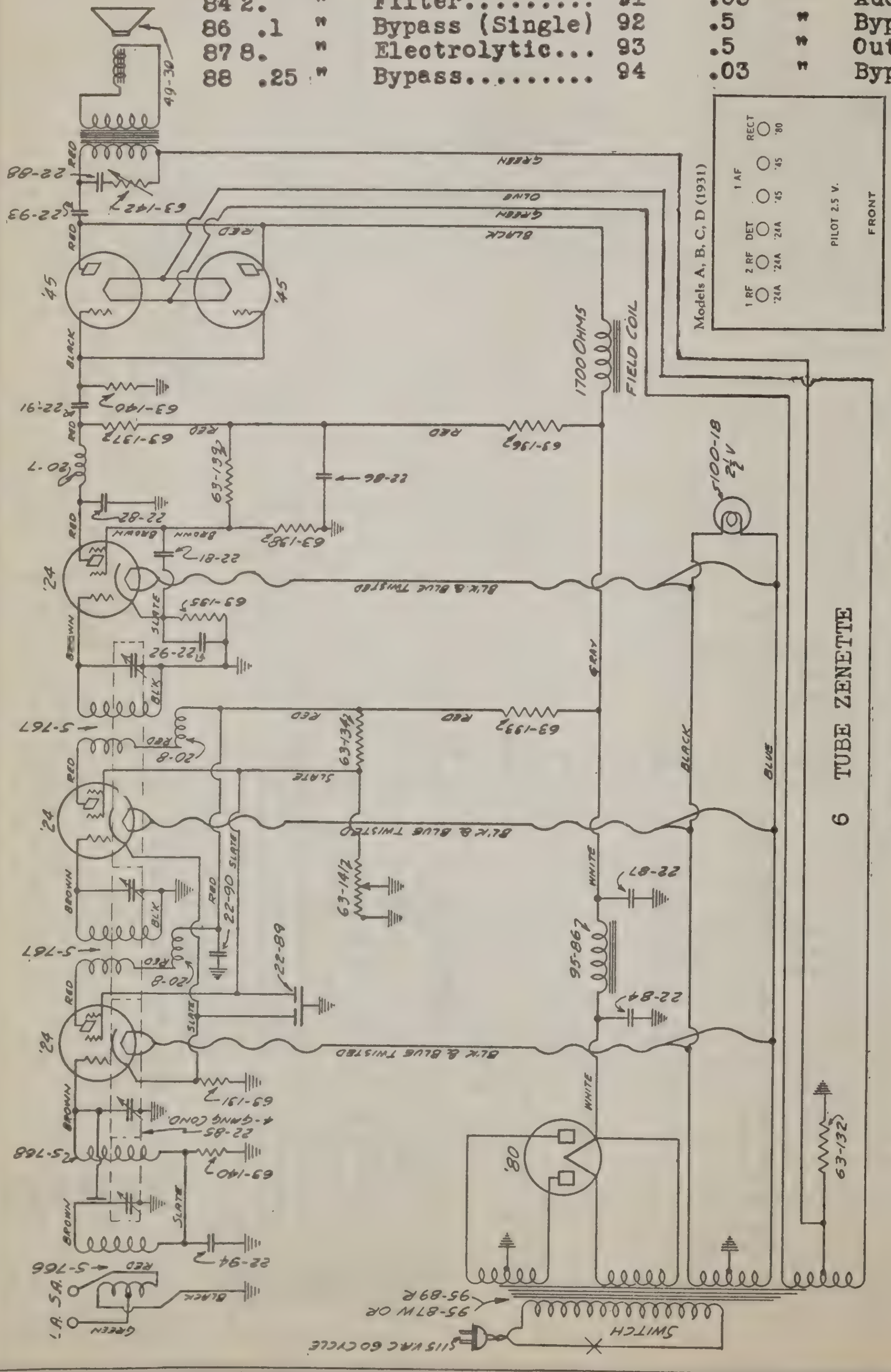
22-91	.03 mfd. condenser
S-392	Antenna series condenser
22-103	Five section bypass condenser
22-108	.002 mfd. condenser
22-117	.5 " (bypass)
22-118	6. " (electrolytic low voltage)
22-119	6. " (" high ")

MODEL 6 Tube Zenette
Chassis A,B,C,D (2004)
Schematic, Parts List

ZENITH RADIO CORP.

CONDENSERS

22-81	.01	mf	Bypass.........	89	.1	"	"	Bypass (Double)
82	.001	"	"	90	.1	"	"	Bypass (Single(
84	2.	"	Filter.........	91	.03	"	"	Audio Coupling.
86	.1	"	Bypass (Single)	92	.5	"	"	Bypass.........
87	8.	"	Electrolytic...	93	.5	"	"	Output.........
88	.25	"	Bypass.........	94	.03	"	"	Bypass.........


49-30
22-88
63-142
22-93
GREEN
OLIVE
GREEN
BLACK
RED
'45
'45
1700 OHMS
FIELD COIL
BLACK
22-91
63-140
63-137
RED
RED
63-136
20-7
63-139
22-86
22-82
63-138
BROWN
22-81
'24
SLATE
63-135
BLK & BLUE TWISTED
26-22
BROWN
BLK
GRAY
S-767
RED
63-134
63-133
RED
20-8
SLATE
'24
BLK & BLUE TWISTED
63-141
BROWN
BLK
RED
22-90
SLATE
WHITE
22-87
S-767
20-8
22-89
95-86
22-84
'24
SLATE
BLK & BLUE TWISTED
BROWN
63-131
4-GANG COND
22-85
S-768
63-140
SLATE
BROWN
22-94
S-766
RED
I.A. S.A.
BLACK
GREEN
WHITE
'80
95-89R
95-87W OR
115 VAC 60 CYCLE
SWITCH
63-132
100-18
2½ V
BLACK
BLUE
6 TUBE ZENETTE
Models A, B, C, D (1931)
1 RF
'24A
2 RF
'24A
DET
'24A
1 AF
'45
'45
RECT
'80
PILOT 2.5 V.
FRONT

RESISTORS

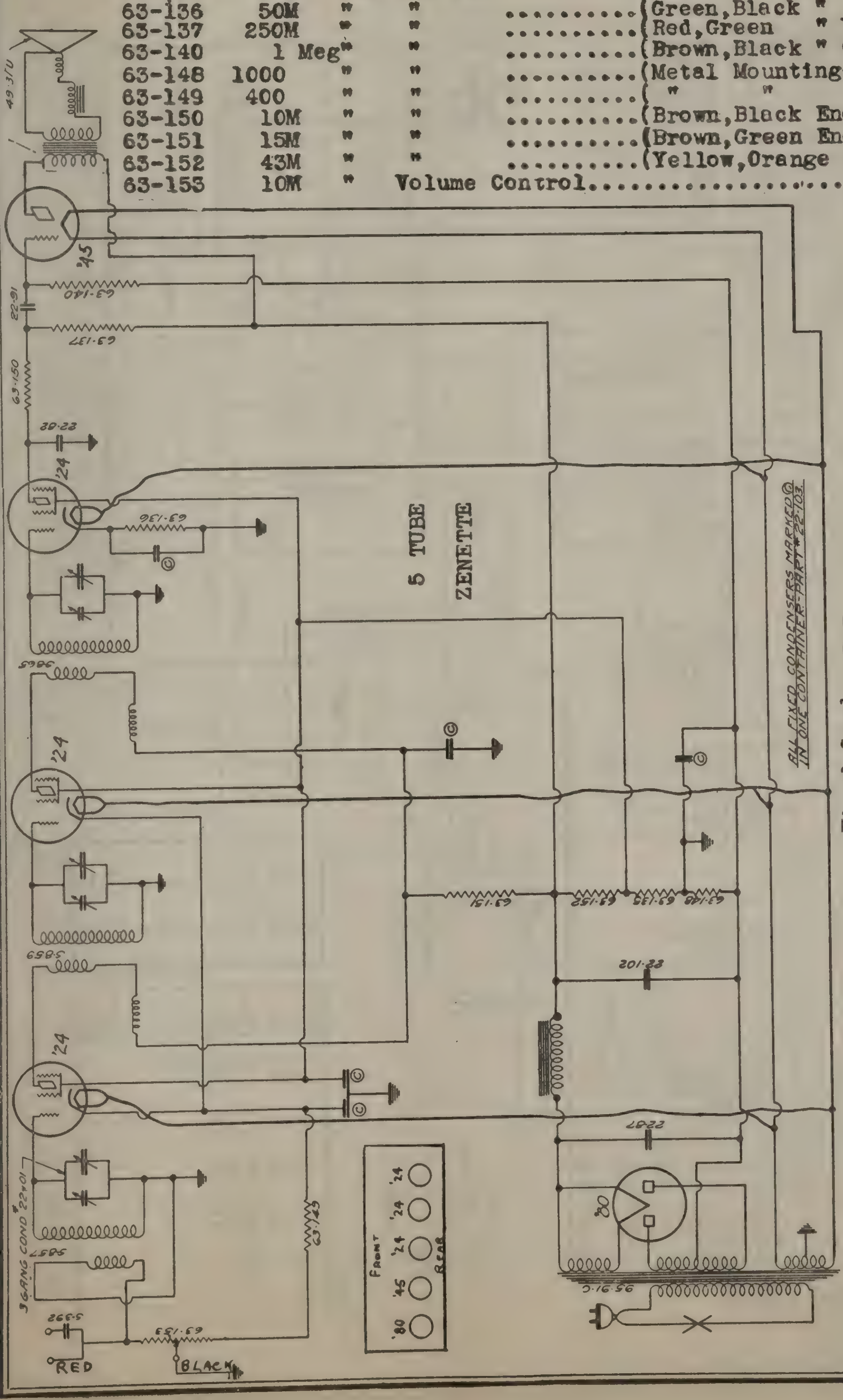
63-131	400	ohm	(Yellow Brown Dot).....	137	250M	"	(Red Yellow Dot).....
132	900	"	(White " ").....	138	350M	"	(Orange Yellow").....
133	25M	"	(Red Orange")Large	139	500M	"	(Green Yellow").....
134	35M	"	(Orange).........	140	1 Meg	"	(Brown).........
135	25M	"	(Red Orange Dot)Small	141	50M	"	Volume Control.........
136	50M	"	(Green).........	142	50M	"	Tone Control.........

ZENITH RADIO CORP.

MODEL 5 Tube Zenette
Type 2009-C
Schematic

Resistors

63-135	25M	Ohm Resistor..........	(Red, Green End, Orange Dot).
63-136	50M	" "	(Green, Black " " ").
63-137	250M	" "	(Red, Green " Yellow ")..
63-140	1 Meg"	"	(Brown, Black " Green ")..
63-148	1000	" "	(Metal Mounting-Large).....
63-149	400	" "	(" " -Small).....
63-150	10M	" "	(Brown, Black End, Orange Dot
63-151	15M	" "	(Brown, Green End " ")
63-152	43M	" "	(Yellow, Orange End" ")
63-153	10M	" Volume Control..................	


49-310
'45
22-91
63-140
63-137
63-150
22-82
'24
63-136
5 TUBE
ZENETTE
9865
'24
63-151
63-152
63-135
63-148
ALL FIXED CONDENSERS MARKED © IN ONE CONTAINER-PART #22-103.
201-23
5853
'24
22-87
80
3 GANG COND #22-101
5857
S-392
63-153
63-123
RED
BLACK
FRONT
REAR
'80
'45
'24
'24
'24

Fixed Condensers

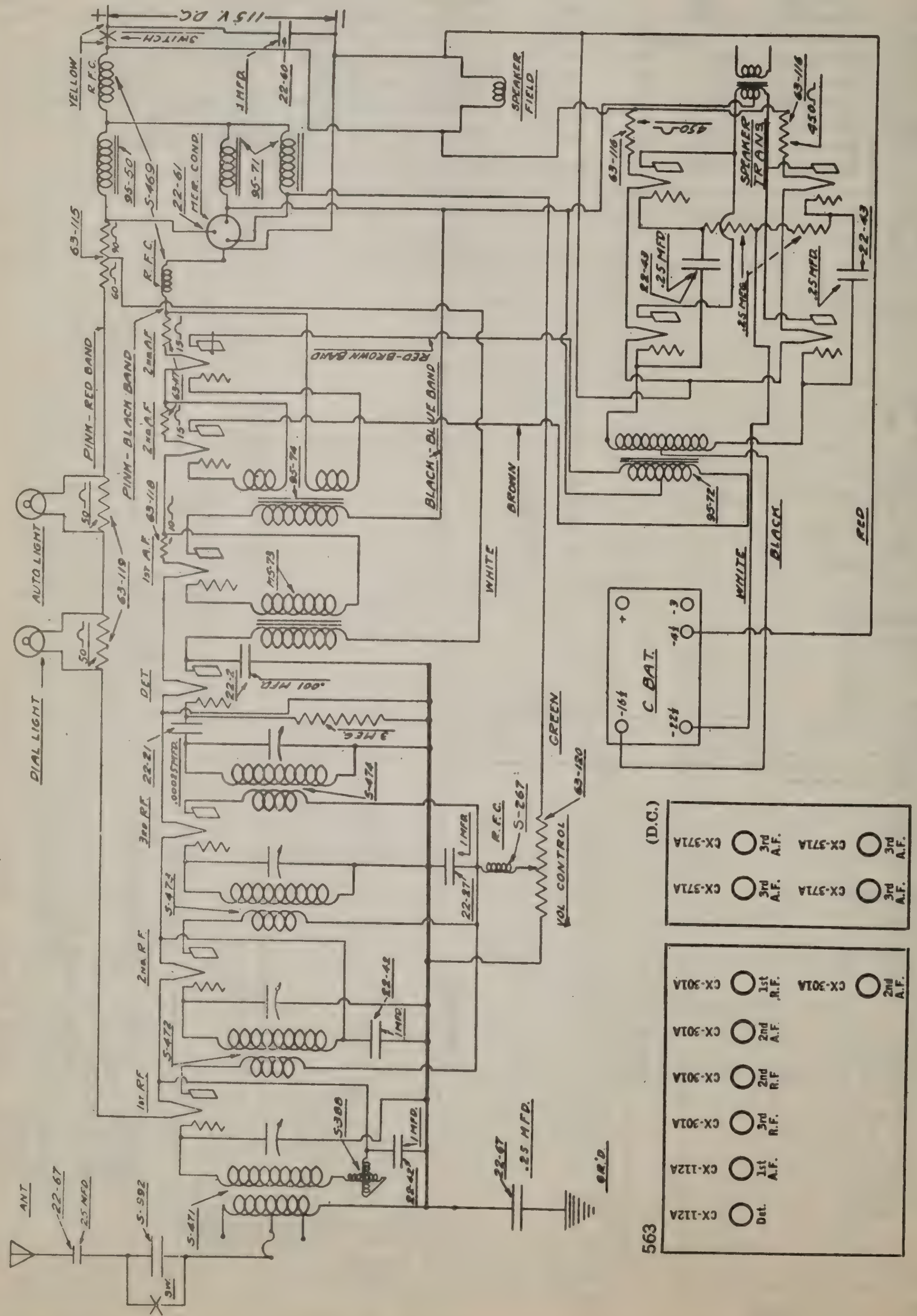
22-82	.001	mf Condenser.........	(Detector Plate)......
22-87	8.	" "	(Electrolytic High Voltage)
22-102	8.	" "	(Electrolytic Low Voltage).

Note: High voltage condenser identified by red dot on anode

22-91	.03	mf Condenser.........	(Audio Coupling)..........
22-100	.08	" "	(Filter Condenser).........
22-103	Five Section Bypass Condenser.................		
S-392	Antenna Series Condenser.................		

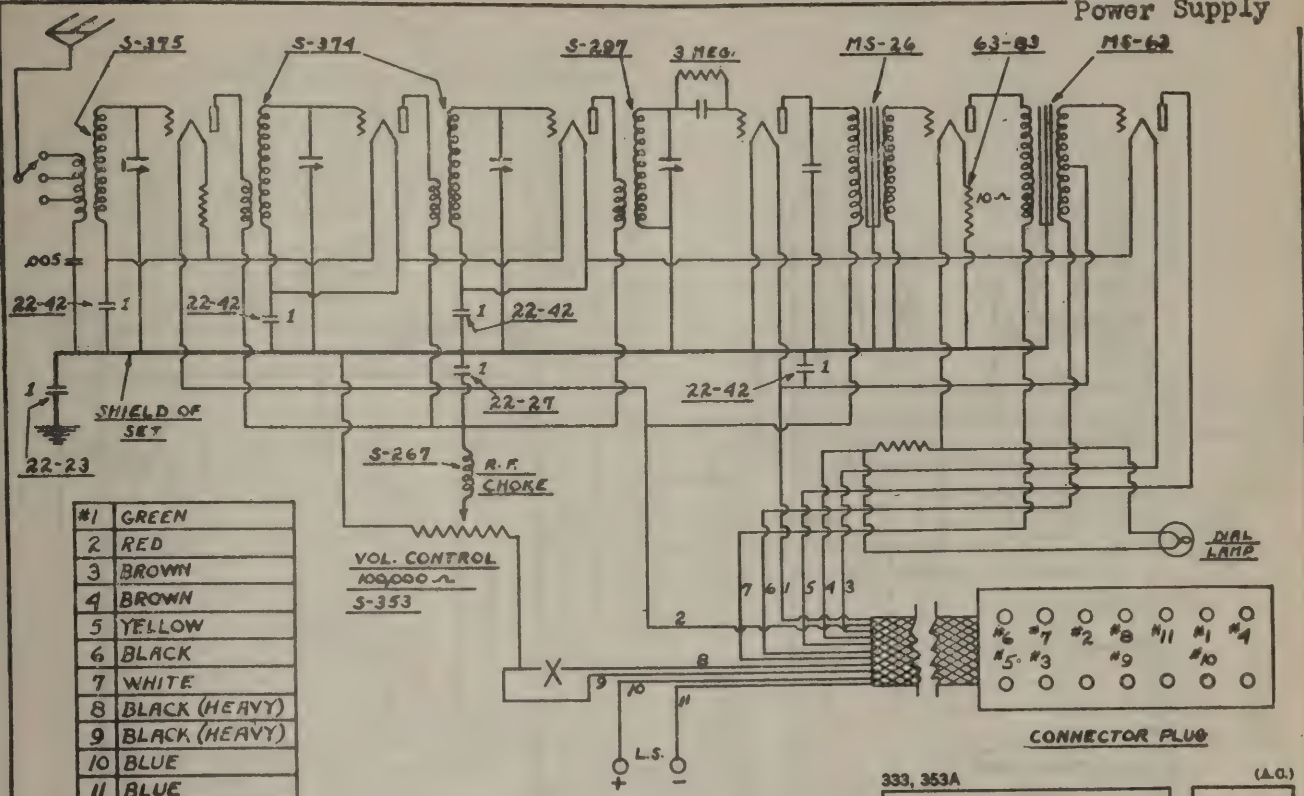
MODEL 563 DC
Schematic

ZENITH RADIO CORP.


115 V. DC
SWITCH
YELLOW
R.F.C.
95-501
S-469
63-115
22-61 MER. COND.
95-71
1 MFD.
22-60
SPEAKER FIELD
63-116
450Ω
SPEAKER TRANS
22-43
.25 MFD
95-72
BLACK
RED
WHITE
C BAT.
+0
-3
-4½
-16½
-22½
GREEN
63-120
VOL CONTROL
R.F.C.
S-267
1 MFD
22-37
BROWN
BLACK-BLUE BAND
RED-BROWN BAND
PINK-RED BAND
PINK-BLACK BAND
2nd A.F.
1st A.F.
63-118
95-74
95-73
DET
22-2
.001 MFD
3 MEG
22-21
.00025 MFD
S-474
3rd R.F.
S-472
2nd R.F.
S-473
22-42
1st R.F.
S-388
ANT
22-67
.25 MFD
S-592
S-471
SW
GR'D
DIAL LIGHT
AUTO LIGHT
63-119
50Ω
(D.C.)
CX-371A 3rd A.F.
CX-371A 3rd A.F.
CX-371A 3rd A.F.
CX-371A 3rd A.F.
563
CX-112A Det.
CX-112A 1st A.F.
CX-301A 3rd R.F.
CX-301A 2nd R.F.
CX-301A 2nd A.F.
CX-301A 1st R.F.
CX-301A 2nd A.F.

ZENITH RADIO CORP.

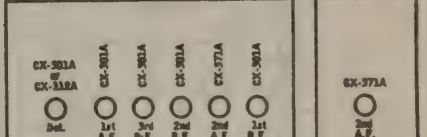
MODEL 333-353A
Schematic
MODEL ZE 17
Power Supply

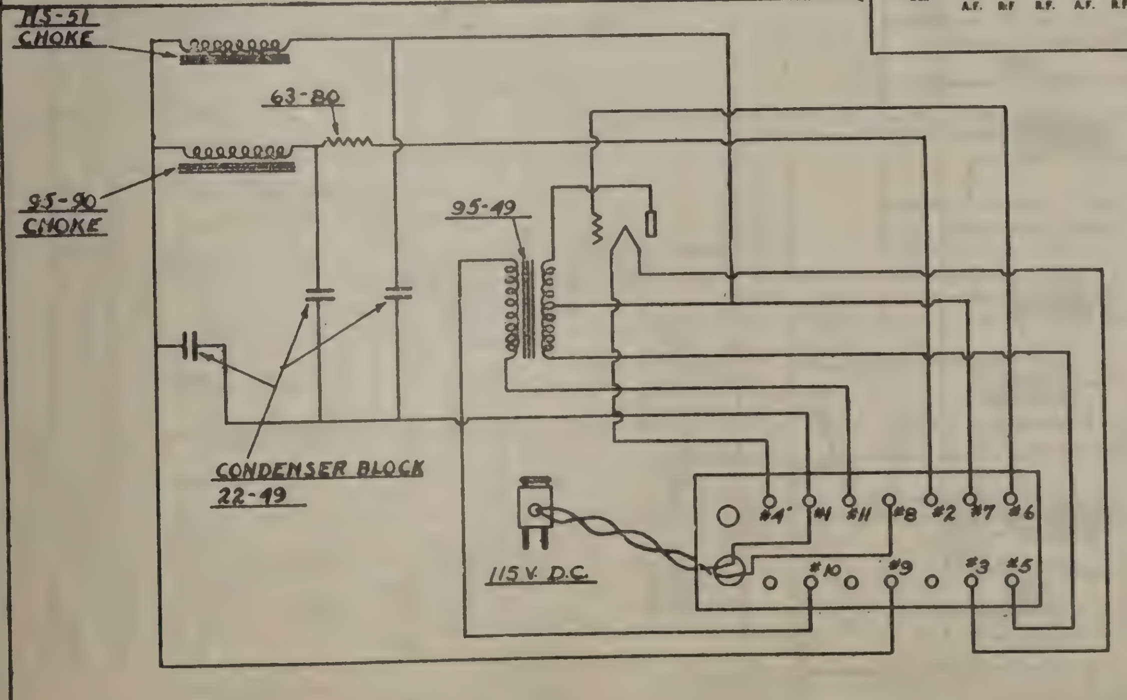

S-375
S-374
S-297
3 MEG.
MS-26
63-83
MS-62
10~
.005
22-42
1
22-42
1
1
22-42
1
22-27
22-42
1
1
SHIELD OF SET
22-23
S-267
R.F. CHOKE
VOL. CONTROL
100,000~
S-353
7 6 1 5 4 3
2
8
9
10
11
L.S.
+
−
DIAL LAMP
#6 #7 #2 #8 #11 #1 #4
#5 #3 #9 #10
CONNECTOR PLUG
(13)

#1	GREEN
2	RED
3	BROWN
4	BROWN
5	YELLOW
6	BLACK
7	WHITE
8	BLACK (HEAVY)
9	BLACK (HEAVY)
10	BLUE
11	BLUE

WIRING DIAGRAM
MODEL 333-353A
6 TUBE D.C. SET

333, 353A


(A.C.)
CX-301A or CX-112A
Det.
CX-301A
1st A.F.
CX-301A
3rd R.F.
CX-301A
2nd R.F.
CX-371A
2nd A.F.
CX-301A
1st R.F.
CX-371A
2nd A.F.


MS-51 CHOKE
63-80
95-90 CHOKE
95-49
CONDENSER BLOCK 22-49
115 V. D.C.
#4
#1
#11
#8
#2
#7
#6
#10
#9
#3
#5

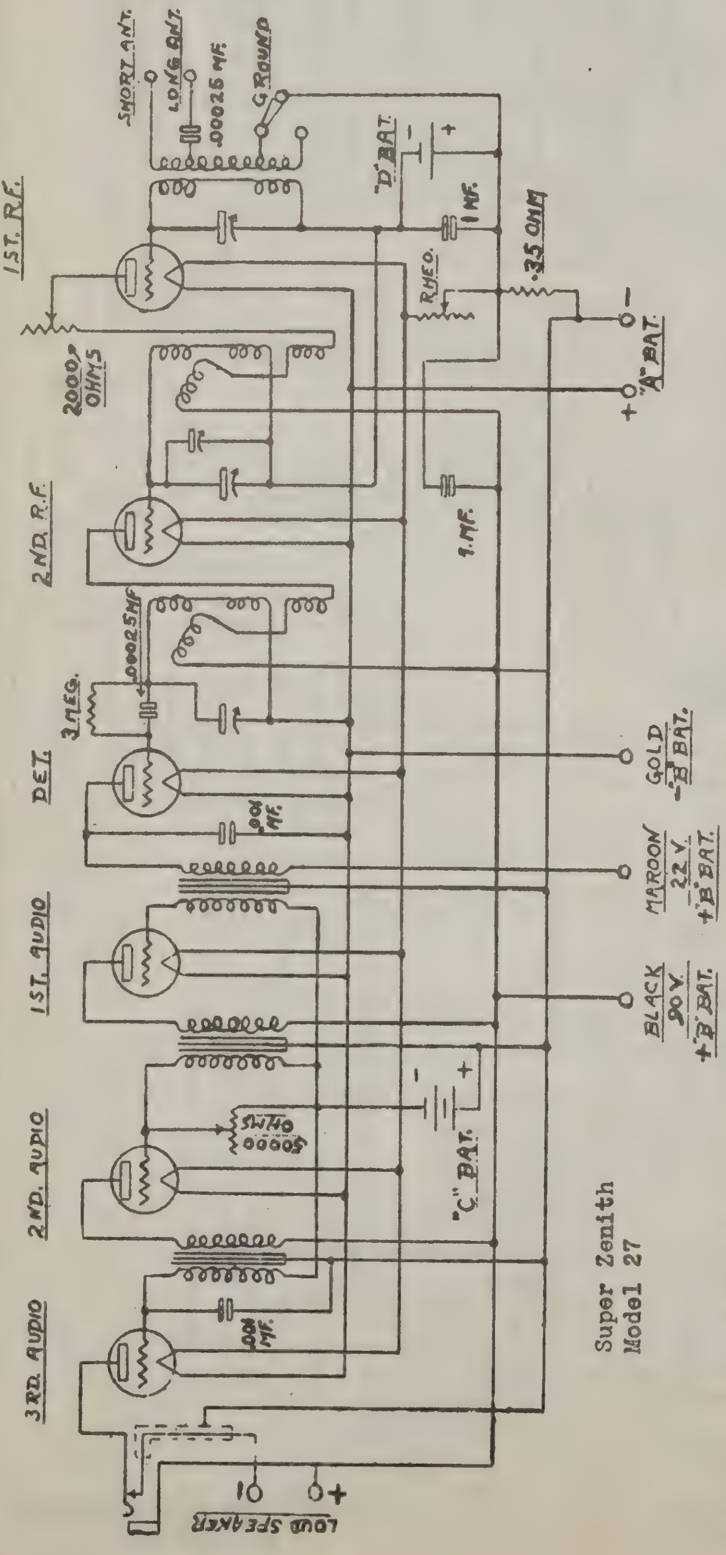
WIRING DIAGRAM
MODEL ZE17
POWER SUPPLY FOR
MODELS 333-353A

ZENITH RADIO CORPORATION
CHICAGO ILL.

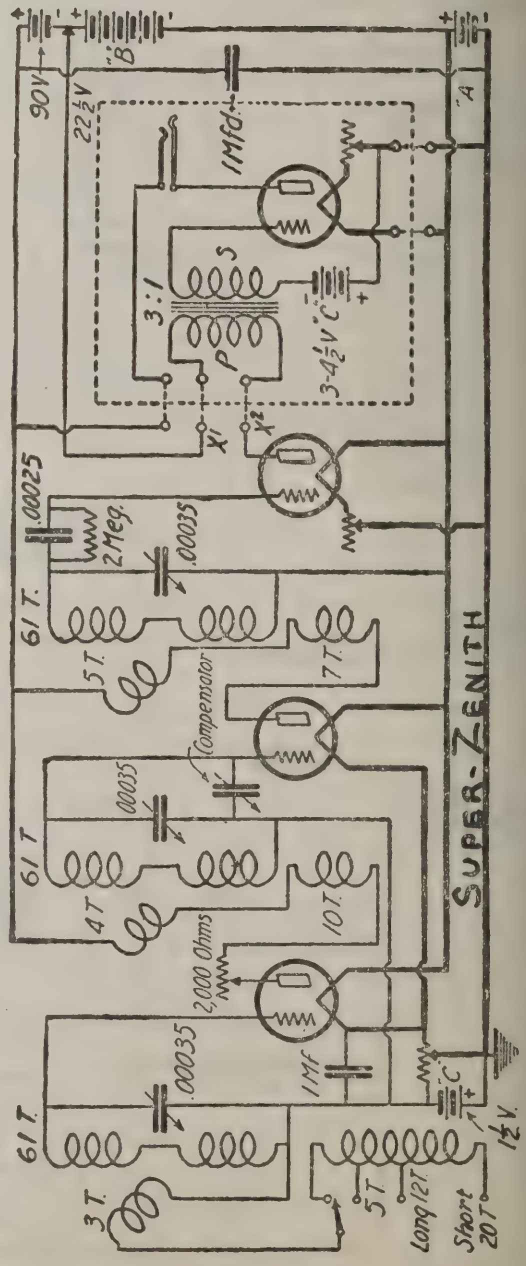
6-7-28 DRG. 123-48

MODEL 27
Super Zenith
MODEL Super Zenith

ZENITH RADIO CORP.

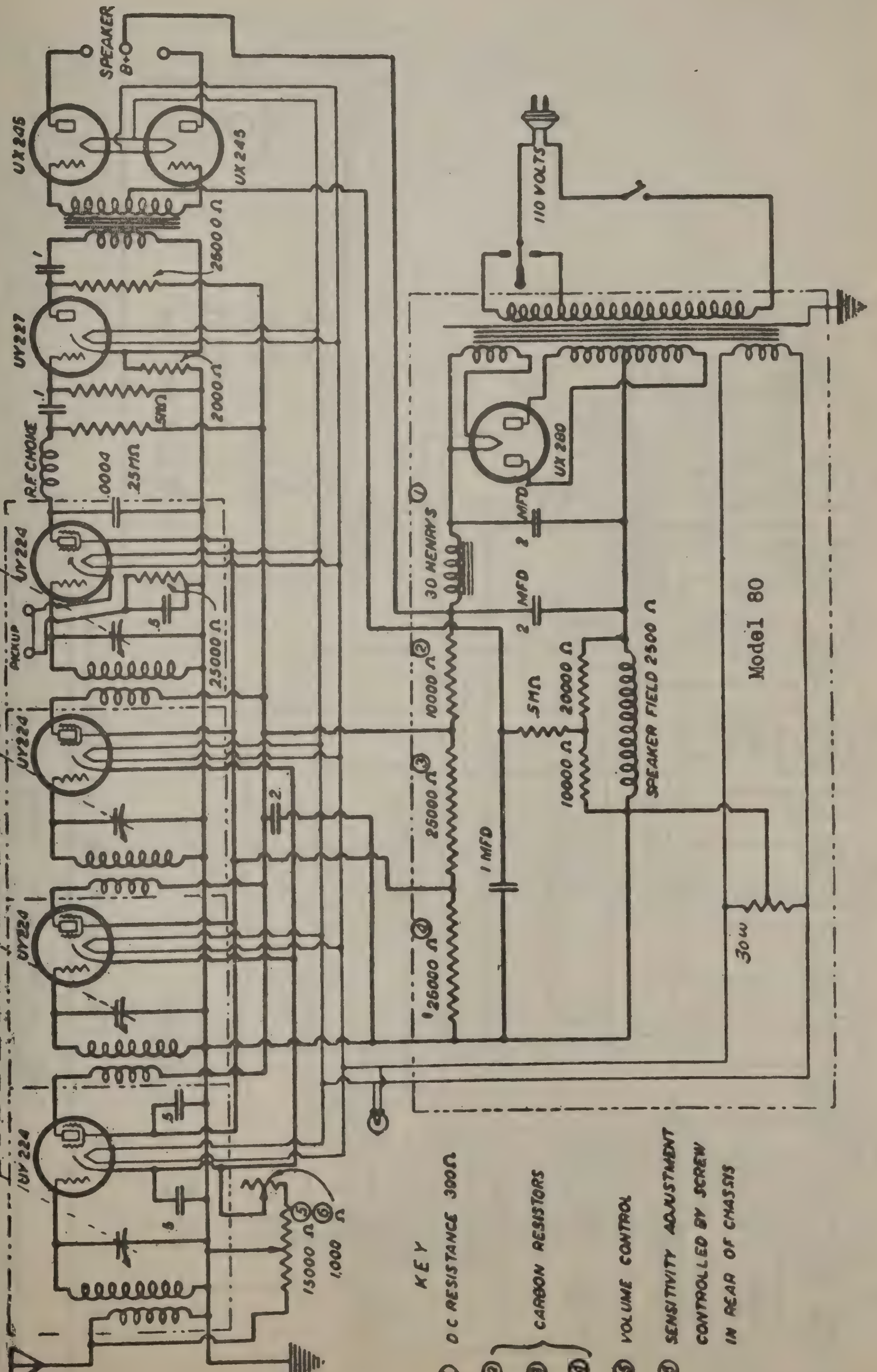

1ST. R.F.
2ND. R.F.
DET.
1ST. AUDIO
2ND. AUDIO
3RD. AUDIO
SHORT ANT.
LONG ANT.
.00025 MF.
GROUND
"D" BAT.
1 MF.
.35 OHM
RHEO.
2000 OHMS
1 MF.
.00025 MF
3 MEG.
.001 MF.
50000 OHMS
"C" BAT.
.001 MF.
LOUD SPEAKER
"A" BAT.
GOLD -"B" BAT.
MAROON 22 V. +"B" BAT.
BLACK 90 V. +"B" BAT.

Super Zenith
Model 27


"B"
90V
22½V
1 Mfd.
"A"
3:1
S
P
3-4½V "C"
X1
X2
.00025
2 Meg
.00035
61 T.
5 T.
7 T.
Compensator
.00035
61 T
4 T
10 T.
2,000 Ohms
SUPER-ZENITH
.00035
1 MF
"C"
1½ V.
61 T.
3 T.
5 T.
Long 12 T.
Short 20 T.

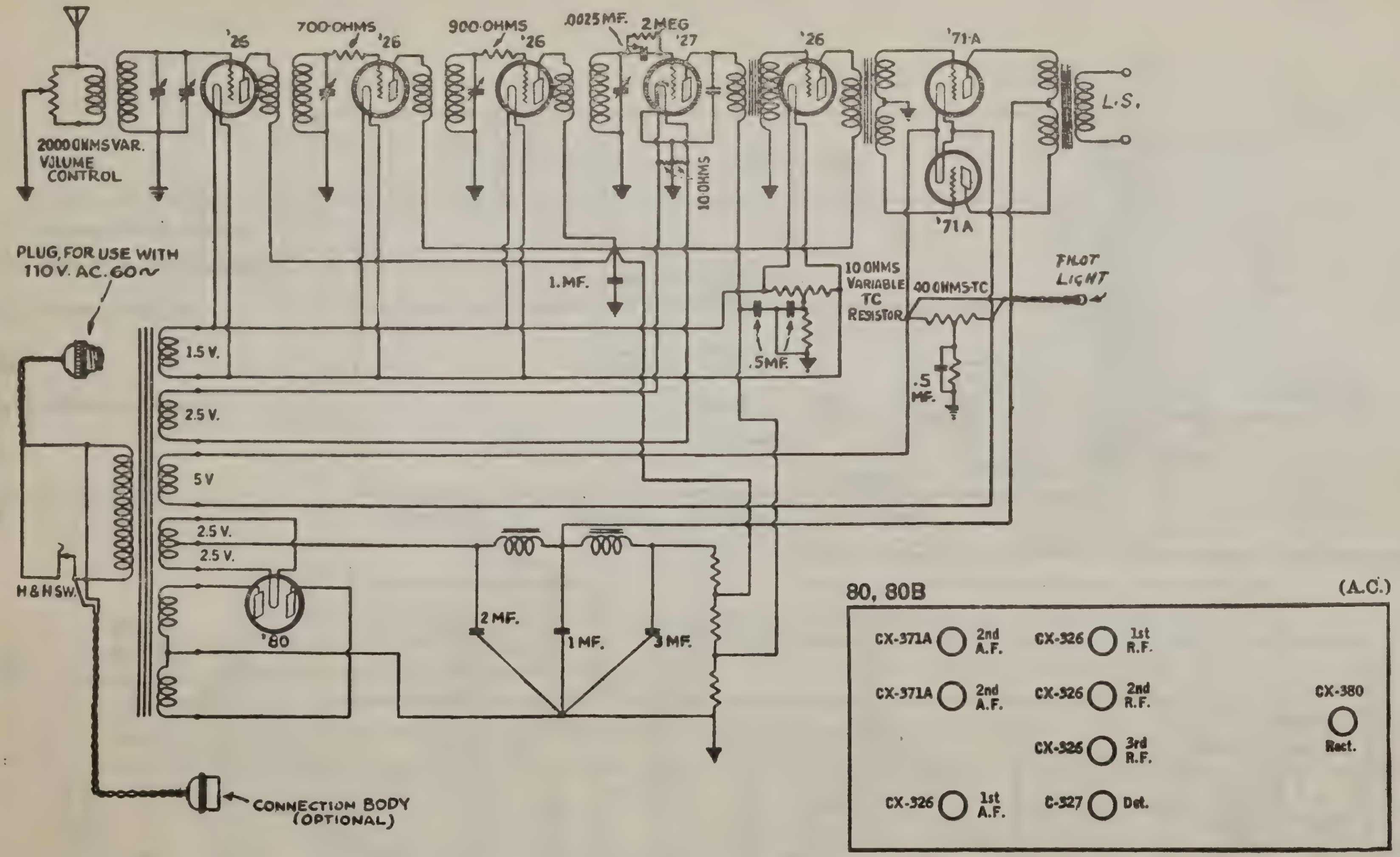
Super Zenith

NATHANIEL BALDWIN & CO.


SPEAKER
B+
UX245
UX245
26000 Ω
UY227
2000 Ω
.1
.1
5MΩ
R.F. CHOKE
.0004
.25MΩ
UY224
PICKUP
.5
25000 Ω
UY224
2
UY224
UY224
.5
.5
⑤ 15000 Ω
⑥ 1,000 Ω
110 VOLTS
UX280
30 HENRYS ①
2 MFD
2 MFD
10000 Ω ②
25000 Ω ③
26000 Ω ④
1 MFD
5MΩ
20000 Ω
10000 Ω
SPEAKER FIELD 2500 Ω
Model 80
30w
KEY
① D C RESISTANCE 300Ω
② ③ ④ CARBON RESISTORS
⑤ VOLUME CONTROL
⑥ SENSITIVITY ADJUSTMENT CONTROLLED BY SCREW IN REAR OF CHASSIS

BUCKINGHAM RADIO CORPORATION

MODEL 80

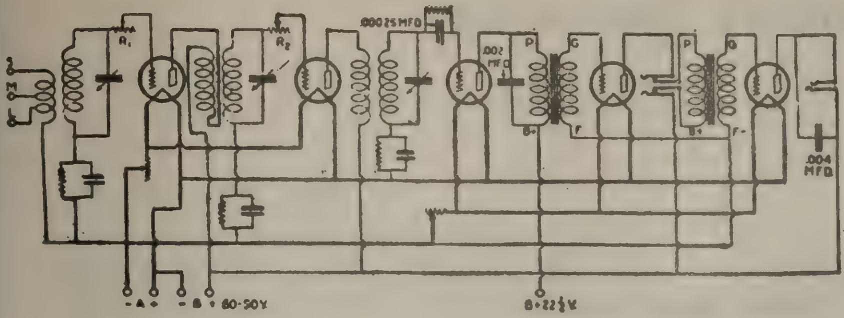

'26
700-OHMS
'26
900-OHMS
'26
.0025MF.
2MEG
'27
'26
'71-A
L.S.
2000 OHMS VAR. VOLUME CONTROL
10-OHMS
'71A
PLUG, FOR USE WITH 110V. AC. 60~
1.MF.
10 OHMS VARIABLE TC RESISTOR
40 OHMS-TC
PILOT LIGHT
.5MF.
.5 MF.
1.5 V.
2.5 V.
5 V
2.5 V.
2.5 V.
H&H SW.
'80
2 MF.
1 MF.
3 MF.
CONNECTION BODY (OPTIONAL)
80, 80B
(A.C.)
CX-371A
2nd A.F.
CX-326
1st R.F.
CX-371A
2nd A.F.
CX-326
2nd R.F.
CX-380
Rect.
CX-326
3rd R.F.
CX-326
1st A.F.
C-327
Det.

Buckingham 80 Average readings.

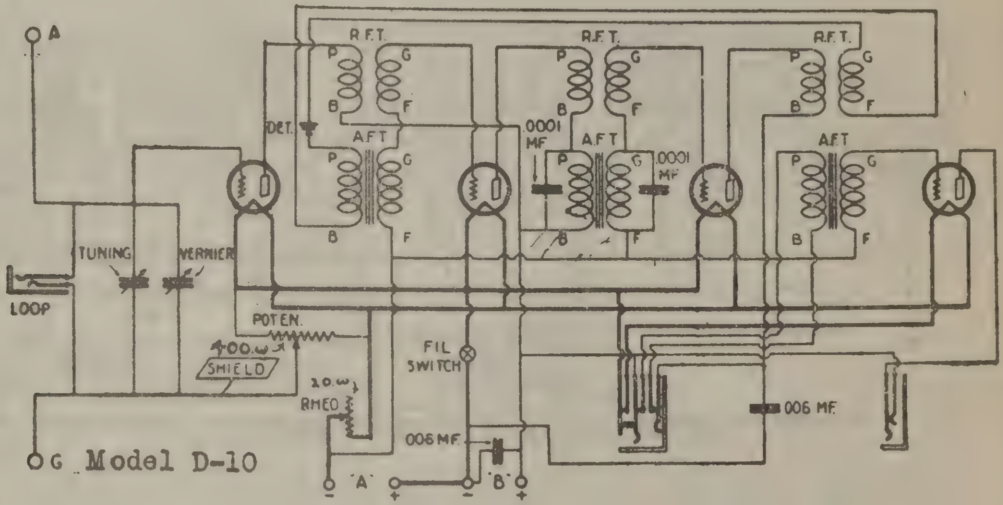
	1 RF	2 RF	3 RF	Det.	1 AF	2 AF
Fil. volts	1.25	1.25	1.25	2.25	1.25	5
Bias volts	9.	9	9.		9	45
Plate volts	125	125	125	45	125	180
Plate current (ma)	4	4	4	4	4	20

DEFOREST RADIO CORPORATION

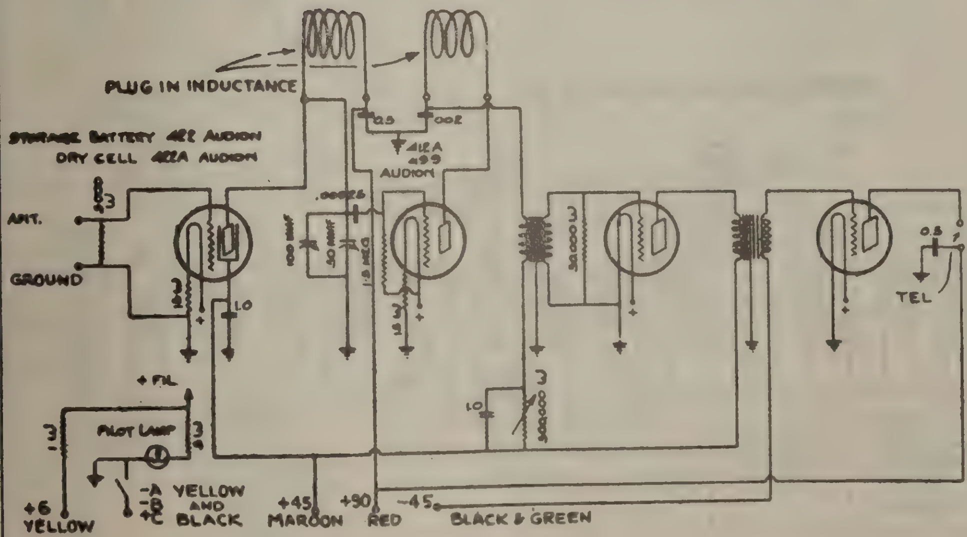
MODEL F-5
MODEL D-10
MODEL CS-5
MODEL D-17


R1
R2
.00025 MFD
.002 MFD
P
G
B+
F
F-
.004 MFD
-A+
-B+
80-90V
B+22½V

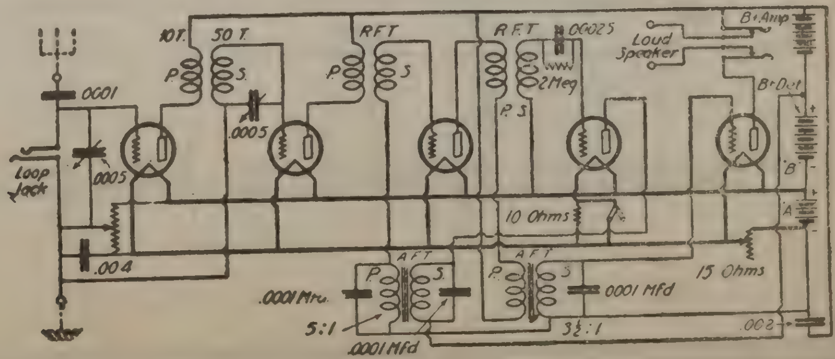
Model F-5


A
R.F.T.
P
G
B
F
DET.
A.F.T.
.0001 MF
TUNING
VERNIER
LOOP
POTEN.
400 ω
SHIELD
20 ω
RHEO
FIL SWITCH
006 MF.
.006 MF.
'A'
'B'
-
+
G

Model D-10


PLUG IN INDUCTANCE
STORAGE BATTERY 422 AUDION
DRY CELL 422A AUDION
ANT.
GROUND
.0005
.002
412A
499
AUDION
.00026
1.0 MEG
1.0
3
30,000 Ω
0.5
TEL
+FIL
PILOT LAMP
+6
YELLOW
-A YELLOW
-B AND
+C BLACK
+45
MAROON
+90
RED
-45
BLACK & GREEN

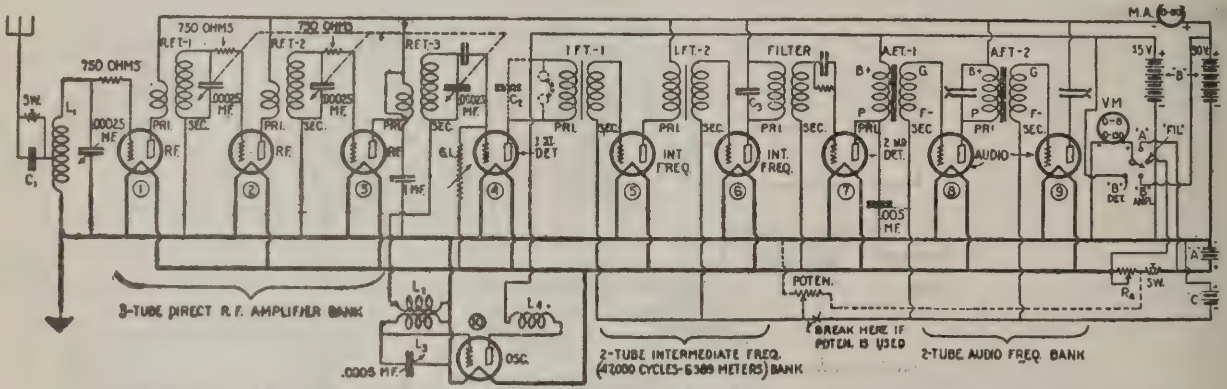
Model CS-5


10 T.
50 T.
P
S.
R.F.T.
.00025
2 Meg
Loud Speaker
B+Amp
B+Det
.0001
.0005
Loop Jack
B
A
10 Ohms
.004
A.F.T.
.0001 Mfd
5:1
.0001 Mfd
3½:1
.0001 Mfd
15 Ohms
.002

Model D-17

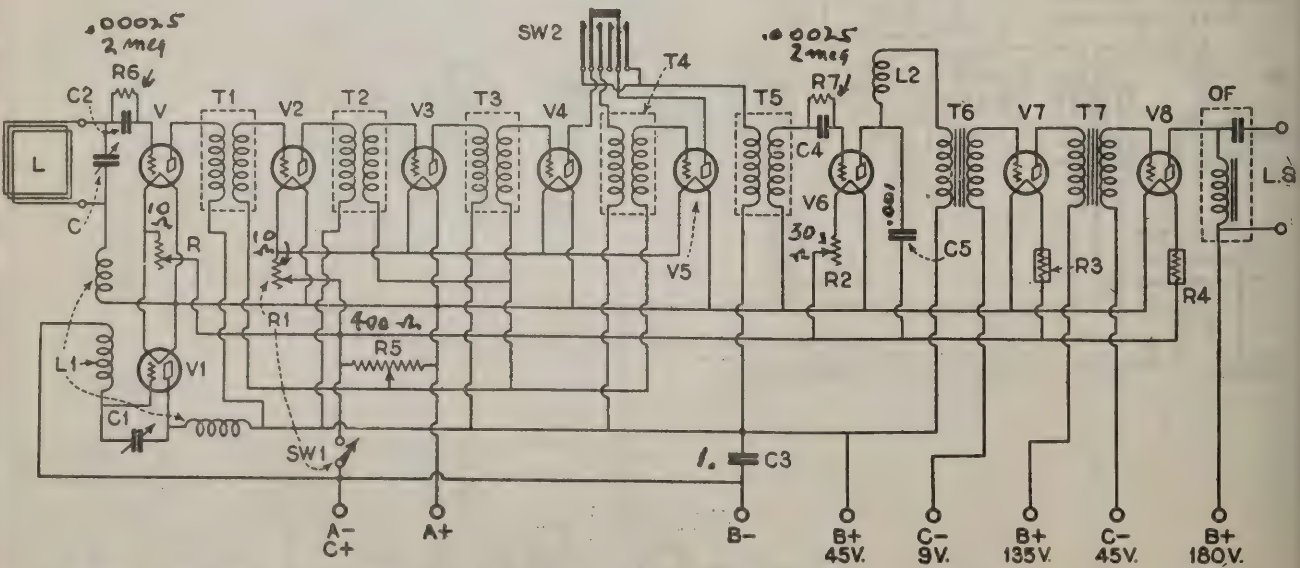
EXPERIMENTERS INFORMATION
SERVICE
RADIART LABORATORIES

Model Navy C-10


750 OHMS
750 OHMS
750 OHMS
R.F.T.-1
R.F.T.-2
R.F.T.-3
SW.
L1
C1
.00025 MF.
.00025 MF.
.00025 MF.
.00025 MF.
PRI.
SEC.
RF.
1
2
3
4
5
6
7
8
9
C2
G.L.
MF.
1 ST. DET
I.F.T.-1
I.F.T.-2
INT. FREQ.
INT. FREQ.
FILTER
C3
A.F.T.-1
A.F.T.-2
B+
P
G
F-
2 ND DET.
.005 MF.
AUDIO
VM
0-8
0-80
'A'
'FIL'
'B' DET
'B' AMPL
M.A.
15V.
50V.
'B'
A
C
R4
SW.
POTEN.
BREAK HERE IF POTEN. IS USED
3-TUBE DIRECT R.F. AMPLIFIER BANK
L2
L3
L4
.0005 MF.
OSC.
2-TUBE INTERMEDIATE FREQ. (47000 CYCLES-6389 METERS) BANK
2-TUBE AUDIO FREQ. BANK

The Experimenters' Information Service Navy Model C-10 super-heterodyne designed for a wave-length range from 600 meters down to 50 meters, the band being covered through the expedient of interchangeable coils.

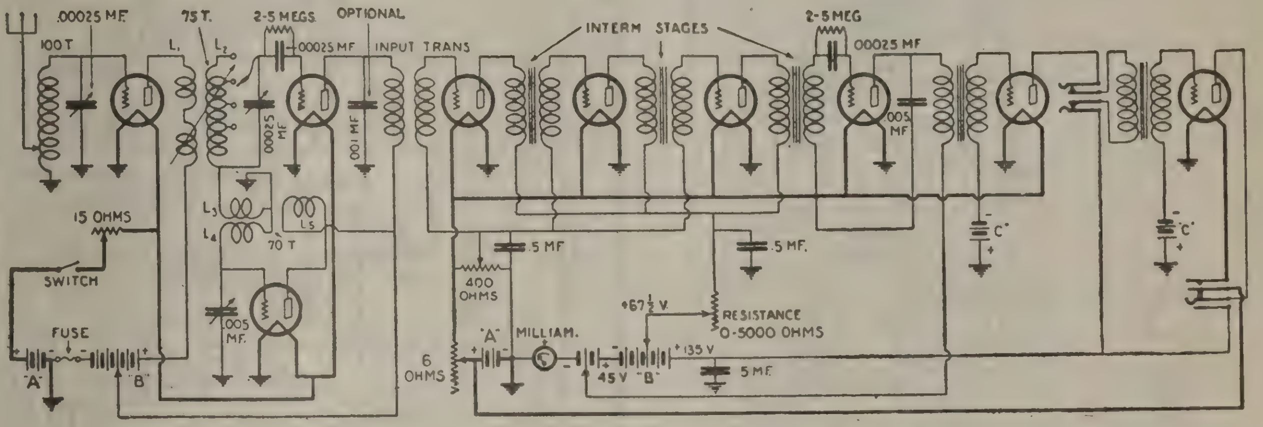
Model Magnaformer 9-8


.00025
2 meg
.00025
2 meg
SW2
C2
R6
V
T1
V2
T2
V3
T3
V4
T4
V5
T5
R7
L2
C4
V6
T6
V7
T7
V8
OF
L
L.S
C
10 Ω
R
10 Ω
R1
400 Ω
R5
30 Ω
R2
.001
C5
R3
R4
L1
V1
C1
SW1
1.
C3
A−
C+
A+
B−
B+
45V.
C−
9V.
B+
135V.
C−
45V.
B+
180V.

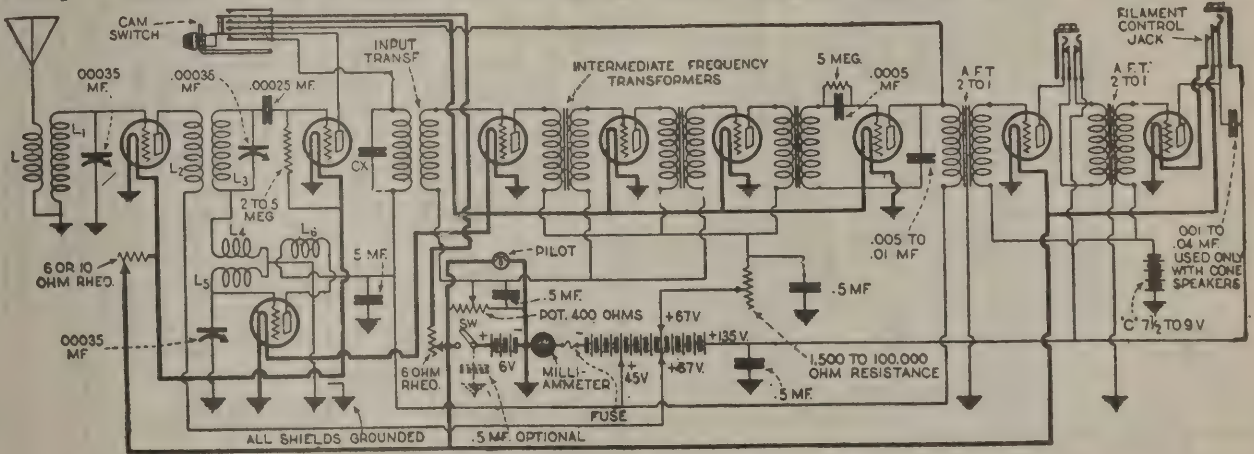
Schematic diagram of the Magnaformer 9-8 Receiver. By means of the cam switch SW2 one stage of I.F. amplification can be cut out. This switch is mounted on the front panel of the receiver, below the drum dials.

FARRAND

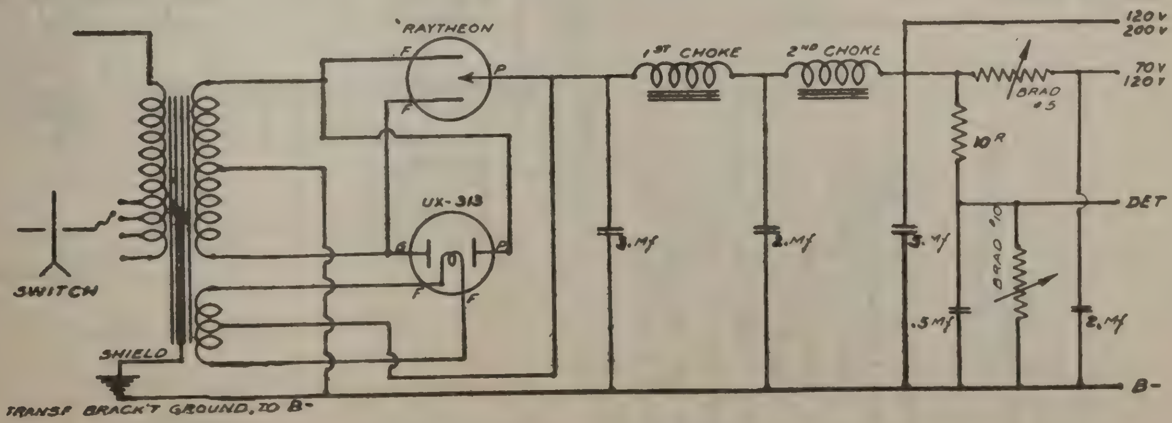
FENWAY


.00025 MF.
100 T
75 T.
L1
L2
2-5 MEGS.
OPTIONAL
.00025 MF
INPUT TRANS
.00025 MF
.001 MF
INTERM. STAGES
2-5 MEG
.00025 MF
.005 MF
15 OHMS
SWITCH
L3
L4
70 T
L5
.005 MF.
FUSE
"A"
"B"
.5 MF
400 OHMS
.5 MF.
"C"
"C"
+67½ V.
RESISTANCE 0-5000 OHMS
"A"
MILLIAM.
6 OHMS
+135 V
45 V
"B"
5 MF.

Model Fenway Superheterodyne

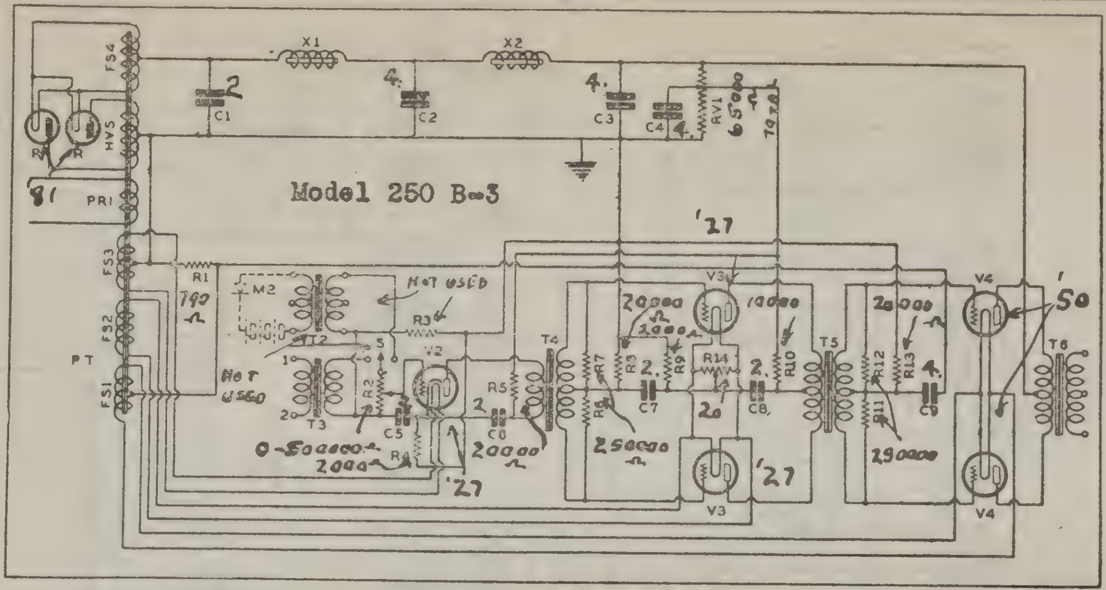

CAM SWITCH
INPUT TRANSF
INTERMEDIATE FREQUENCY TRANSFORMERS
5 MEG.
.0005 MF
A.F.T. 2 TO 1
A.F.T. 2 TO 1
FILAMENT CONTROL JACK
00035 MF.
.00035 MF
.00025 MF.
L
L1
L2
L3
CX
2 TO 5 MEG
L4
L6
L5
5 MF.
6 OR 10 OHM RHEO.
00035 MF
PILOT
.5 MF.
POT. 400 OHMS
SW
+67V
+135 V.
6V
MILLI-AMMETER
45V
+67V.
6 OHM RHEO.
.5 MF
.005 TO .01 MF
.001 TO .04 MF. USED ONLY WITH CONE SPEAKERS
"C" 7½ TO 9 V
1,500 TO 100,000 OHM RESISTANCE
.5 MF.
FUSE
ALL SHIELDS GROUNDED
.5 MF. OPTIONAL

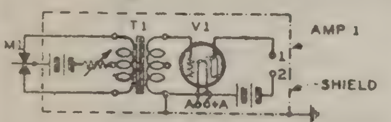
Model Fenway Superheterodyne


RAYTHEON
F
F
P
1ST CHOKE
2ND CHOKE
120 v 200 v
70 v 120 v
BRAD #5
10R
DET
UX-313
P
P
F
F
BRAD 10
SWITCH
1. Mf
2. Mf
1. Mf
.5 Mf
2. Mf
SHIELD
B-
TRANSF BRACK'T GROUND, TO B-

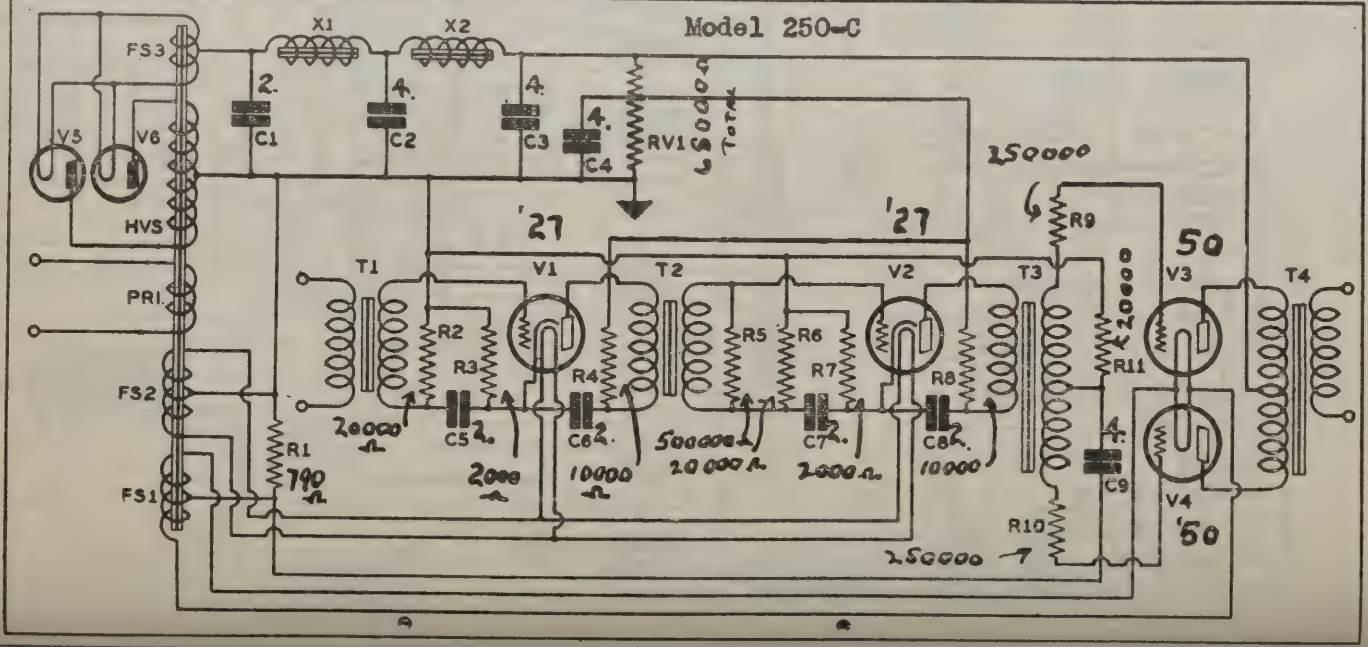
SCHEMATIC DIAGRAM

FERRANTI, INC.


Model 250 B-3
FS4
HVS
PRI
81
FS3
FS2
PT
FS1
X1
X2
C1
C2
C3
C4
RV1
65000 Total
2
4.
4.
4.
R1
790 Ω
M2
T2
Not Used
R3
T3
V2
C5
R2
R4
0-500000 Ω
2000 Ω
'27
R5
2
C6
20000 Ω
T4
R6
R7
R8
R9
C7
2.
250000 Ω
20000 Ω
2000 Ω
V3
'27
10000
R14
20
R10
C8
2.
T5
R11
R12
R13
20000 Ω
250000
C9
4.
V4
'50
T6

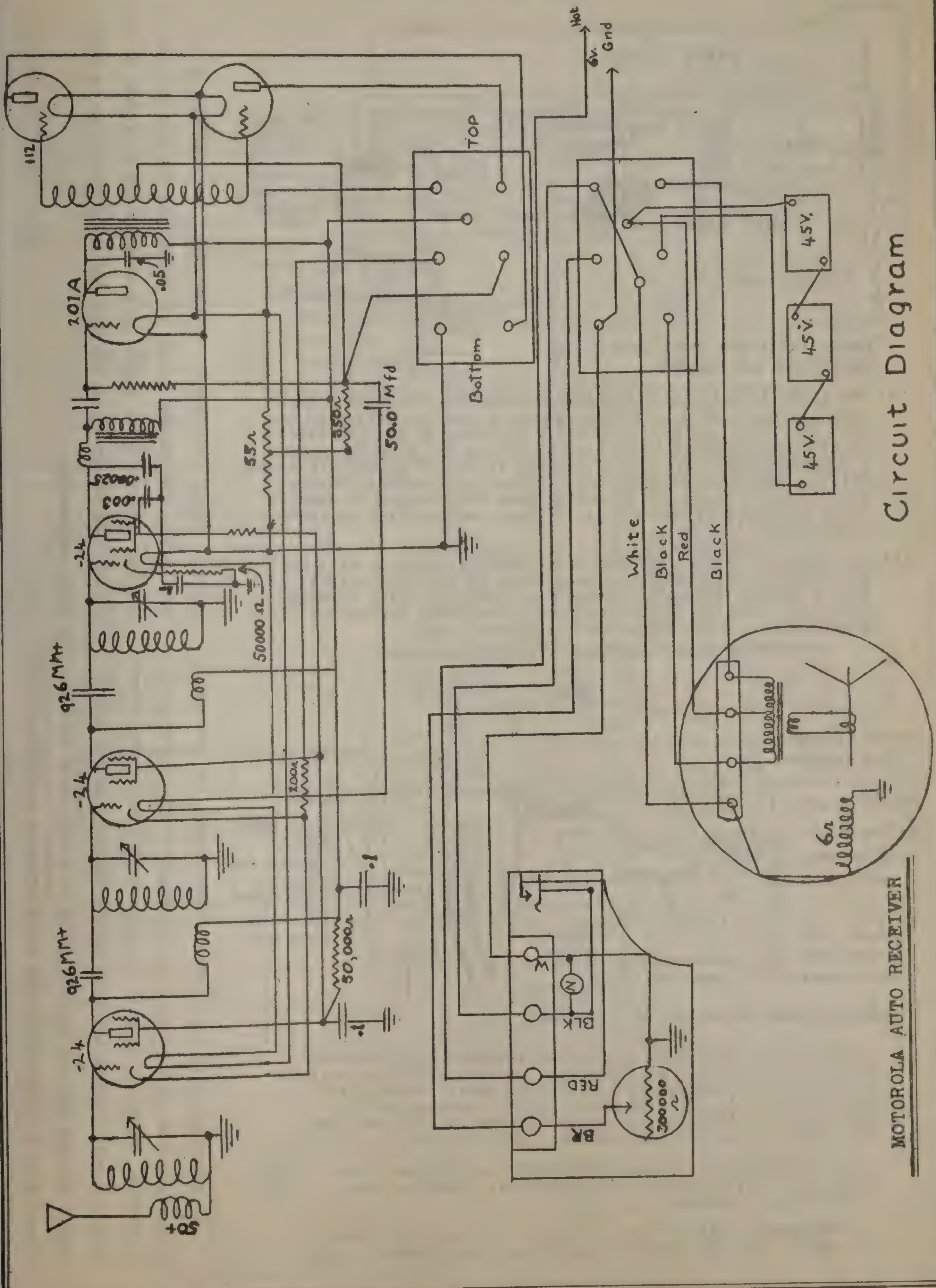

M1
T1
V1
AMP 1
1
2
SHIELD
A06+A

This microphone amplifier is sometimes used with the 250-B3 power amplifier. In such event the parts marked "Not Used" are in operation. These parts are normally omitted from the 250-B3 unit.


Model 250-C
FS3
V5
V6
HVS
PRI
FS2
FS1
X1
X2
C1
C2
C3
C4
2.
4.
4.
4.
RV1
65000 Total
'27
'27
T1
R2
R3
V1
C5
2.
20000 Ω
2000 Ω
R1
790 Ω
R4
C6
2.
10000 Ω
T2
R5
R6
R7
V2
C7
2.
500000 Ω
20000 Ω
2000 Ω
R8
C8
2.
10000
T3
R9
250000
R10
250000
R11
20000
C9
4.
50
V3
V4
'50
T4

GALVIN MFG. CO.

MODEL Motorola
Auto Receiver

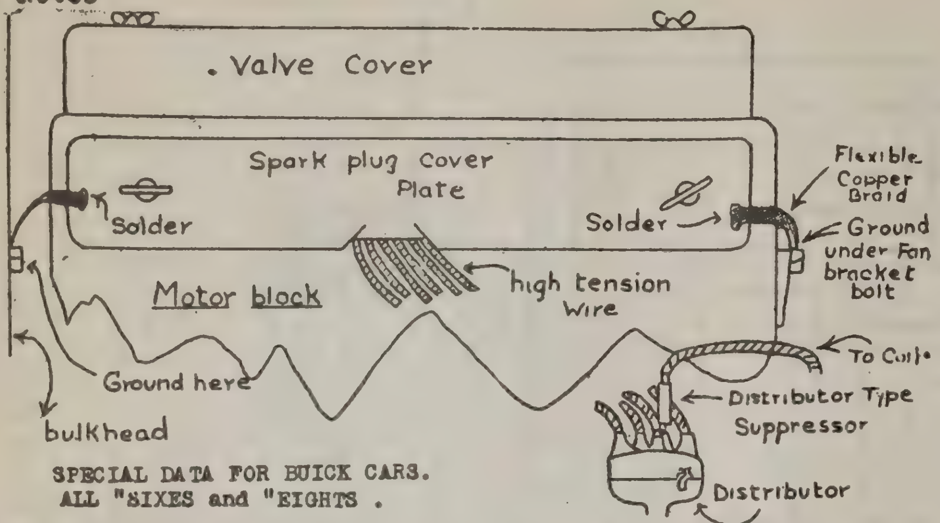

112
201A
.05
-24
.00025
.003
50000 Ω
926MMf
-24
926MMf
-24
50+
55Ω
350Ω
50.0 Mfd
200Ω
.1
50,000Ω
.1
TOP
Bottom
Hot
6v.
Gnd
45V.
45V.
45V.
White
Black
Red
Black
6Ω
W
BLK
RED
BR
300000 Ω

Circuit Diagram

MOTOROLA AUTO RECEIVER

MODEL Motorola
Auto Receiver
Notes

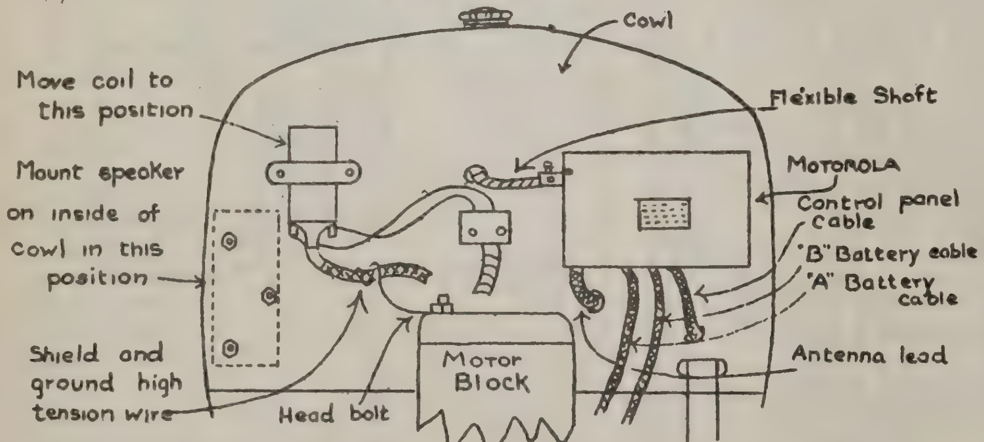
GALVIN MFG. CO.


Valve Cover
Spark plug Cover Plate
Solder
Solder
Flexible Copper Braid
Ground under Fan bracket bolt
Motor block
high tension wire
To Coil
Distributor Type Suppressor
Distributor
Ground here
bulkhead

SPECIAL DATA FOR BUICK CARS.
ALL "SIXES and "EIGHTS .

(a) The above illustrates a method of grounding the spark plug cover plate found on all Buick cars. Do not be misled by the fact that this plate is apparently grounded by the two aluminum wing nuts holding it to side of motor, for this is in no way a ground for the type of current radiating from spark plugs which cause radio interference. Soldering flexible jumpers to this cover plate and grounding same under motor or chassis bolts will in every case help eliminate motor noise in radio reception.

(b) As a further help on the new model Buick Eights, it will be found advisable to solder copper bonds to all the control shafts passing through bulkhead and grounding these to bulkhead. By "control shafts" we mean choke rods, carburetor heat control, motor temperature indicator, etc.


Cowl
Move coil to this position
Flexible Shaft
Mount speaker on inside of cowl in this position
MOTOROLA
Control panel Cable
"B" Battery cable
"A" Battery cable
Shield and ground high tension wire
Motor Block
Antenna lead
Head bolt

SPECIAL DATA FOR MODEL "A" FORD CARS

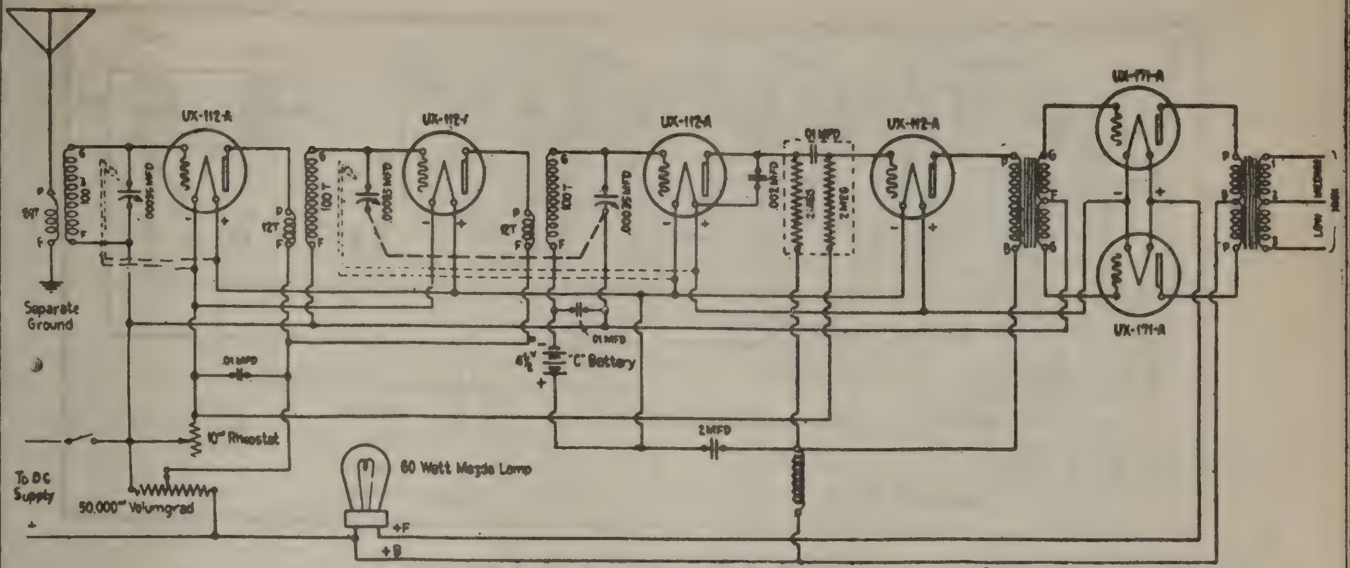
The above illustrates the proper mounting of a Motorola receiver on a Model "A" Ford car. On inspection you will note that it is necessary to move the ignition coil over to side of cowl. This is done for two reasons, one to make room for the flexible shaft to pass through cowl and the other to help in elimination of motor noise.

It is advisable to shield the high tension lead from coil to distributor and ground this shielding to motor block as per diagram.

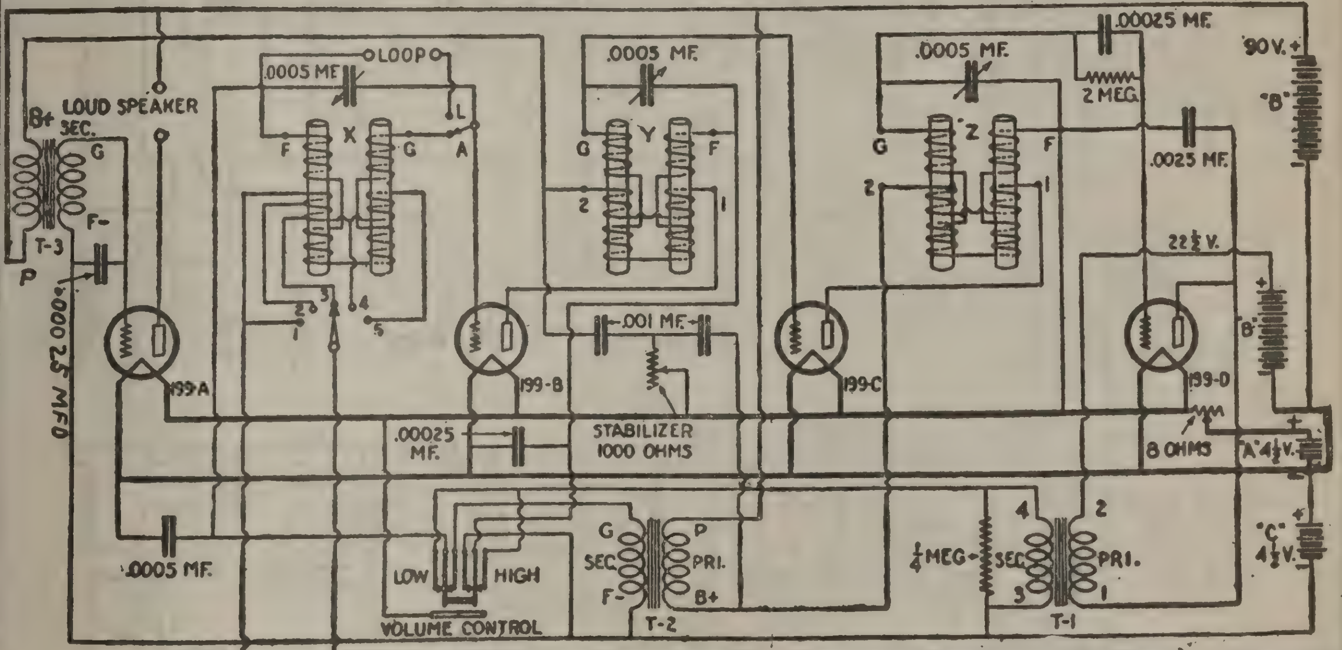
The speaker will be found to mount best on the inside of cowl to the right side of car above foot board.

Different cars will have different types of antennae a their capacities with respect to the frame of the car will be different, therefore it will be necessary to phase the antenna with the set. Remove the four screws holding the set lid in place, turning the set on and tuning to a very weak station. Adjust with a screw driver the small trimming condenser, to th maximum signal obtainable. If operation is satisfactory to this point, the volume should be turned all the way on, the station selector knob turned to a point where no signal is received, the motor of car started and there should be no motor noise noticeable.

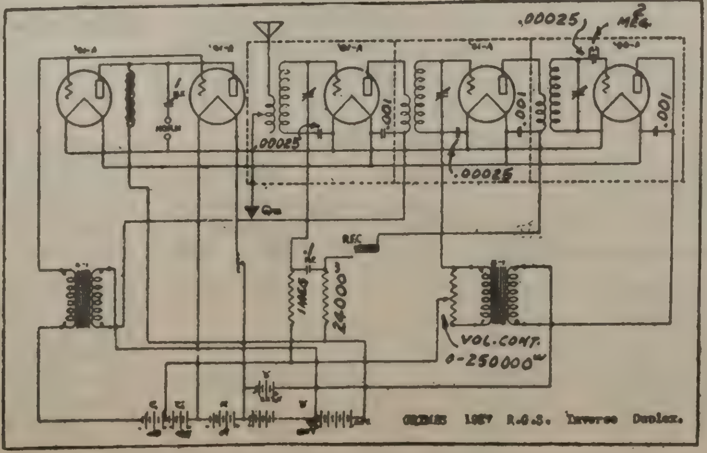
DAVID GRIMES, INC.


UX-112-A
UX-112-A
UX-112-A
UX-112-A
UX-171-A
UX-171-A
Separate Ground
100T
12T
.00035 MFD
.01 MFD
4½V "C" Battery
.01 MFD
.002 MFD
2 MEG
2 MFD
10Ω Rheostat
60 Watt Mazda Lamp
To DC Supply
50,000Ω Volumgrad
+F
+B

GRIMES 110 Volt D.C. - ("NEW YORKER")

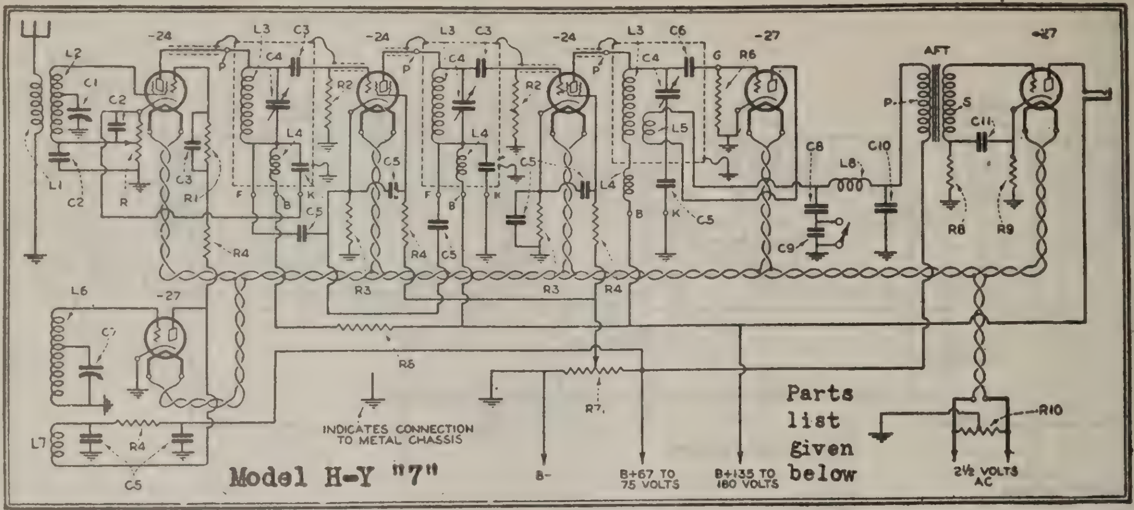

LOUD SPEAKER
B+
SEC.
G
F-
T-3
P
.00025 MFD
.0005 MF.
LOOP
L
A
F
X
G
.0005 MF.
Y
G
F
2
1
.0005 MF.
Z
G
F
2
1
.00025 MF.
2 MEG.
.0025 MF.
90 V.
"B"
22½ V.
"B"
199-A
199-B
199-C
199-D
.001 MF.
STABILIZER 1000 OHMS
.00025 MF.
8 OHMS
"A" 4½ V.
"C" 4½ V.
.0005 MF.
LOW
HIGH
VOLUME CONTROL
G
SEC.
F-
P
PRI.
B+
T-2
¼ MEG.
4
SEC.
3
2
PRI.
1
T-1
AERIAL
GROUND

GRIMES Type 4-DL Inverse Duplex (Reflex) Circuit


.00025
2 MEG.
.00025
.001
.001
.001
.00025
REC.
1 MEG
24000Ω
VOL. CONT. 0-250000Ω

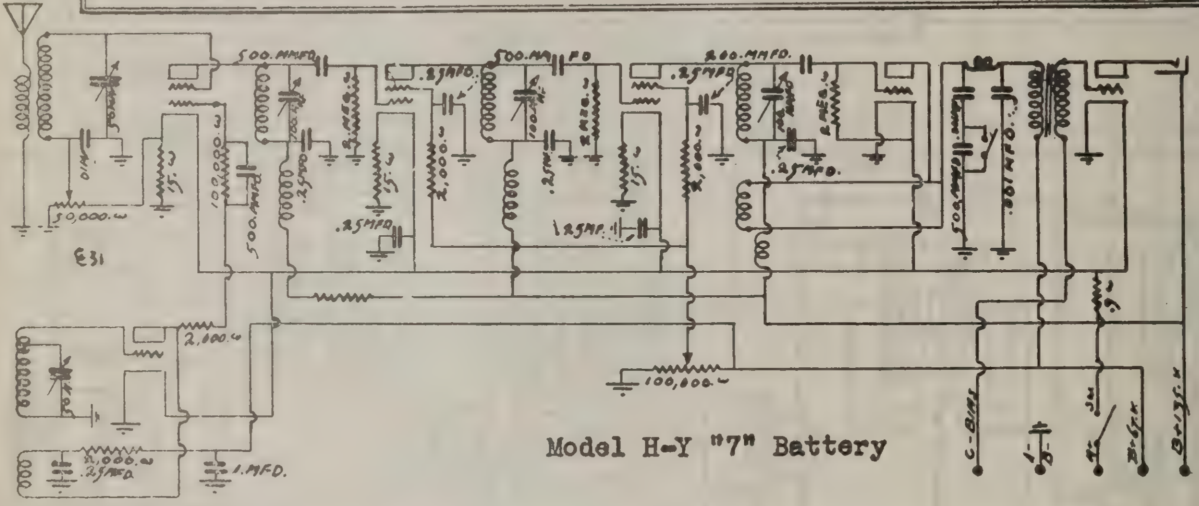
GRIMES 1927 R.C.S. Inverse Duplex.

HATRY & YOUNG

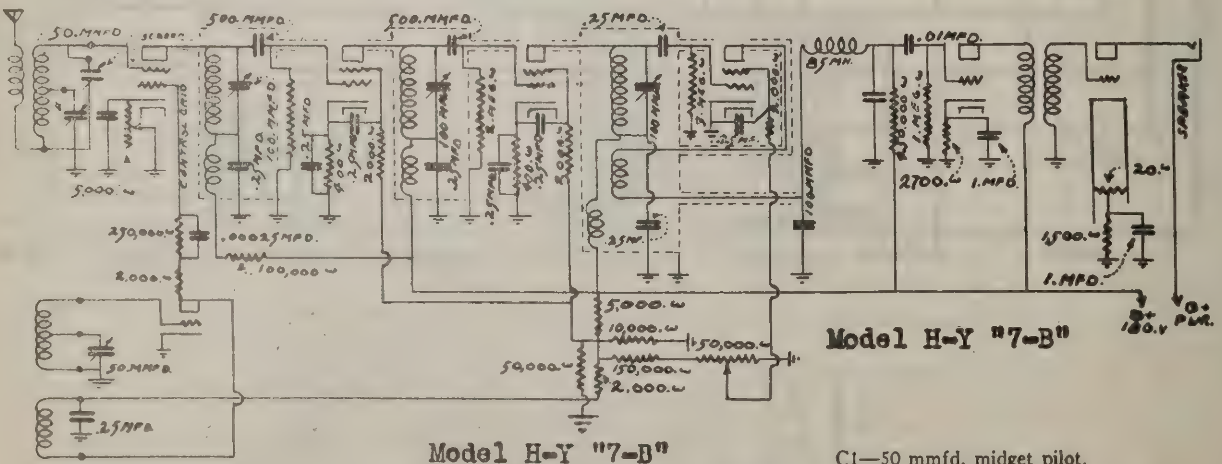

-24
-24
-24
-27
-27
L2
C1
C2
L1
R
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
L3
L4
L5
L6
L7
L8
C3
C4
C5
C6
C7
C8
C9
C10
C11
AFT
P
S
G
F
B
K
INDICATES CONNECTION TO METAL CHASSIS
B-
B+67 TO 75 VOLTS
B+135 TO 180 VOLTS
2½ VOLTS AC

Model H-Y "7"

Parts list given below

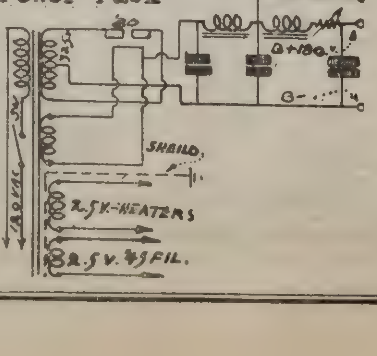

500.MMFD.
500.MMFD
200.MMFD.
.25MFD.
.25MFD
.25MFD.
.01MF
50,000.~
100,000.~
100,000.~
500.MMFD
2 MEG.
15.~
2,000.~
.25MFD
.25MF.
.001MFD.
.005MFD.
2,000.~
1.MFD.
.25MFD.
100,000.~
C-BIAS
A-B-
A+
B+67.V
B+135.V
E31

Model H-Y "7" Battery


50.MMFD
SCREEN
500.MMFD.
500.MMFD.
.25MFD.
.01MFD.
85MH.
CONTROL GRID
5,000.~
250,000.~
.00025MFD.
100,000.~
2,000.~
50.MMFD
.25MFD
2700.~
1.MFD.
20.~
1,500.~
1.MFD.
5,000.~
10,000.~
50,000.~
50,000.~
150,000.~
2,000.~
100.MMFD
SPEAKER
B+ 180.V
B+ PWR.

Model H-Y "7-B"

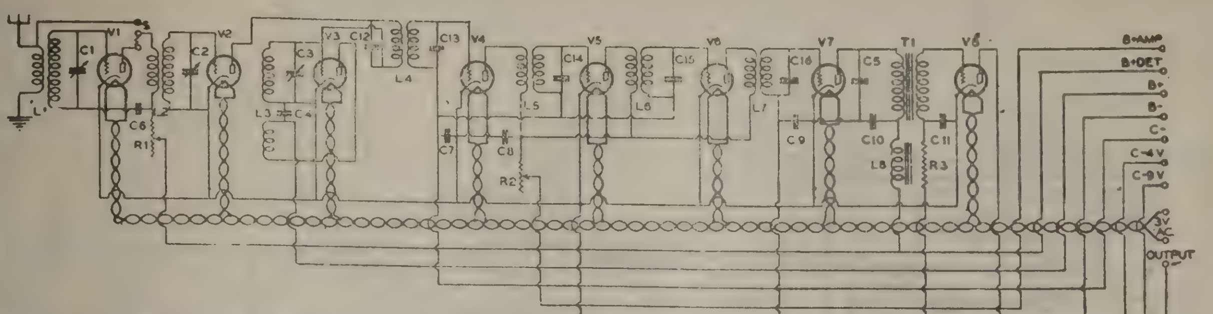
Model H-Y "7-B" Power Pack

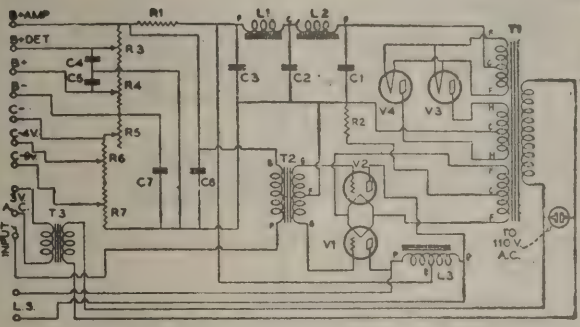

B+POWER
B+180.V.
B-
SHEILD
110 V.A.C.
2.5V.-HEATERS
2.5V. 45 FIL.

R1—100,000-ohm Durham metallic leak.
R2—2-megohm Durham metallic leak.
R3—400-ohm Electrad suppressor resistance.
R4—2,000-ohm Electrad suppressor resistance.
R5—25,000-ohm Durham metallic.
R6—3-megohm Durham metallic.
R7—25,000-ohm Electrad royalty potentiometer.
R8—50,000-ohm Durham metallic.
R9—2,250-ohm Durham metallic.
R10—10-ohm centre-tapped Yaxley.

C1—50 mmfd. midget pilot.
C2—.01 mfd. Sangamo fixed condenser.
C3—.0005 mfd. Sangamo fixed condenser.
C4—100 mmfd. Hammarlund equalizer, range with L3 about 1650-1475 kc.
C5—.25 mfd. Sprague midget fixed condenser.
C6—.0002 mfd. Sangamo fixed condenser.
C7—Same as C1.
C8—.00015 Sangamo.
C9—.00005 mfd. Sangamo.
C10—.001 mfd. Sangamo.
C11—1 mfd. Flechtheim.
R—5,000-ohm Electrad royalty potentiometer.

R. E. LACAULT

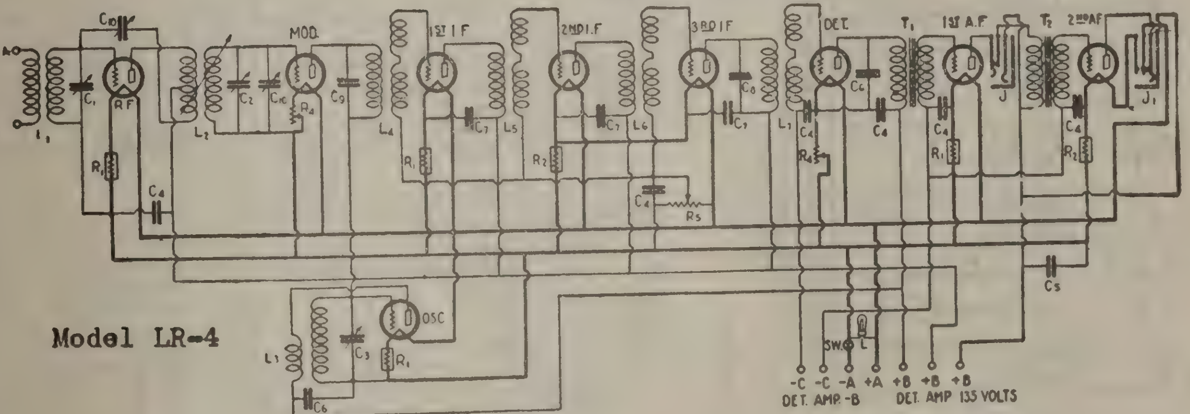

V1
V2
V3
C12
C13
V4
V5
V6
V7
T1
V8
C1
C2
C3
L3
C4
L4
C14
C15
C16
C5
L5
L6
L7
C6
R1
C7
C8
R2
C9
C10
C11
L8
R3
B+AMP
B+DET
B+
B-
C-
C-4V
C-9V
3V AC
OUTPUT


B+AMP
B+DET
B+
B-
C-
C-4V
C-9V
3V
INPUT
L.S.
R1
R3
R4
R5
R6
R7
C4
C5
C7
C6
T3
L1
L2
C3
C2
C1
R2
T2
V4
V3
V2
V1
L3
T1
TO 110 V. A.C.

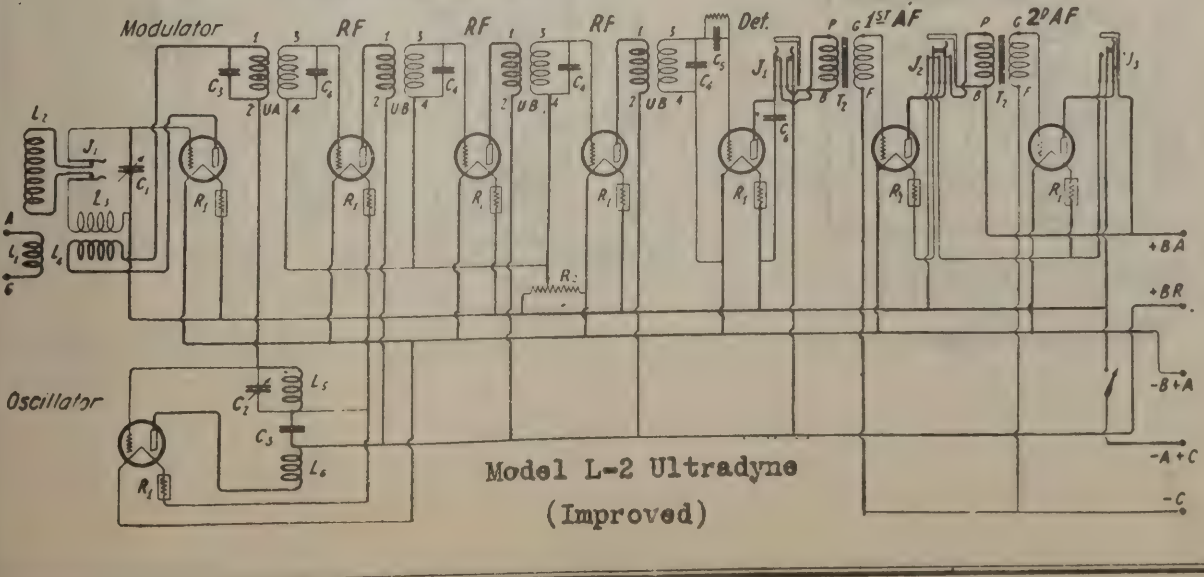
Model All-Wave Electric 9

C1, C2 and C3—Variable condensers, 0005 mfd.;
L1 to L7—R.E.L. plug-in coils;
L8—Audio-frequency choke;
T1—Audio-frequency transformer;
R1 and R2—Variable resistors;
C4—Fixed condenser, .001 mfd.;
C5—Fixed condenser, .002 mfd.;
C6 to C9—By-pass condensers, .5 mfd., 100 volts;
C10 and C11—By-pass condensers, 1. mfd., 400 volts;
C12 to C16—Fixed condensers, .00025 mfd.;
V1 to V8—Heated cathode a.c. tubes;
R3—Fixed resistor, 100,000 ohms;
1 Front panel;
1 Sub-base panel;
10 Binding posts;
2 Stage shields;
8 Coil sockets;
8 Tube sockets;
1 Drum dial;
1 Grid-leak mounting;
2 Condenser extension shafts;
2 Tip jack and plugs;

The parts required for building the amplifier-power unit are as follows:
T1—Full-wave, power transformer.
T2—Push-pull, audio-frequency transformer;
T3—Filament transformer;
L1 and L2—Audio-frequency chokes;
L3—Center-tapped, audio-frequency choke;
C1, C2 and C3—Filter condensers, 2 mfd., 1,000 volts;
R1—Fixed resistor, 4,000 ohms, 50 watts;
R2—Fixed resistor, 750 ohms, 25 watts;
R3 and R4—Variable resistors, 10,000 ohms;
R5—Rheostat, 60 ohms;
R6 and R7—Variable resistors, 500 ohms;
C4 to C7—Fixed condensers, 1 mfd., 400 volts;
V1 and V2—Power tubes, '10 type;
V3 and V4—Rectifier tubes, '81 type;
4 Tube sockets;
12 Binding posts;
1 Front panel;
1 Sub-base panel;
1 110-volt receptacle.

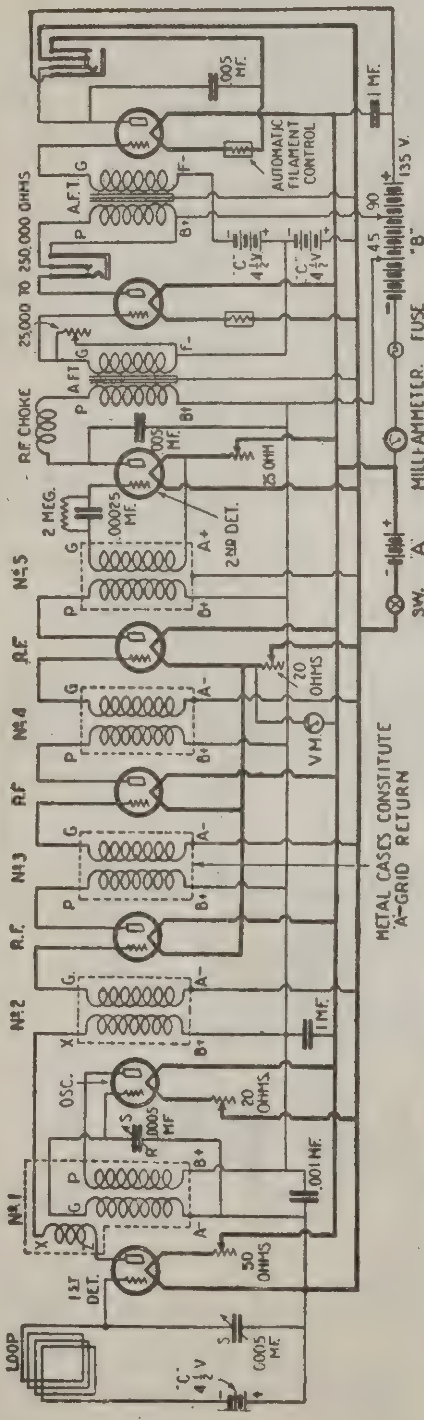

A
C10
RF
MOD.
1ST I.F
2ND I.F
3RD I F
DET.
T1
1ST A.F
T2
2ND AF
C1
C2
C10
C9
L1
L2
L4
L5
L6
L7
C7
C8
C6
C4
R1
R2
R4
R5
J
J1
C5
OSC
L3
C3
C6
SW
L
-C
-C
-A
+A
+B
+B
+B
DET. AMP. -B
DET. AMP 135 VOLTS

Model LR-4

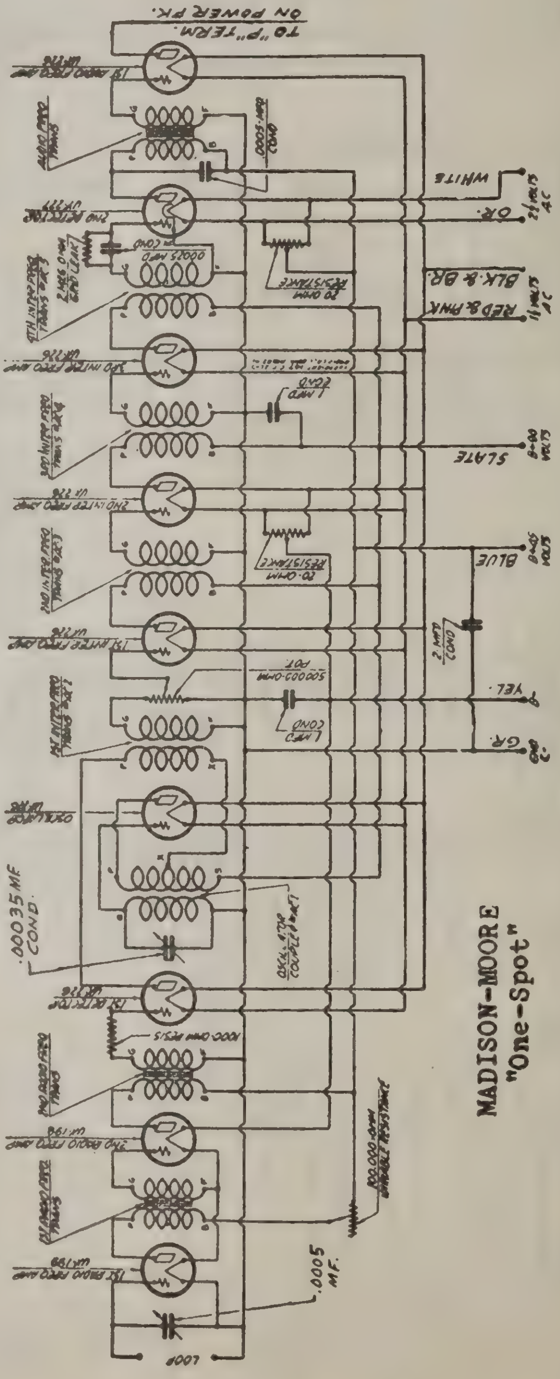

Modulator
RF
RF
RF
Det.
1ST AF
2D AF
L2
J1
C1
L3
L4
L1
A
G
C3
C6
C4
C5
UA
UB
UB
UB
R1
R2
J1
J2
J3
T2
T1
P
G
B
F
+BA
+BR
-B+A
-A+C
-C
Oscillator
C2
C3
L5
L6

Model L-2 Ultradyne
(Improved)

MADISON-MOORE


LOOP
'C' 4½ V
.0005 MF
1ST DET.
50 OHMS
Nº1
OSC.
.0005 MF
20 OHMS
.001 MF.
Nº2
1 MF.
R.F.
Nº3
R.F.
Nº4
R.F.
Nº5
20 OHMS
VM
METAL CASES CONSTITUTE 'A'-GRID RETURN
2 MEG.
.00025 MF.
2ND DET.
25 OHM
.005 MF.
R.F. CHOKE
A.F.T.
25,000 TO 250,000 OHMS
AUTOMATIC FILAMENT CONTROL
.005 MF.
1 MF.
'C' 4½ V
SW.
'A'
MILLI-AMMETER.
FUSE
45
90
135 V.
'B'

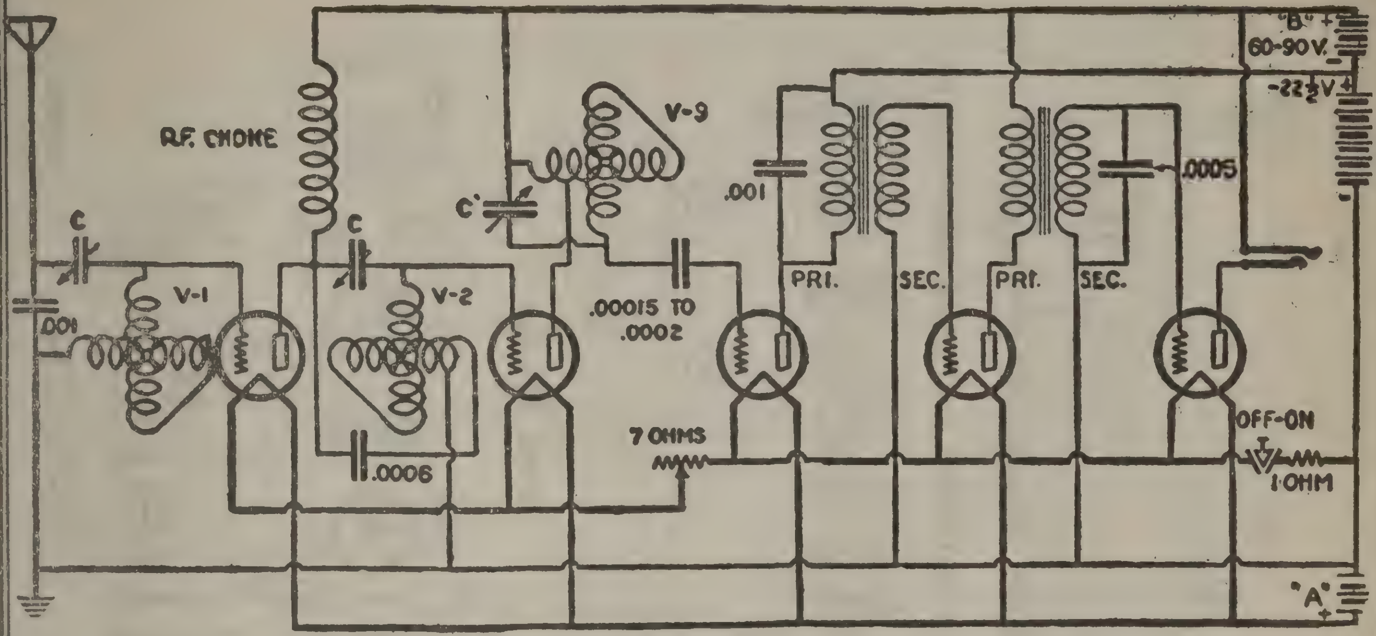
Madison Moore Super-heterodyne


LOOP
.0005 MF.
100,000 OHM VARIABLE RESISTANCE
.00035 MF COND.
OSCILLATOR COUPLER
1 MFD COND
500000-OHM POT
GR.
YEL.
2 MFD COND
BLUE
20-OHM RESISTANCE
SLATE
1 MFD COND
RED & PNK
BLK. & BR.
20 OHM RESISTANCE
.00025 MFD COND
2 MEG OHM GRID LEAK
OR.
WHITE
TO "P" TERM. ON POWER PK.

MADISON-MOORE
"One-Spot"

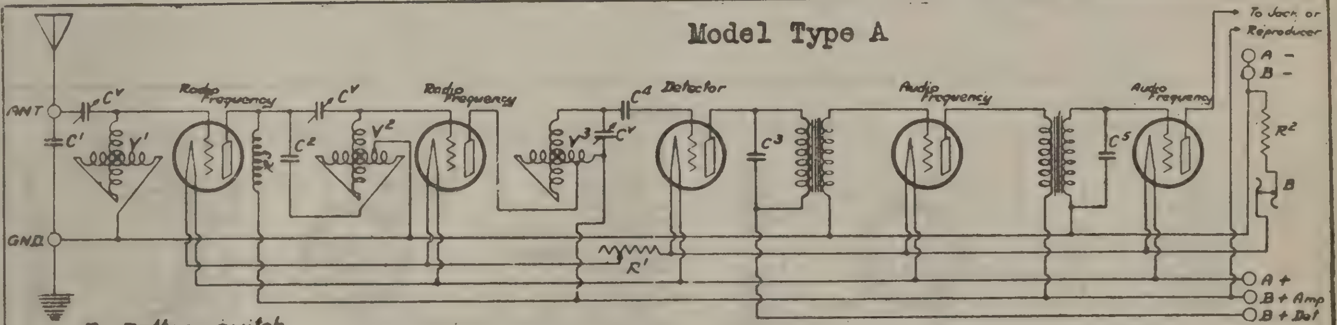
MODEL "One Dial"
MODEL "A"
MODEL "D"

THE MAGNAVOX CO.


R.F. CHOKE
C
C
V-1
V-2
V-3
C'
.001
.0006
.00015 TO
.0002
7 OHMS
.001
PRI.
SEC.
PRI.
SEC.
.0005
"B" +
60-90 V.
-22½ V.
OFF-ON
1 OHM
"A"

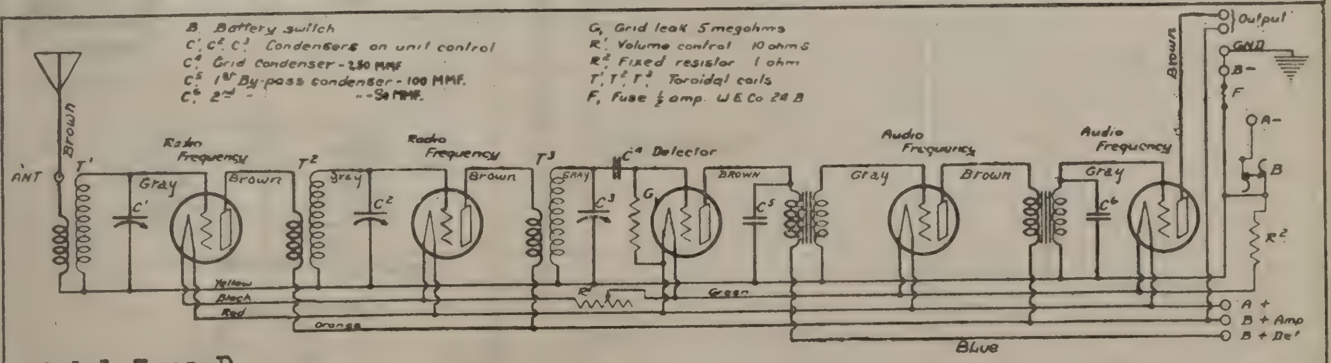
Model "One Dial"

Model Type A


ANT
GND
Radio Frequency
Radio Frequency
Detector
Audio Frequency
Audio Frequency
C^V
C'
V'
C^2
V^2
V^3
C^4
C^3
C^5
R'
R^2
B
To Jack or Reproducer
A –
B –
A +
B + Amp
B + Det

B Battery switch
C' Antenna coupling condenser, approximate 1000 M.M.F.
C^2 Second " " 600 "
C^3 1st Audio by-pass " " 1000 "
C^4 Grid condenser " 150-200 M.M.F
C^5 2nd Audio by-pass condenser " 500 M.M.F.

C^V Variable ratio condenser approx 10-150 MMF
R' Volume control, approximate 7 ohms
R^2 Fixed resistor " 1 ohm
R^3 Radio frequency choke
V', V^2, V^3 Variometers on unit control.

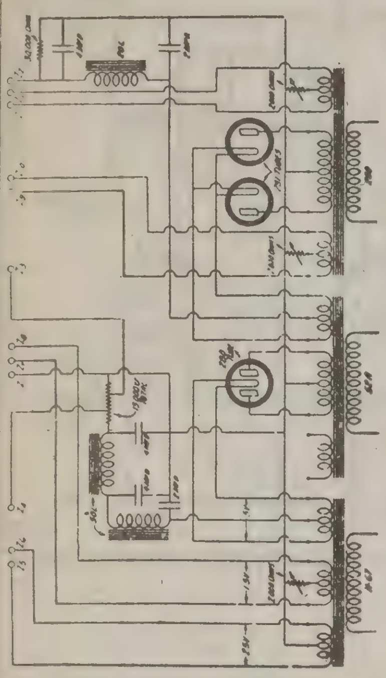

ANT
Brown
T'
Radio Frequency
Gray
Brown
C'
T^2
Gray
C^2
Radio Frequency
Brown
T^3
GRAY
C^3
C^4 Detector
G
BROWN
C^5
Audio Frequency
Gray
Brown
Audio Frequency
Gray
C^6
Yellow
Black
Red
Orange
R'
Green
Blue
Brown
Output
GND
B –
F
A –
B
R^2
A +
B + Amp
B + Det

B. Battery switch
C', C^2, C^3 Condensers on unit control
C^4 Grid Condenser - 250 MMF
C^5 1st By-pass condenser - 100 MMF.
C^6 2nd " -- 50 MMF.

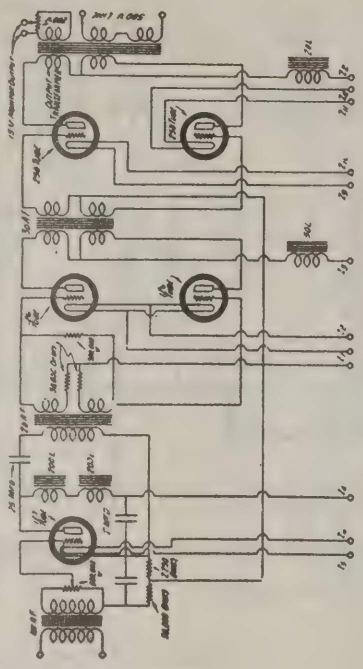
G, Grid leak 5 megohms
R' Volume control 10 ohms
R^2 Fixed resistor 1 ohm
T', T^2, T^3 Toroidal coils
F, Fuse ½ amp. W.E. Co 24 B

Model Type D

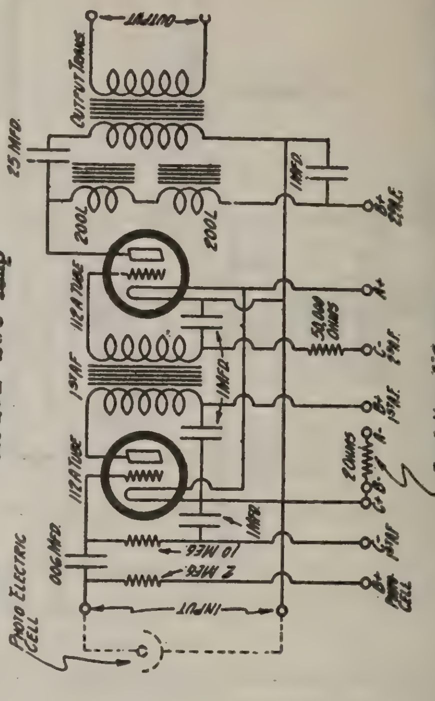
MAJOR LABORATORIES



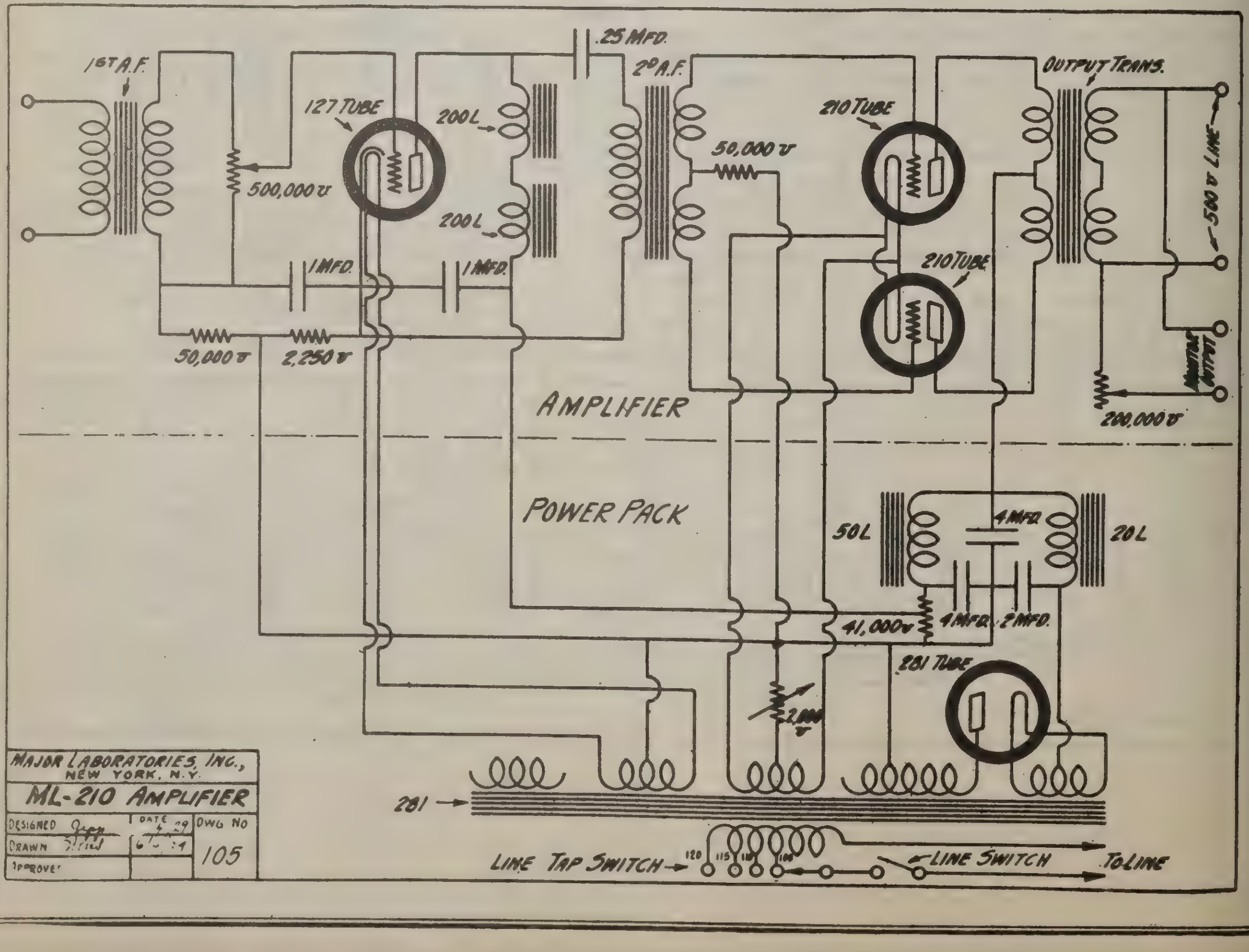
Model 250 Power Amplifier Power Supply.



Model 250 Amp

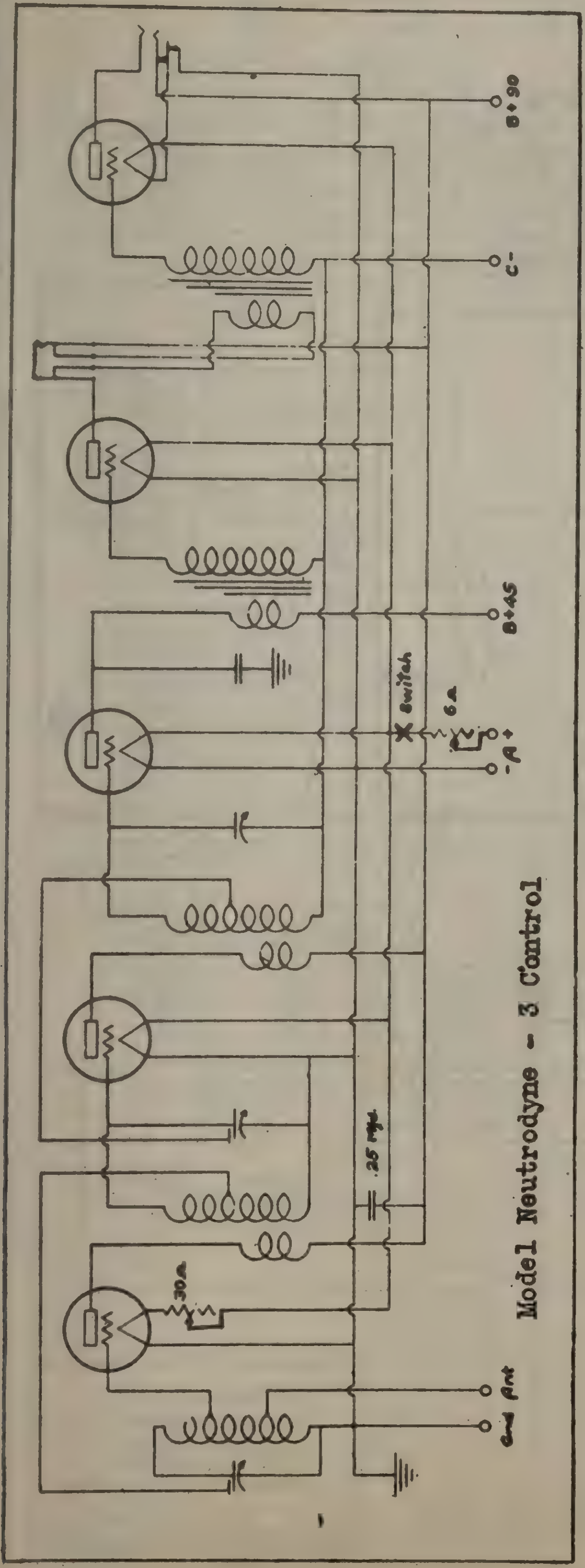

OUTPUT
OUTPUT TRANS
25 MFD.
200L
200L
1 MFD
112A TUBE
1ST A.F.
112A TUBE
50,000 OHMS
1 MFD
1 MFD
10 MEG.
2 MEG.
.006 MFD.
INPUT
PHOTO ELECTRIC CELL
20 OHMS
FOR 6 VOLT A SUPPLY; 15 OHMS FOR 12 VOLT SUPPLY

Model 12

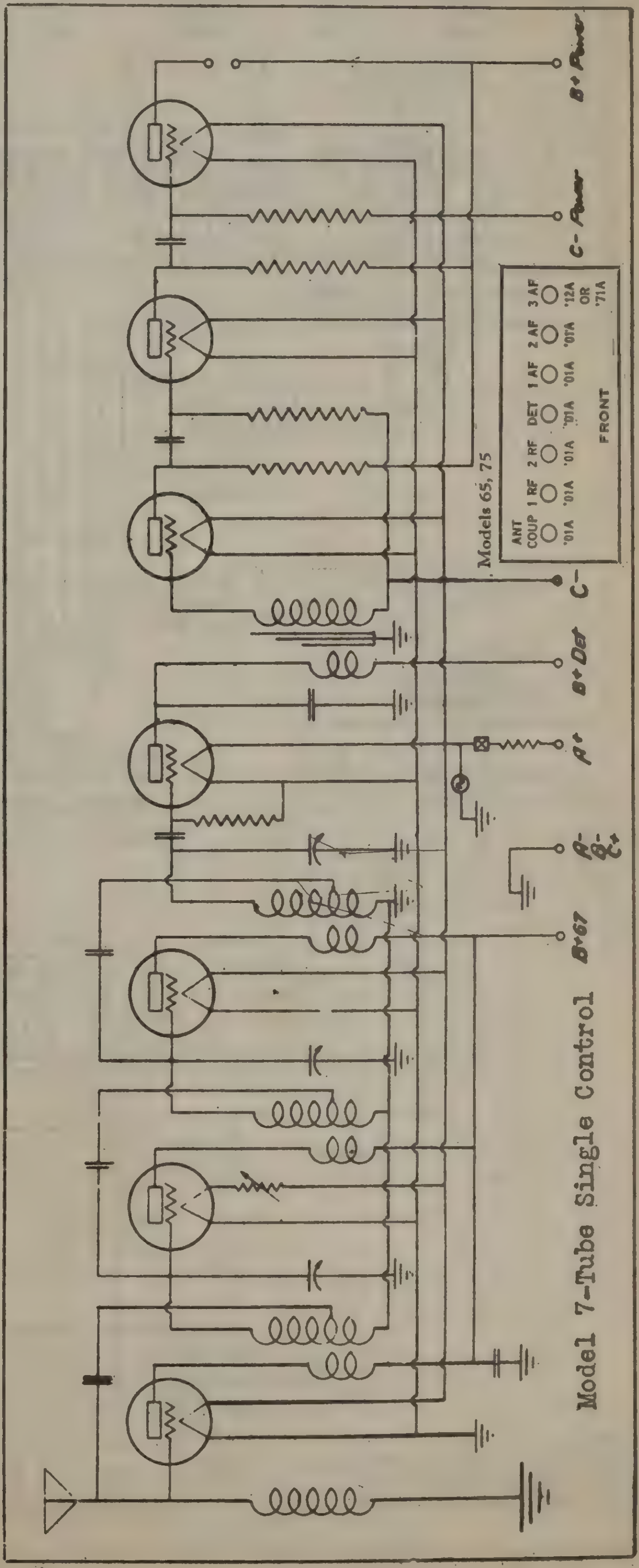

.25 MFD.
1ST A.F.
127 TUBE
200L
200L
2D A.F.
OUTPUT TRANS.
210 TUBE
210 TUBE
500,000 Ω
50,000 Ω
500 Ω LINE
1 MFD.
1 MFD.
50,000 Ω
2,250 Ω
MONITOR OUTPUT
200,000 Ω
AMPLIFIER
POWER PACK
50L
4 MFD.
20L
41,000 Ω
4 MFD.
2 MFD.
281 TUBE
2,000 Ω
281
120
115
110
100
LINE TAP SWITCH
LINE SWITCH
TO LINE
MAJOR LABORATORIES, INC., NEW YORK, N.Y.
ML-210 AMPLIFIER
DESIGNED
DRAWN
APPROVED
DATE
DWG NO
105

WILLIAM J. MURDOCK CO.

MODEL Neutrodyne
3 Control
MODEL 7 Tube
Single Control


B+90
C-
B+45
Switch
6Ω
-A+
25 mfd.
30Ω
Gnd Ant

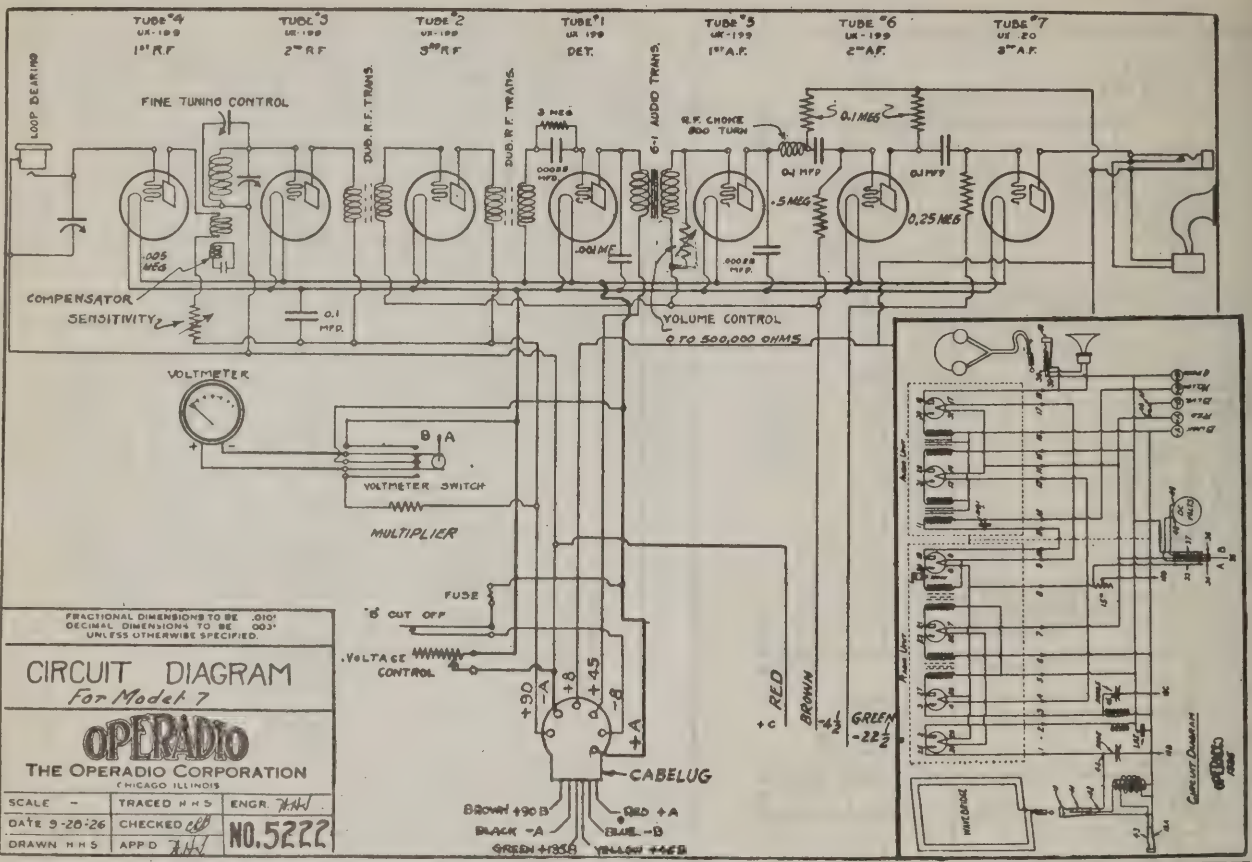
Model Neutrodyne - 3 Control

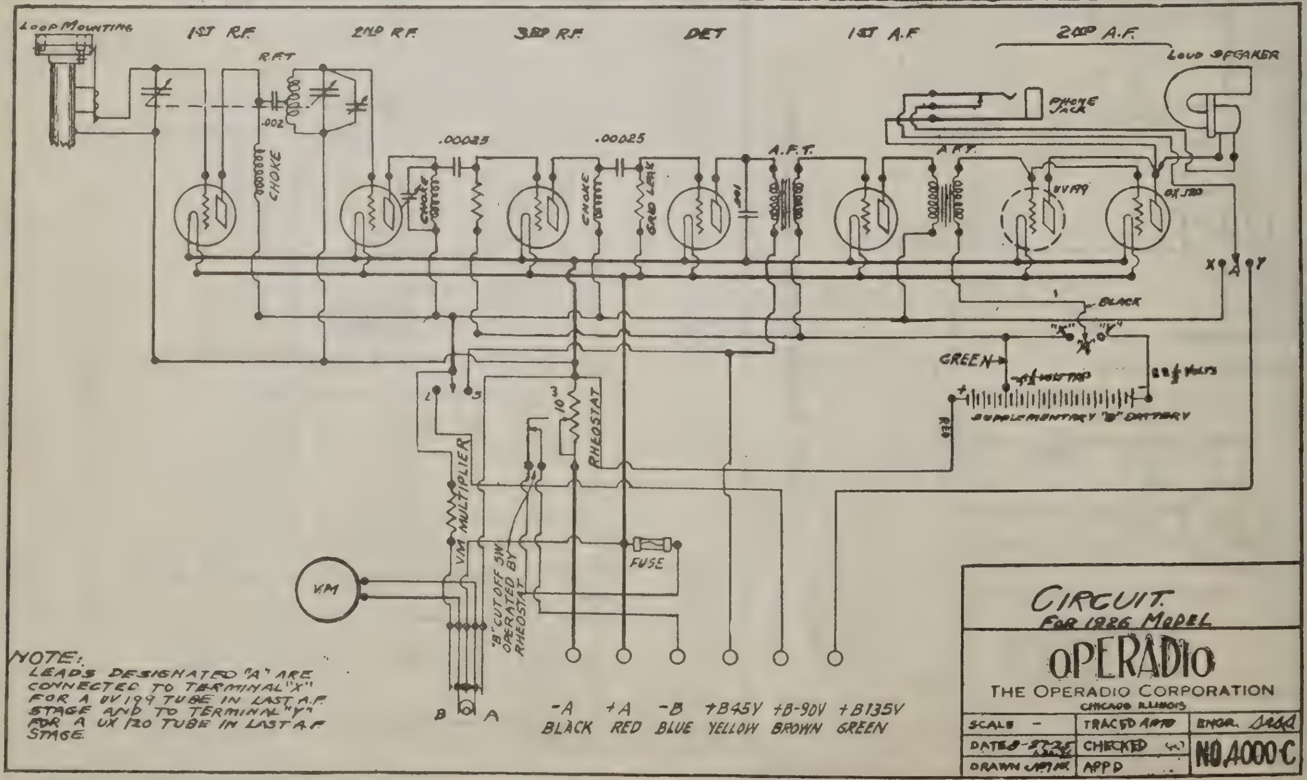

B+ Power
C- Power
C-
B+ Det
A+
A-
B-
C+
B+67
Models 65, 75
ANT COUP
'01A
1 RF
'01A
2 RF
'01A
DET
'01A
1 AF
'01A
2 AF
'01A
3 AF
'12A OR '71A
FRONT

Model 7-Tube Single Control

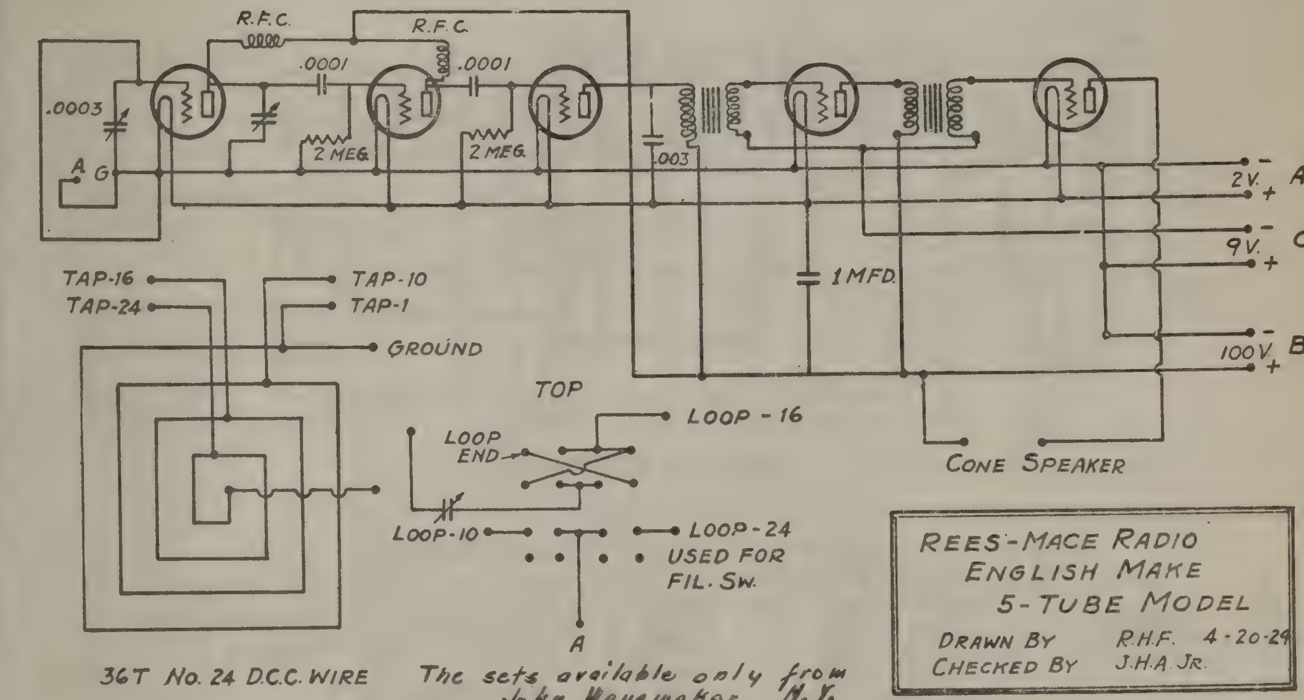
OPERADIO CORP.

MODEL 1925
MODEL 1926
MODEL 7


TUBE #4 UX-199 1st R.F
TUBE #3 UX-199 2nd R.F
TUBE #2 UX-199 3rd R.F
TUBE #1 UX 199 DET.
TUBE #5 UX-199 1st A.F.
TUBE #6 UX-199 2nd A.F.
TUBE #7 UX .20 3rd A.F.
LOOP BEARING
FINE TUNING CONTROL
DUB. R.F. TRANS.
DUB. R.F. TRANS.
3 MEG
.00025 MFD.
6-1 AUDIO TRANS.
R.F. CHOKE 800 TURN
0.1 MEG
0.1 MFD
0.1 MFD
.5 MEG
0.25 MEG
.005 MEG
.001 MF
.00025 MFD.
COMPENSATOR
SENSITIVITY
0.1 MFD.
VOLUME CONTROL
0 TO 500,000 OHMS
VOLTMETER
B A
VOLTMETER SWITCH
MULTIPLIER
FUSE
"B" CUT OFF
VOLTAGE CONTROL
+90
-A
+8
+45
-B
+A
CABELUG
BROWN +90 B
BLACK -A
GREEN +135 B
RED +A
BLUE -B
YELLOW +45 B
+C
RED
BROWN
-4½
GREEN -22½
FRACTIONAL DIMENSIONS TO BE .010"
DECIMAL DIMENSIONS TO BE .003"
UNLESS OTHERWISE SPECIFIED.
CIRCUIT DIAGRAM
For Model 7
OPERADIO
THE OPERADIO CORPORATION
CHICAGO ILLINOIS
SCALE -
TRACED H H S
ENGR. H.H.J.
DATE 9-28-26
CHECKED
DRAWN H H S
APP D H.H.J.
NO. 5222
WAVEBRIDGE
CIRCUIT DIAGRAM


LOOP MOUNTING
1ST R.F.
2ND R.F.
3RD R.F.
DET
1ST A.F
2ND A.F.
LOUD SPEAKER
R.F.T
.002
CHOKE
.00025
.00025
CHOKE
CHOKE
GRID LEAK
.001
A.F.T.
A.F.T.
PHONE JACK
UV199
UX120
X A Y
BLACK
"X" "Y"
GREEN
4½ VOLT TAP
22½ VOLTS
SUPPLEMENTARY "B" BATTERY
RED
1 3
10
RHEOSTAT
VM MULTIPLIER
"B" CUT OFF SW OPERATED BY RHEOSTAT
FUSE
VM
B A
-A BLACK
+A RED
-B BLUE
+B45V YELLOW
+B-90V BROWN
+B135V GREEN
NOTE:
LEADS DESIGNATED "A" ARE CONNECTED TO TERMINAL "X" FOR A UV199 TUBE IN LAST A.F. STAGE AND TO TERMINAL "Y" FOR A UX 120 TUBE IN LAST A.F. STAGE.
CIRCUIT.
FOR 1926 MODEL
OPERADIO
THE OPERADIO CORPORATION
CHICAGO ILLINOIS
SCALE -
TRACED
ENGR.
DATE
CHECKED
DRAWN
APP D
NO. 4000 C

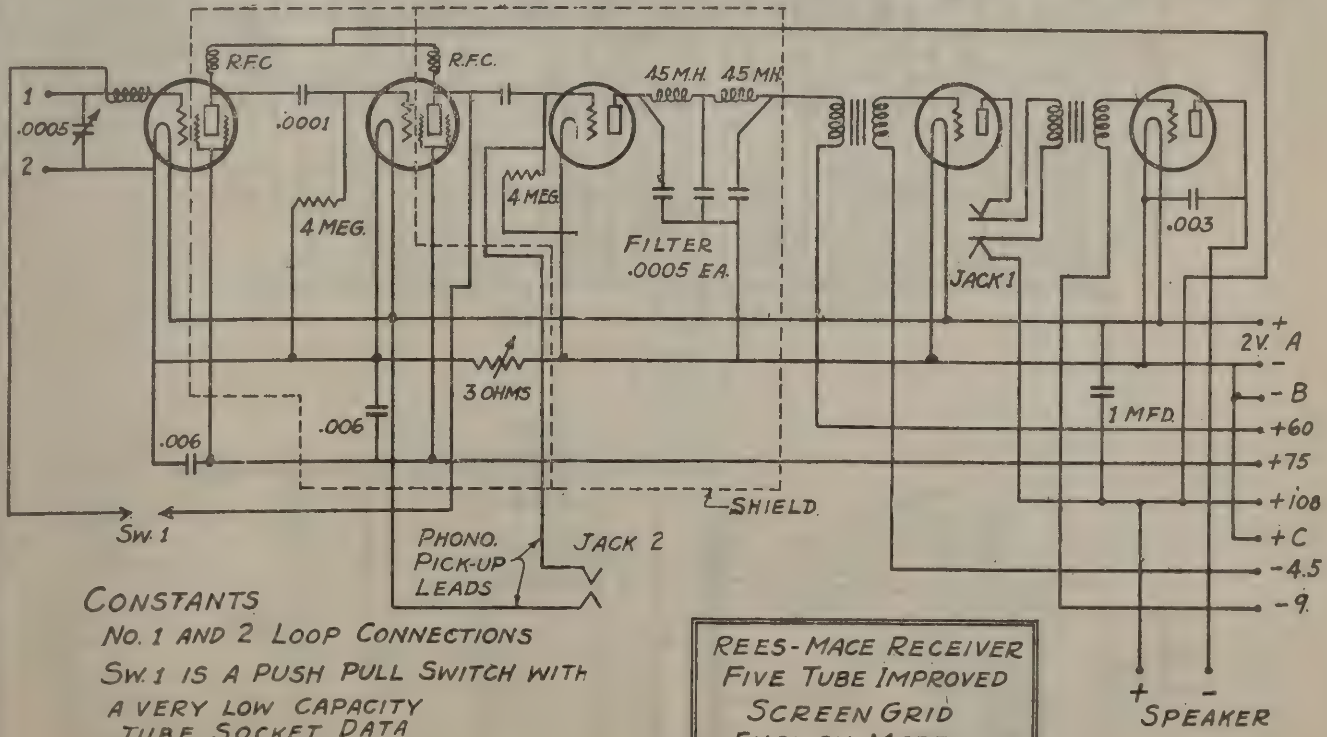
REES-MACE


R.F.C.
R.F.C.
.0001
.0001
.0003
A
G
2 MEG.
2 MEG.
.003
1 MFD.
2V.
A
9V.
C
100V.
B
TAP-16
TAP-24
TAP-10
TAP-1
GROUND
TOP
LOOP - 16
LOOP END
LOOP-10
LOOP-24
USED FOR FIL. SW.
A
CONE SPEAKER

36T No. 24 D.C.C. WIRE

The sets available only from John Wanamaker N.Y.

REES-MACE RADIO
ENGLISH MAKE
5-TUBE MODEL
DRAWN BY R.H.F. 4-20-29
CHECKED BY J.H.A. JR.


1
2
.0005
R.F.C.
R.F.C.
.0001
4 MEG.
4 MEG.
45 M.H.
45 M.H.
FILTER .0005 EA.
JACK 1
.003
2V. A
3 OHMS
.006
.006
1 MFD.
SHIELD
SW. 1
PHONO. PICK-UP LEADS
JACK 2
- B
+60
+75
+108
+C
-4.5
-9
+ SPEAKER -

CONSTANTS
NO. 1 AND 2 LOOP CONNECTIONS
SW. 1 IS A PUSH PULL SWITCH WITH
A VERY LOW CAPACITY
TUBE SOCKET DATA

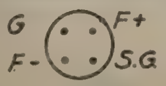
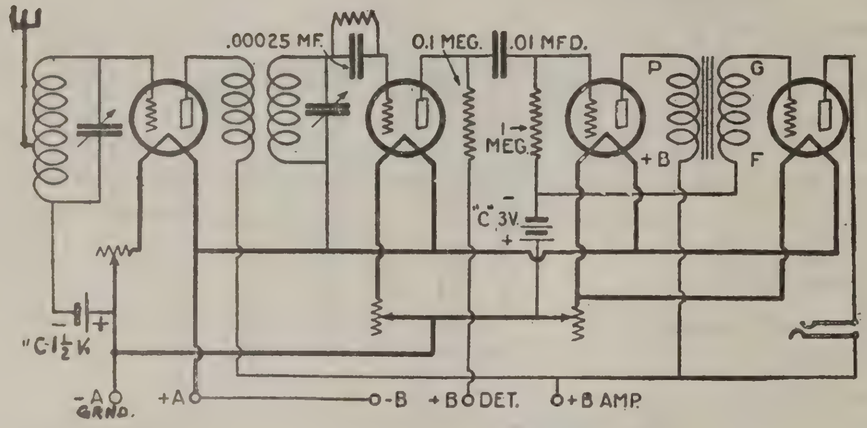


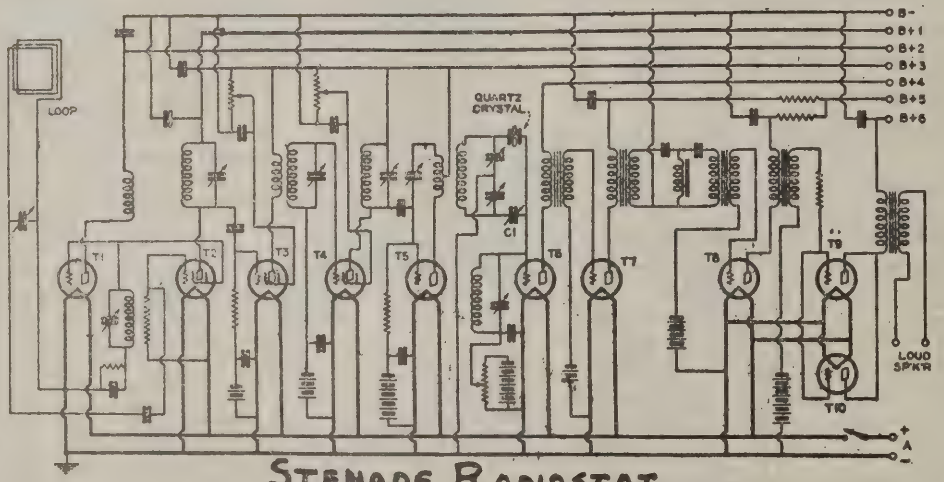
PLATE CONNECTION COMES FROM TOP OF TUBE.

REES-MACE RECEIVER
FIVE TUBE IMPROVED
SCREEN GRID
ENGLISH MADE
DRAWN BY R.H.F 4-22-29
CHECKED BY J.H.A. Jr.

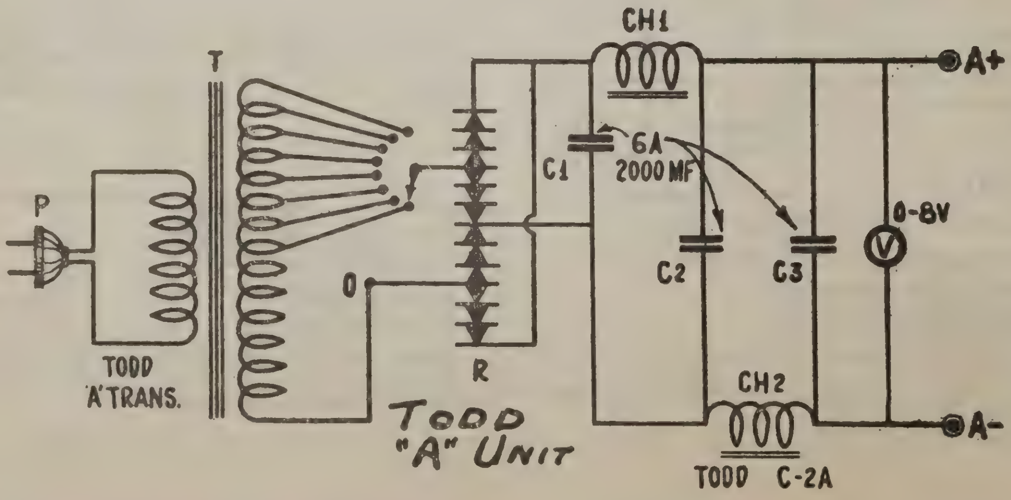
M. B. SLEEPER
STENODE RADIOSTAT
TODD ELECTRIC COMPANY


.00025 MF.
0.1 MEG.
.01 MFD.
P
G
1 MEG.
+B
F
"C" 3V.
-
+
"C-1½ V
-A GRND.
+A
-B
+B DET.
+B AMP.

Sleeper RX-1 Receiving Circuit,

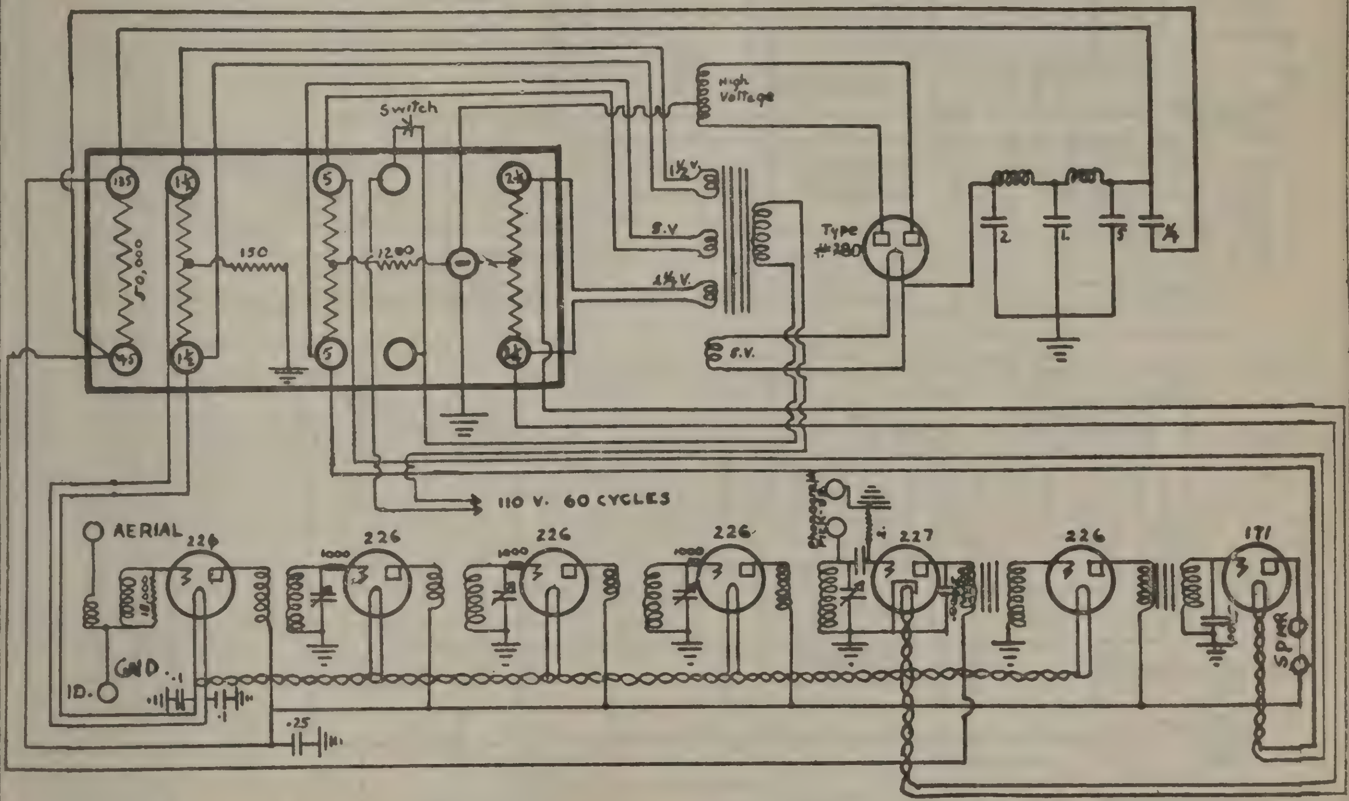

LOOP
QUARTZ CRYSTAL
C1
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
B-
B+1
B+2
B+3
B+4
B+5
B+6
LOUD SPK'R
+
A
-

STENODE RADIOSTAT

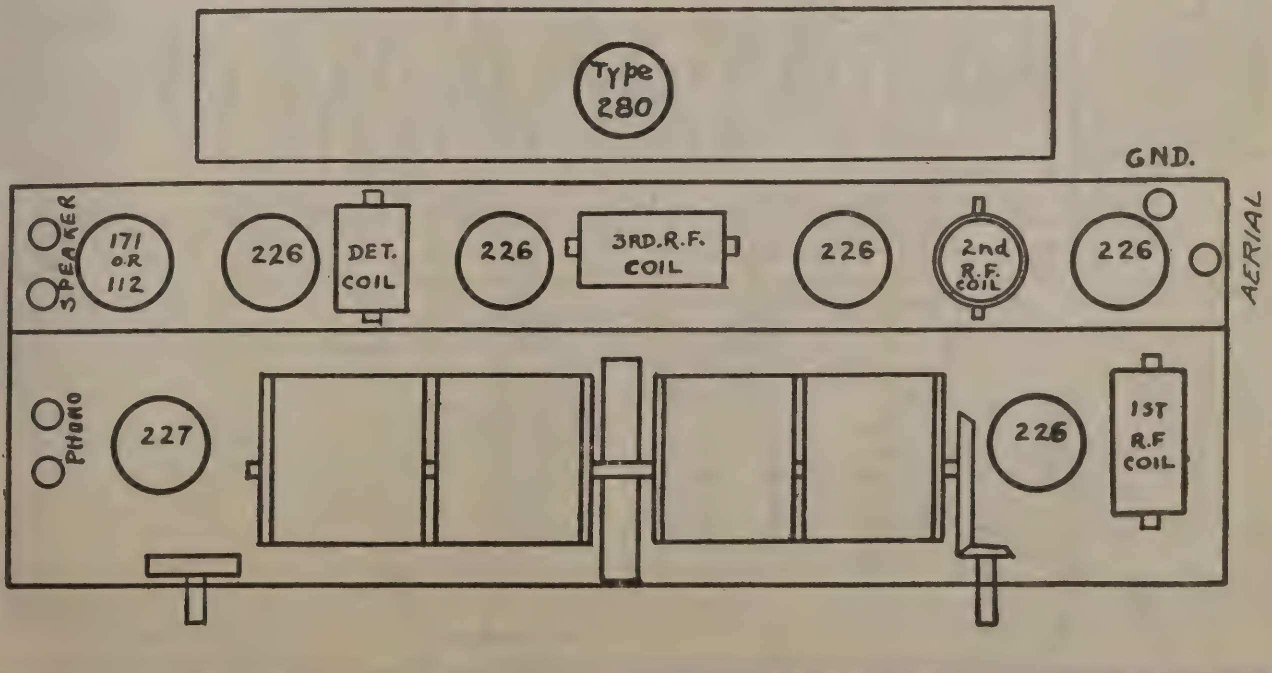

T
P
TODD 'A' TRANS.
O
R
CH1
C1
6A 2000 MF
C2
C3
0-8V
V
A+
A-
CH2
TODD C-2A

TODD "A" UNIT

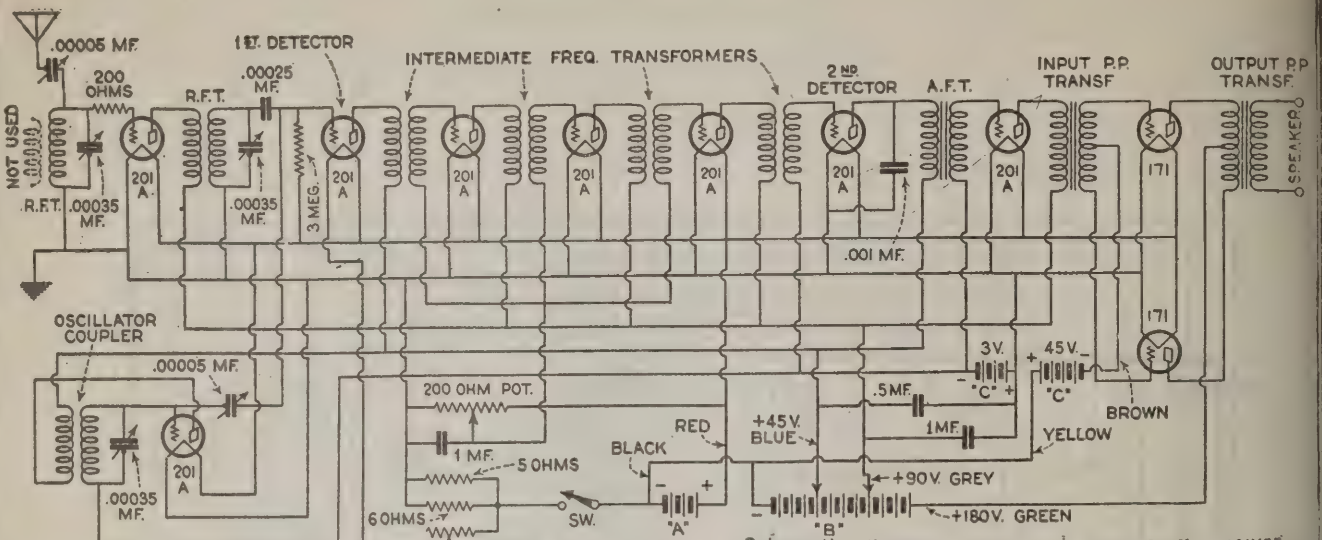
STANDARD RADIO CORP.


High Voltage
Switch
135
1½
5
2½
45
50,000
150
1200
1½ V.
5 V
2½ V.
5 V.
Type #280
2
1
.5
¼
110 V. 60 CYCLES
AERIAL
226
1000
10,000
227
171
GND.
ID.
.1
.25
SPKR

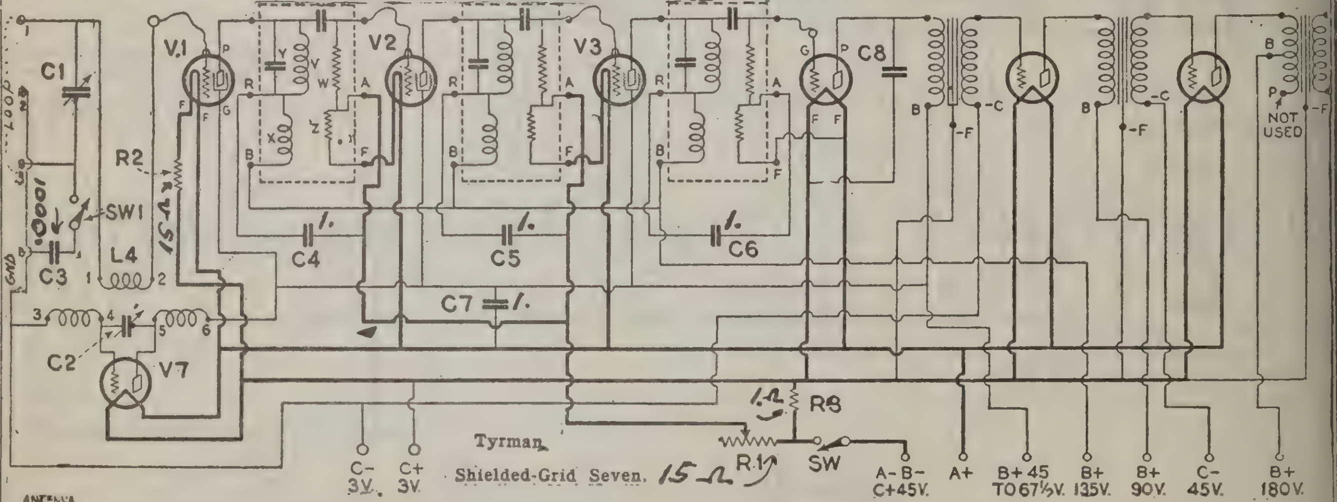
Standardyne A C Model 29
50 to 60 cycles - 100 to 120 volts


Type 280
GND.
SPEAKER
171 or 112
226
DET. COIL
226
3RD. R.F. COIL
226
2nd R.F. COIL
226
AERIAL
PHONO
227
226
1ST R.F. COIL

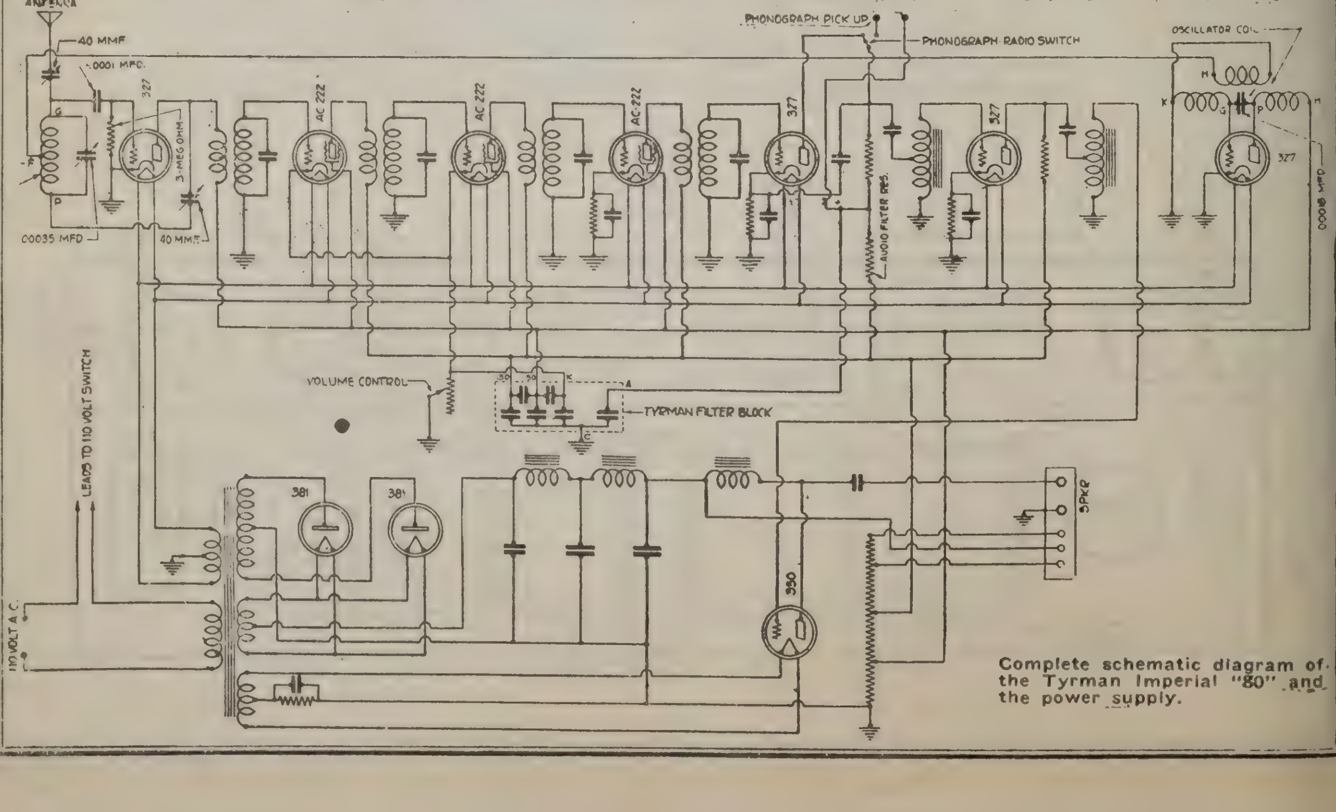
TYRMAN ELECTRIC CORP.


.00005 MF.
200 OHMS
NOT USED
R.F.T.
.00035 MF.
R.F.T.
.00025 MF.
.00035 MF.
3 MEG.
1ST. DETECTOR
INTERMEDIATE FREQ. TRANSFORMERS
2ND. DETECTOR
A.F.T.
INPUT P.P. TRANSF.
OUTPUT P.P. TRANSF.
SPEAKER
201 A
171
.001 MF.
OSCILLATOR COUPLER
.00005 MF.
.00035 MF.
200 OHM POT.
1 MF.
5 OHMS
6 OHMS
25 OHMS
SW.
BLACK
RED
"A"
+45V. BLUE
.5MF.
1MF.
3V. "C"
45V. "C"
BROWN
YELLOW
+90V. GREY
"B"
+180V. GREEN

Schematic diagram of the "Tyrman Ten" receiver.


C1
C2
C3
.0001
.0007
GND
SW1
L4
R2
15 Ω
V.1
V2
V3
V7
C4
C5
C6
C7 1.
C8
R8
R.1
15 Ω
SW
C- 3V.
C+ 3V.
A- B- C+45V.
A+
B+45 TO 67½V.
B+ 135V.
B+ 90V.
C- 45V.
B+ 180V.
NOT USED

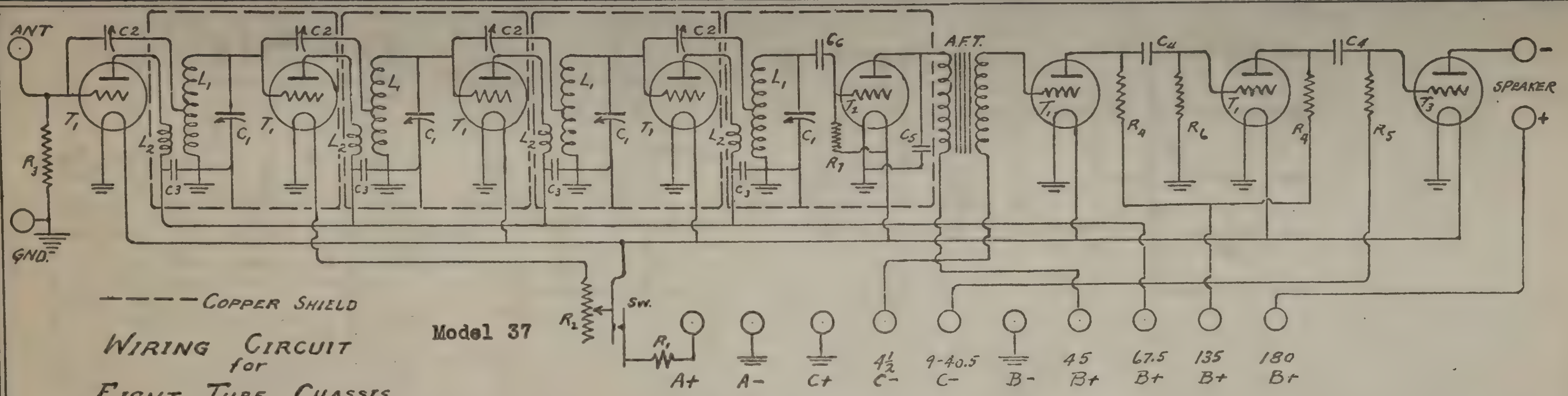
Tyrman Shielded-Grid Seven.


ANTENNA
40 MMF
.0001 MFD.
327
3-MEG OHM
.00035 MFD
40 MMF
AC 222
AUDIO FILTER RES.
PHONOGRAPH PICK UP
PHONOGRAPH RADIO SWITCH
OSCILLATOR COIL
.0006 MFD
VOLUME CONTROL
TYRMAN FILTER BLOCK
LEADS TO 110 VOLT SWITCH
110 VOLT A.C.
381
350
SPKR

Complete schematic diagram of the Tyrman Imperial "80" and the power supply.

MODEL 17
MODEL 37
Schematic

U. S. ELECTRIC CORP.

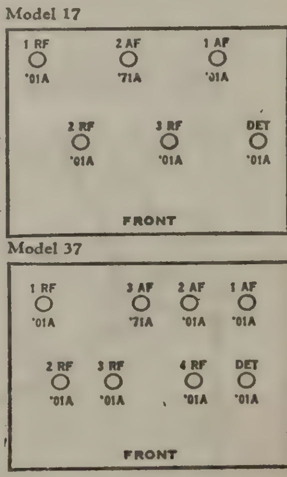

ANT
GND.
C2
L1
L2
C1
C3
T1
T2
T3
R3
R7
C5
C6
A.F.T.
C4
R4
R6
R5
SPEAKER
-
+
R1
R2
SW.
---- COPPER SHIELD
A+
A-
C+
4½ C-
9-40.5 C-
B-
45 B+
67.5 B+
135 B+
180 B+

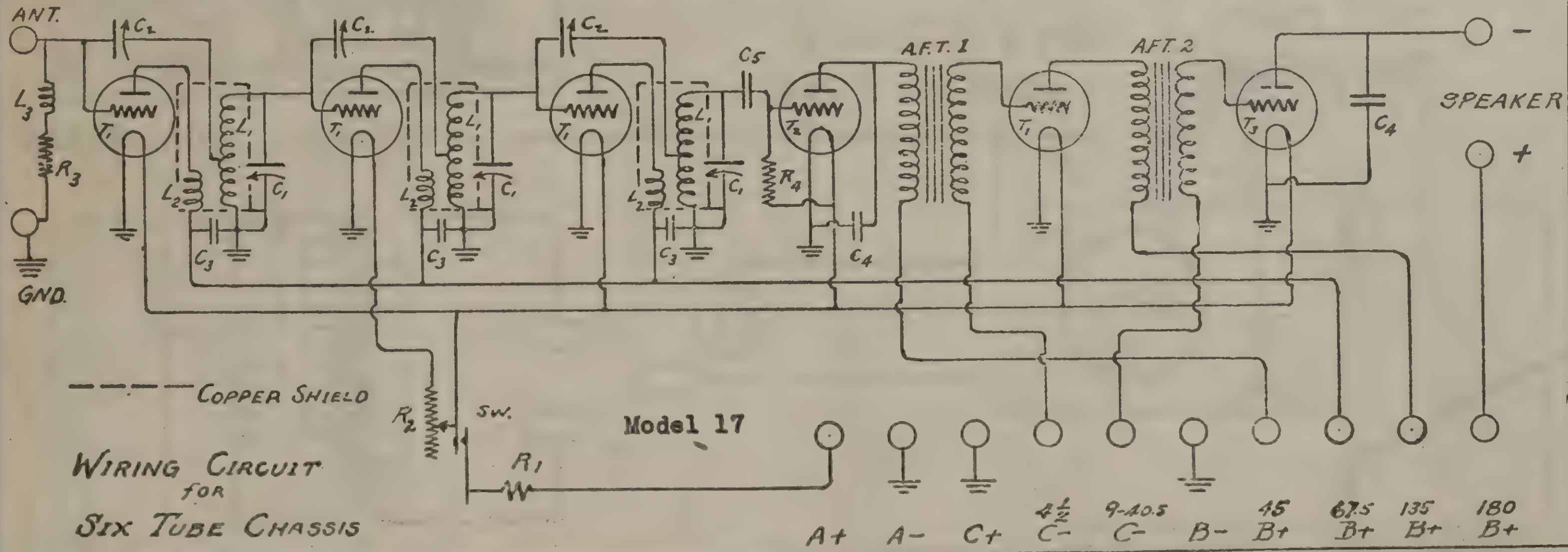
Model 37

WIRING CIRCUIT for EIGHT TUBE CHASSIS

EIGHT TUBE CHASSIS

L1 — Secondary of R. F. Transformer
L2 — Primary of R. F. Transformer
C1 — 500 MMF Variable Condenser
C2 — Neutrodon Condenser
C3 — 1. MF By Pass Condenser
C4 — .1 MF Coupling Condenser
C5 — .002 MF By Pass Condenser
C6 — .00025 MF Grid Condenser
R1 — Fil: Resistance Unit, 2.35 AMP
R2 — 25 ohm Rheostat-Switch
R3 — 5000 ohm Resister
R4 — 50,000 ohm Resistor
R5 — 100,000 ohm Resistor
R6 — 500,000 ohm Resistor
R7 — 2 Meg ohm Grid Leak
A.F.T. — Audio Transformer
T1 — Cx 301-A Vacuum Tube
T2 — Cx 300-A Detector Tube
T3 — CX 112 or CX 371 Power Tube
Ant — Antenna Post
Gnd — Ground Post
Sw — Switch


Model 17
1 RF '01A
2 AF '71A
1 AF '01A
2 RF '01A
3 RF '01A
DET '01A
FRONT
Model 37
1 RF '01A
3 AF '71A
2 AF '01A
1 AF '01A
2 RF '01A
3 RF '01A
4 RF '01A
DET '01A
FRONT


ANT.
GND.
L3
R3
C2
L1
L2
C1
C3
T1
T2
T3
C5
R4
C4
A.F.T. 1
A.F.T. 2
SPEAKER
-
+
R1
R2
SW.
---- COPPER SHIELD
A+
A-
C+
4½ C-
9-40.5 C-
B-
45 B+
67.5 B+
135 B+
180 B+

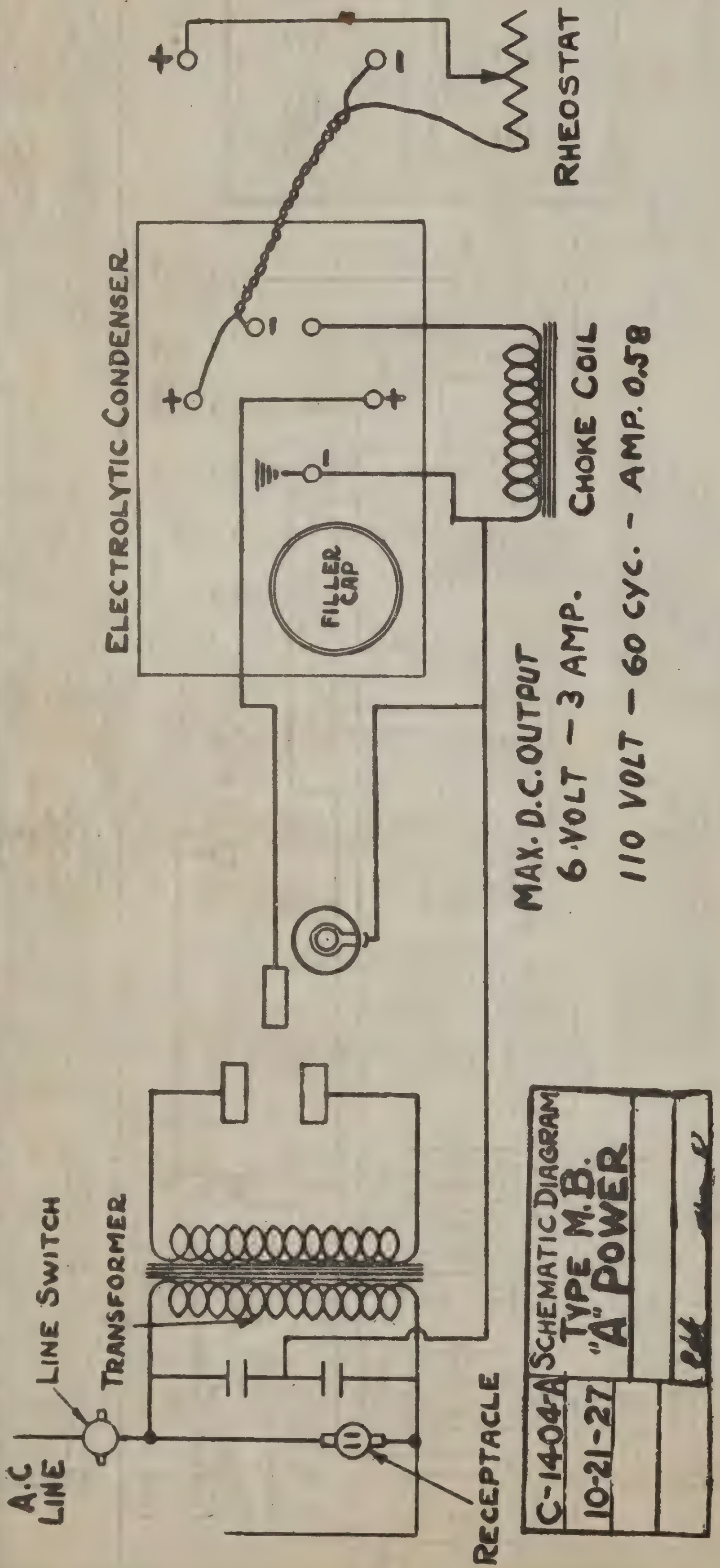
Model 17

WIRING CIRCUIT FOR SIX TUBE CHASSIS

SIX TUBE CHASSIS

L1 — Secondary of R. F. Transformer
L2 — Primary of R. F. Transformer
L3 — Antenna Choke Coil
C1 — 350MMF Variable Air Condenser
C2 — Neutrodon Condenser
C3 — 1. MF. By Pass Condenser
C4 — .002 MF By Pass Condenser
C5 — .00025 MF Grid Condenser
R1 — Fil. Resistance Unit, 1.85 Amp.
R2 — 25 ohm Rheostat Switch
R3 — 350 ohm Resistor
R4 — 2 Meg ohm Grid Leak
A.F.T.1 — 1st Audio Transformer
A.F.T.2 — 2nd Audio Transformer
T1 — Cx 301-A Vacuum Tube
T2 — Cx 300-A Detector Tube
T3 — CX 112 or CX 371 Power Tube
Sw — Switch
Ant — Antenna Post.
Gnd — Ground Post

VALLEY ELECTRIC CO.


A.C LINE
LINE SWITCH
TRANSFORMER
RECEPTACLE
ELECTROLYTIC CONDENSER
FILLER CAP
CHOKE COIL
RHEOSTAT
+
-
MAX. D.C. OUTPUT
6 VOLT – 3 AMP.
110 VOLT – 60 CYC. – AMP. 0.58
C-1404-A
SCHEMATIC DIAGRAM
TYPE M.B.
"A" POWER
10-21-27

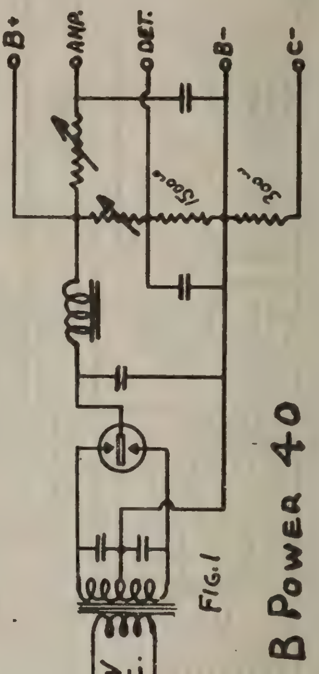

B+
AMP.
DET.
B-
C-
1500
300
110V A.C.

FIG. 1

B POWER 40

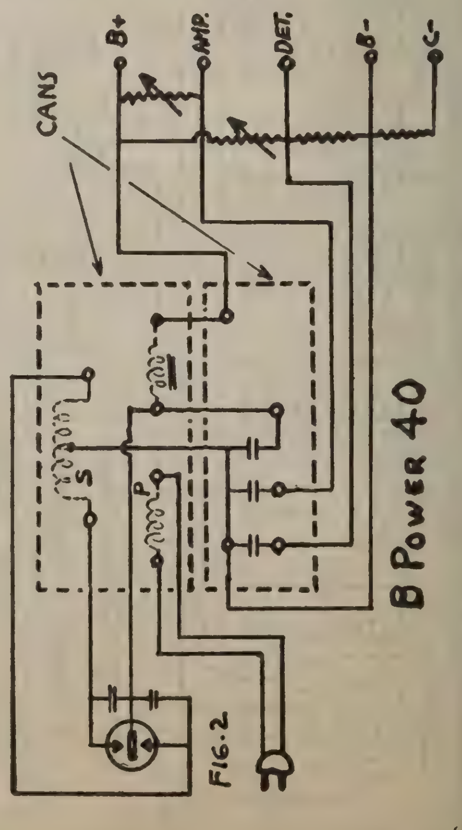

CANS
B+
AMP.
DET.
B-
C-
S
P

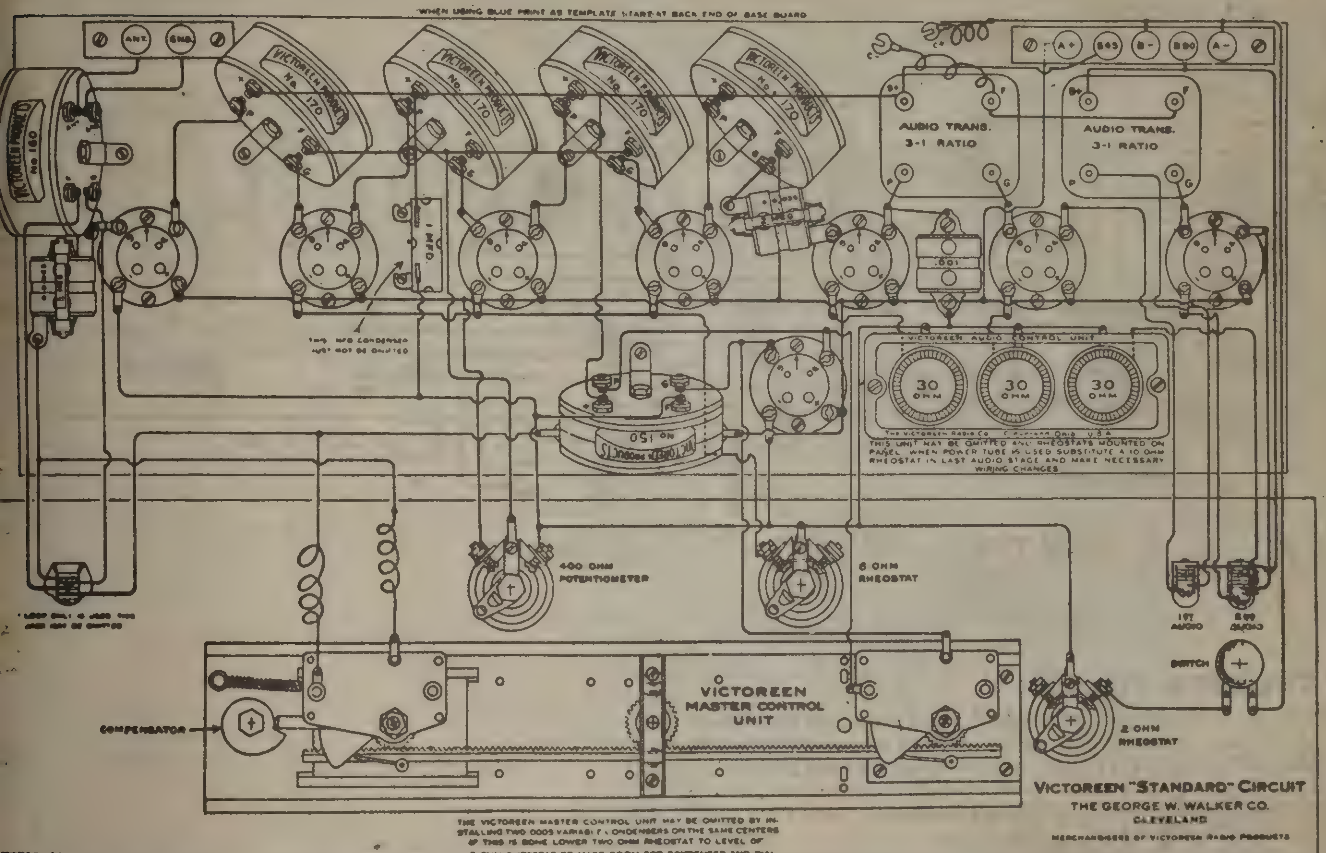
FIG. 2

B POWER 40

GEORGE W. WALKER CO.

MODEL Victoreen "Standard"

MODEL Victoreen "Universal"

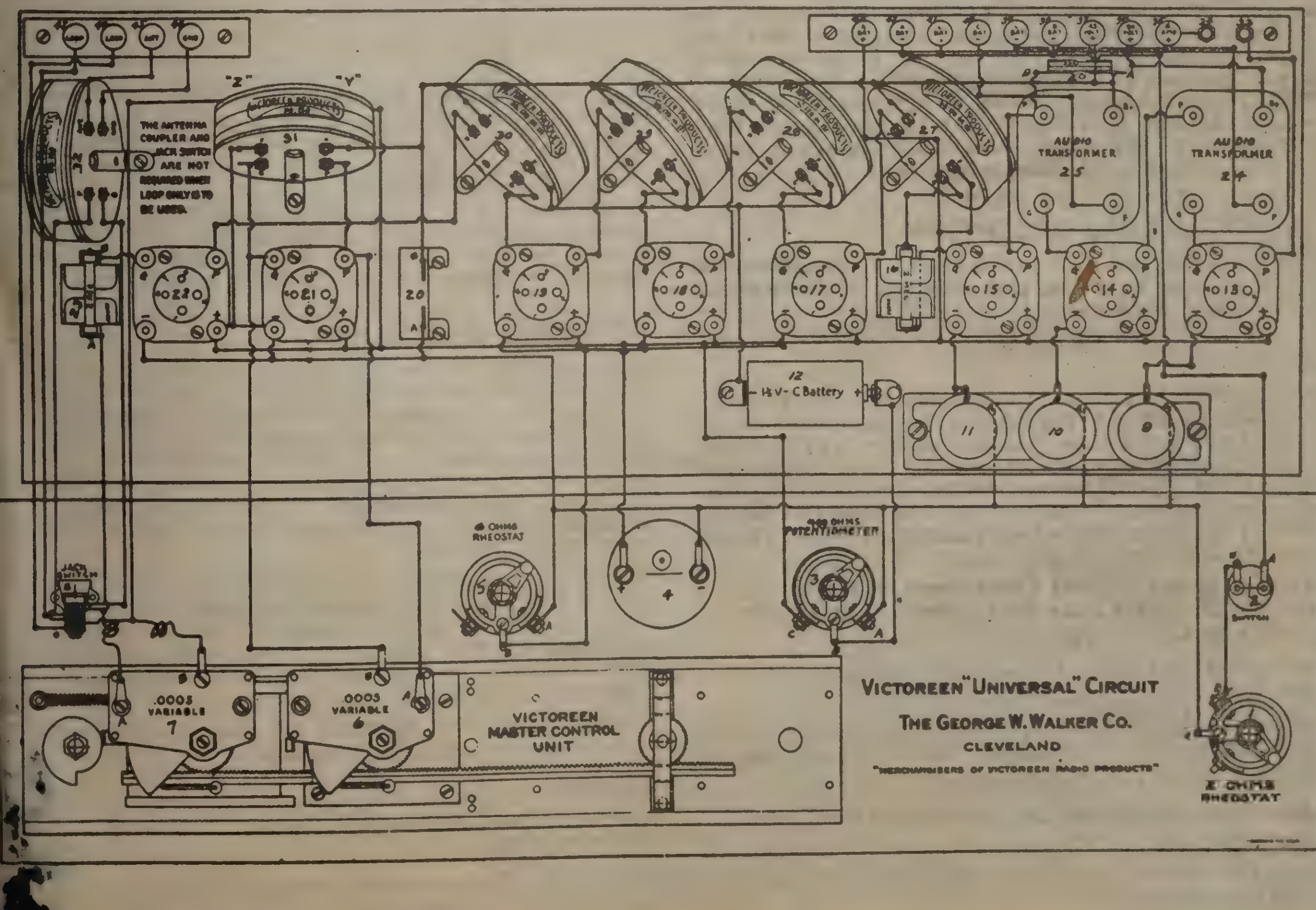

WHEN USING BLUE PRINT AS TEMPLATE START AT BACK END OF BASE BOARD
ANT.
GND.
VICTOREEN PRODUCTS No. 160
VICTOREEN PRODUCTS No. 170
A+
B45
B−
B90
A−
AUDIO TRANS. 3-1 RATIO
1 MFD.
.001
VICTOREEN PRODUCTS No. 150
VICTOREEN AUDIO CONTROL UNIT
30 OHM
30 OHM
30 OHM
THE VICTOREEN RADIO CO. CLEVELAND OHIO U.S.A.
400 OHM POTENTIOMETER
6 OHM RHEOSTAT
1ST AUDIO
2ND AUDIO
SWITCH
COMPENSATOR
VICTOREEN MASTER CONTROL UNIT
2 OHM RHEOSTAT

THIS 1 MFD CONDENSER MUST NOT BE OMITTED

THIS UNIT MAY BE OMITTED AND RHEOSTATS MOUNTED ON PANEL. WHEN POWER TUBE IS USED SUBSTITUTE A 10 OHM RHEOSTAT IN LAST AUDIO STAGE AND MAKE NECESSARY WIRING CHANGES

THE VICTOREEN MASTER CONTROL UNIT MAY BE OMITTED BY INSTALLING TWO .0005 VARIABLE CONDENSERS ON THE SAME CENTERS IF THIS IS DONE LOWER TWO OHM RHEOSTAT TO LEVEL OF 6 OHM RHEOSTAT TO MAKE ROOM FOR CONDENSER AND DIAL

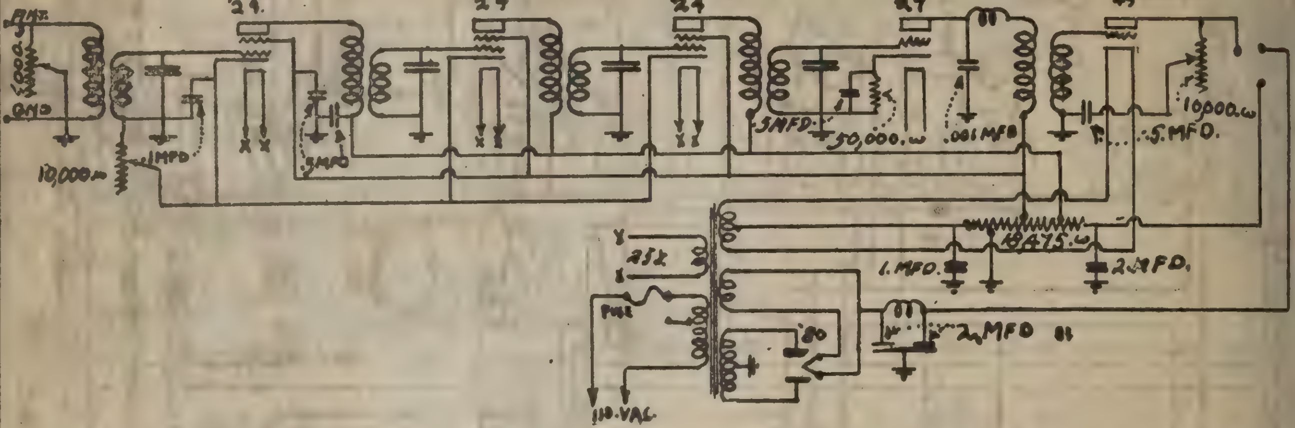
VICTOREEN "STANDARD" CIRCUIT
THE GEORGE W. WALKER CO.
CLEVELAND
MERCHANDISERS OF VICTOREEN RADIO PRODUCTS


LOOP
LOOP
ANT
GND
A BAT
B BAT
C BAT
"Z"
"Y"
VICTOREEN PRODUCTS
31
32
30
29
28
27
AUDIO TRANSFORMER 25
AUDIO TRANSFORMER 24
20
22
21
19
18
17
16
15
14
13
12
1½ V-C Battery
11
10
9
6 OHMS RHEOSTAT
5
4
400 OHMS POTENTIOMETER
3
JACK SWITCH
.0005 VARIABLE 7
.0005 VARIABLE 6
VICTOREEN MASTER CONTROL UNIT
SWITCH
2
2 OHMS RHEOSTAT

THE ANTENNA COUPLER AND JACK SWITCH ARE NOT REQUIRED WHEN LOOP ONLY IS TO BE USED.

VICTOREEN "UNIVERSAL" CIRCUIT
THE GEORGE W. WALKER CO.
CLEVELAND
"MERCHANDISERS OF VICTOREEN RADIO PRODUCTS"

ZANEY-GILL CORP.



SWITCH & VOLUME

The switch and volume control are located on the lower right hand knob which, when turned completely to the left, will act as a switch. To increase volume gradually turn to the right until desired output is gained, being careful to see that the tuning indicator is directly on the station signal.

The lower left hand knob operates VITATONE and tone control. The principle of VITATONE is supplying the backward notes with vitality and bringing them to the proper required impetus so that all reception carries *breadth* as well as the other registers. A further use of VITATONE is the elimination of line noises and static, which also can be accomplished by turning the knob completely to the right. This latter feature is exceptionally desirable for distance reception.

HINTS NECESSARY FOR BETTER RADIO RECEPTION

Use only standard high grade tubes. Cheap tubes will result in poor reception, poor tone and break downs at inopportune moments.

FUSE

Should there be a short in the wiring or a defective tube installed in the set, the fuse, which is located on the right hand side of the chassis assembly, will be blown. This can be replaced by an ordinary 3 amp. automobile type fuse. There are two positions to install the fuse, the two rear clips being used for 110 volts and the two front clips being used where excessive voltages rises as high as 130 volts.

In case of any unusual disturbances in the set, do not attempt to operate same until advised by an experienced service man.

If set does not light, inspect plug connections to wall, also fuse.

If set lights and does not play, inspect speaker terminal and see if it is plugged into the holes marked speaker at the rear of the chassis.

Also, have tubes tested for probable filament shorts.

In all cases, do not attempt to repair the set yourself. Call a competent service man, otherwise your guarantee will be nullified and void.

CAUTION: Before attempting to install or operate, ascertain if this receiver corresponds with the voltage and the cycles of your power supply. The voltage and cycle reading is marked plainly on the license plate. ("Check Same"). Information on the above figures can be ascertained by calling your local power company. In localities where extreme fluctuations of voltages occur, we recommend that a separate voltage compensator be used to maintain a steady power supply.

ANTENNA & GROUND

The quality and amount of reception depends on the correct use of both aerial and ground. In congested areas where several broadcasting stations are in operation, it is not necessary to have an outdoor aerial. Set can be operated on from 3 to 15 feet of aerial for all local reception. In outlying territories or where your relativity to a broadcasting station permits, an aerial of from 25 to 150 feet may be used properly insulated and with correct lead-ins.

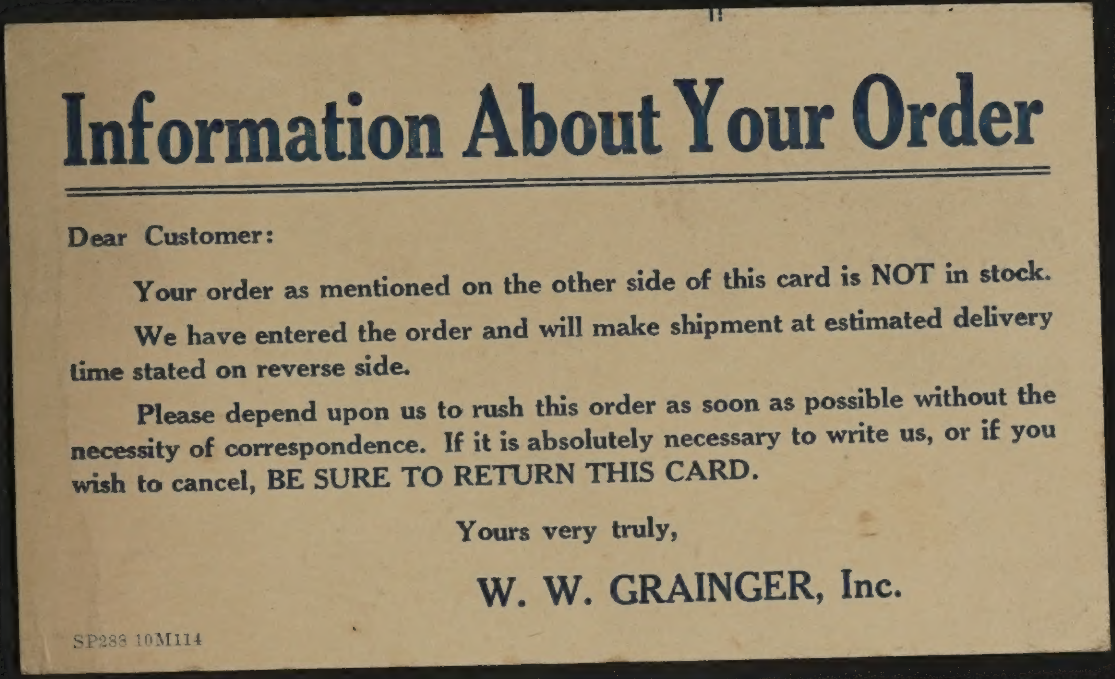
A very important feature in connecting a radio is to have a good ground as close to the receiving set as possible. A poor ground is a producer of noises, fading and generally poor reception. Both aerial and ground should be inspected every six months for loose connections or broken strands.

Aerial and ground connections are marked on the binding posts at the back of the chassis.

TUBES

The equipment for this radio consists of 3-224, 1-227, 1-280 and 1-245.

CAUTION: Do not insert or remove tubes from sockets while current is turned on.



Information About Your Order

Dear Customer:

Your order as mentioned on the other side of this card is NOT in stock.

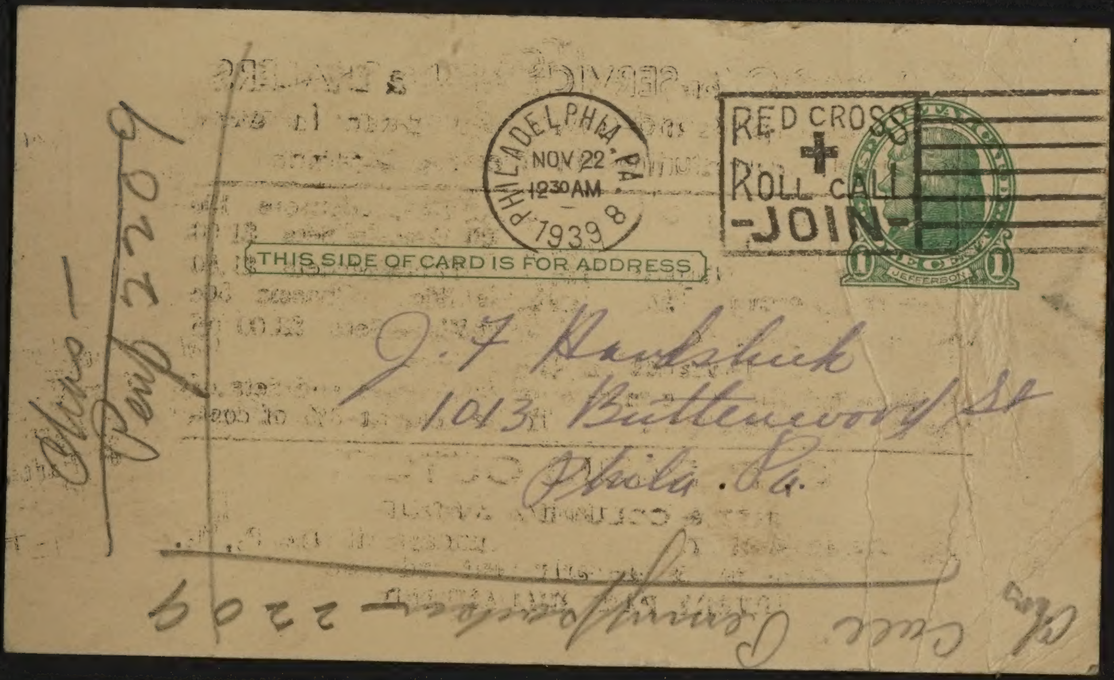
We have entered the order and will make shipment at estimated delivery time stated on reverse side.

Please depend upon us to rush this order as soon as possible without the necessity of correspondence. If it is absolutely necessary to write us, or if you wish to cancel, BE SURE TO RETURN THIS CARD.

Yours very truly,

W. W. GRAINGER, Inc.

SP288 10M114



PHILADELPHIA, PA.
NOV 22
12:30 AM
1939
8

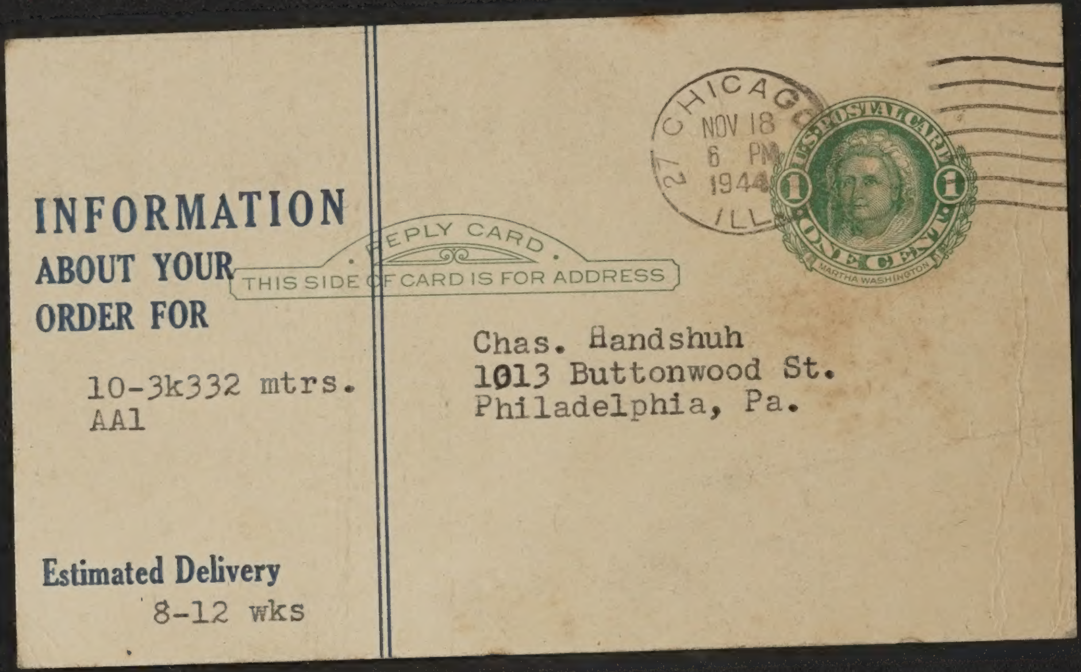
RED CROSS
+
ROLL CALL
-JOIN-

THIS SIDE OF CARD IS FOR ADDRESS

J. F. Hardshuck
1013 Buttonwood St
Phila. Pa.

Chas — Penny 2209

Chas Call Pennypacker — 2209



CHICAGO
NOV 18
6 PM
1944
ILL.
27

U.S. POSTAL CARD
1 ONE CENT 1
MARTHA WASHINGTON

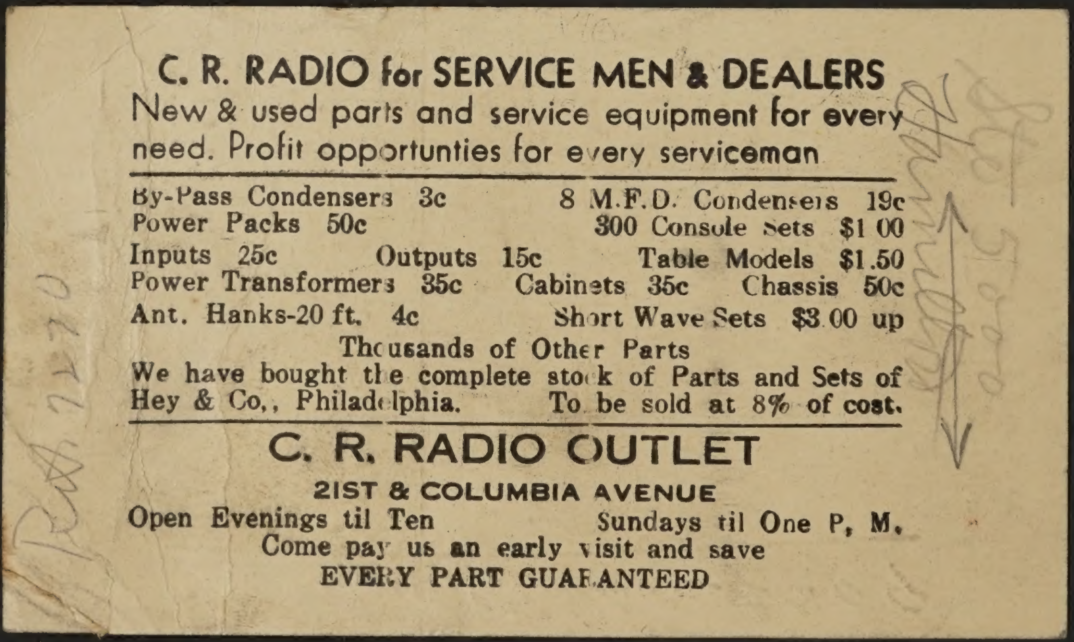
INFORMATION
ABOUT YOUR
ORDER FOR

10-3k332 mtrs.
AA1

REPLY CARD
THIS SIDE OF CARD IS FOR ADDRESS

Chas. Handshuh
1013 Buttonwood St.
Philadelphia, Pa.

Estimated Delivery
8-12 wks



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